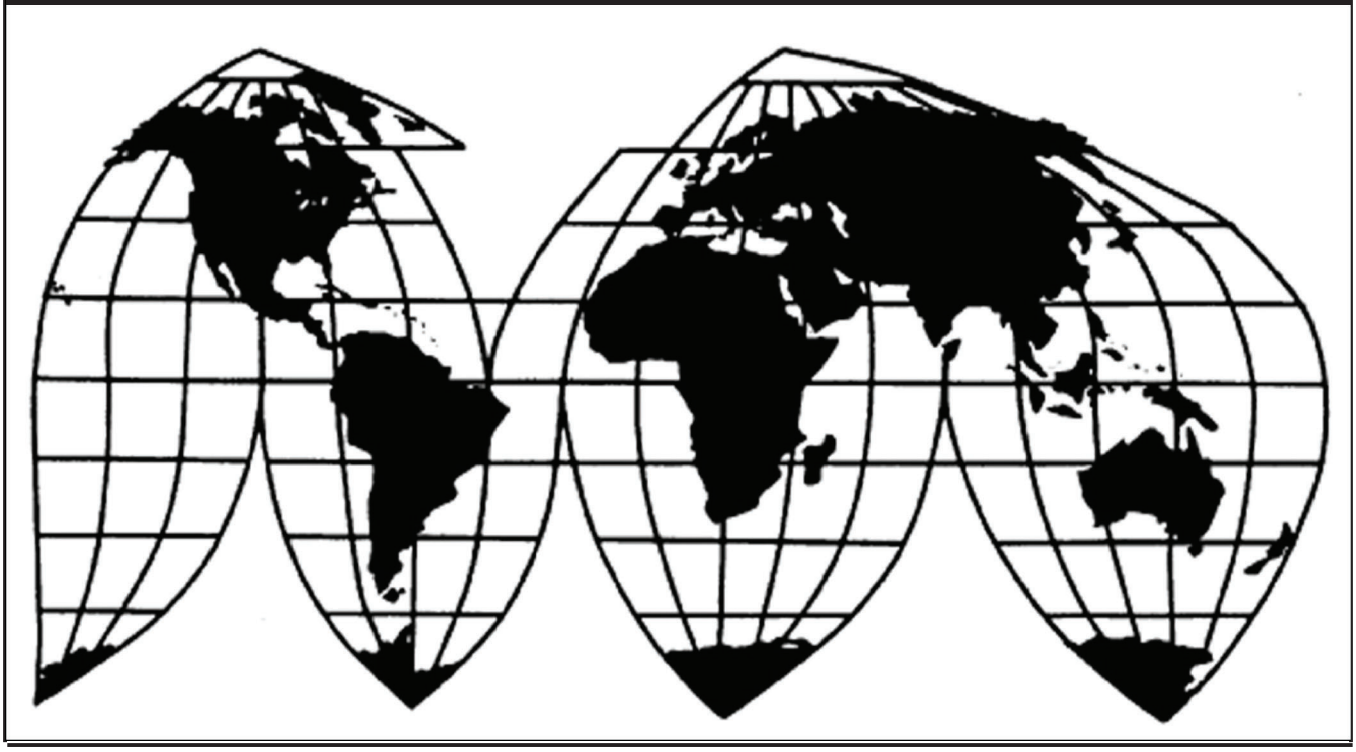
*In the Matter of*

# CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF

Investigation No. 337-TA-1118

**Publication 5299** **March 2022**

**U.S. International Trade Commission**



**Washington, DC 20436**

# U.S. International Trade Commission

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# U.S. International Trade Commission

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**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

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| **In the Matter of**<br><br>**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1118**<br>**(Advisory Opinion Proceeding)** |

# NOTICE OF A COMMISSION DETERMINATION TO ADOPT IN PART AN ADVISORY OPINION; TERMINATION OF ADVISORY OPINION PROCEEDING

**AGENCY:** U.S. International Trade Commission.

**ACTION:** Notice.

**SUMMARY:** Notice is hereby given that the U.S. International Trade Commission (the "Commission") has determined to adopt in part an initial advisory opinion ("IAO") (Order No. 44, as corrected) issued by the presiding administrative law judge ("ALJ"). The Commission has determined to adopt the IAO's finding of non-infringement of claims 1 and 21 of U.S. Patent Nos. 7,755,223. The Commission has determined not to adopt the portions of the IAO recommending rescission of the remedial orders and discussing grant of a motion for summary determination of non-infringement. The advisory opinion proceeding is hereby terminated.

**FOR FURTHER INFORMATION CONTACT:** Carl P. Bretscher, Office of the General Counsel, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, telephone (202) 205-2382. Copies of non-confidential documents filed in connection with this investigation may be viewed on the Commission's electronic docket system ("EDIS") at https://edis.usitc.gov. For help accessing EDIS, please email EDIS3Help@usitc.gov. General information concerning the Commission may also be obtained by accessing its Internet server at https://www.usitc.gov. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal, telephone (202) 205-1810.

**SUPPLEMENTARY INFORMATION:** The Commission instituted the underlying investigation on June 11, 2018, based on a complaint, as supplemented, filed by The Chamberlain Group, Inc. ("CGI") of Oak Brook, Illinois. 83 FR 27020-21 (June 11, 2018). The complaint alleges that respondents Nortek Security & Control, LLC of Carlsbad, California; Nortek, Inc. of Providence, Rhode Island; and GTO Access Systems, LLC of Tallahassee, Florida (collectively, "Nortek") violated section 337 of the Tariff Act, as amended, 19 U.S.C. 1337 ("Section 337") by importing, selling for importation, or selling in the United States after importation garage door openers ("GDOs") and other movable barrier operator systems that allegedly infringe one or more of the asserted claims of U.S. Patent Nos. 7,755,223 ("the '223 patent"), 8,587,404 ("the '404 patent"), and 6,741,052 ("the '052 patent"). *Id.* The Office of Unfair Import Investigations was not named as a party to this investigation. *Id*.

On December 3, 2020, the Commission determined that Nortek violated Section 337 by way of infringing claims 1 and 21 of the '223 patent. The Commission issued a limited exclusion order and cease and desist orders against Nortek and imposed a bond in the amount of 100 percent of the entered value of the covered products during the period of Presidential review.

On January 21, 2021, the Commission granted Nortek's opposed request to institute an advisory opinion proceeding, pursuant to Commission Rule 210.79 (19 CFR 210.79). 86 FR 7105 (Jan. 26, 2021); Comm'n Order (Jan. 21, 2021). On January 28, 2021, CGI and Nortek executed a joint stipulation that the subject GDOs do not infringe the '223 patent because they do not have two operating modes at two different energy levels (*i.e.*, they do not have a "beam off" or "sleep mode"). On February 9, 2021, Nortek filed an unopposed motion for summary determination and statement of undisputed facts that the subject GDOs do not infringe the '223 patent.

On May 24, 2021, the presiding ALJ issued an amended IAO finding the subject GDOs do not infringe claims 1 and 21 of the '223 patent. Order No. 44 (May 24, 2021) (as amended). The amended IAO also contains language ostensibly granting Nortek's unopposed motion for summary determination of non-infringement and recommends that the Commission issue an order rescinding the remedial orders. *See id.* at 6.

On June 1, 2021, CGI filed a petition for review of Order No. 44, opposing the portion of the IAO recommending rescission of the remedial orders. CGI did not oppose the IAO's finding that the subject GDOs do not infringe claims 1 and 21 of the '223 patent. Nortek did not file a response to CGI's petition.

The Commission has determined to adopt the portion of the IAO finding that the subject GDOs do not infringe claims 1 and 21 of the '223 patent. The Commission, however, has determined not to adopt the recommendation to rescind the remedial orders, as modification or rescission of remedial orders is governed by Section 337(k) (19 U.S.C. 1337(k)) and Commission Rule 210.76 (19 CFR 210.76). The Commission has also determined not to adopt that portion of the advisory opinion discussing granting Nortek's motion for summary determination of non-infringement.

This advisory opinion proceeding is hereby terminated.

The Commission voted to approve these determinations on June 23, 2021.

The authority for the Commission's determinations is contained in Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in part 210 of the Commission's Rules of Practice and Procedure (19 CFR part 210).

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: June 24, 2021

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118 (Advisory Proceeding)**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served upon the following parties as indicated, on **June 24, 2021.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of The Chamberlain Group, Inc.:**

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**On Behalf of Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems LLC. f/k/a Gates That Open, LLC:**

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*PUBLIC VERSION*

**UNITED STATES INTERNATIONAL TRADE COMMISSION**

**Washington, D.C.**

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| **In the Matter of**<br><br>**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Inv. No. 337-TA-1118**<br><br>**ADVISORY PROCEEDINGS** |

**ORDER NO. 44: INITIAL ADVISORY OPINION (AMENDING INITIAL ORDER NO. 44)**

(May 24, 2021)

## I. COMMISSION'S ADVISORY OPINION ORDER

On January 21, 2021, pursuant to Commission Rule § 210.79, the Commission issued an Order that an Advisory Opinion ("AOP" or "AOP Order") be rendered within four (4) months of the date of the publication in the Federal Register of the Commission's institution of an advisory proceeding in the referenced Investigation. (AOP, Doc. ID No. 731278 (Jan. 21, 2021).). The Commission's notice of its determination to institute an advisory opinion proceeding was published in the Federal Register on January 26, 2021. *See* 86 Fed. Reg. 7105 (Jan. 26, 2021) ("FR Notice"). The Commission's Target Date is two (2) months thereafter. *Id.*

The advisory opinion proceeding was instituted on the request and consideration of Respondents Nortek Security & Control, LLC's, Nortek, Inc.'s, and GTO Access Systems LLC's ("Nortek" or "Respondents") petition that certain of Nortek's products that are new, were not accused or that have been redesigned ("Nortek Products"), do not infringe claims 1 and 21 of U.S. Patent No. 7,755,223 ("the '223 patent") and therefore, are outside the scope of the remedial orders the Commission issued in the underlying investigation. (*See* Compl. at Ex. 2 ('223 patent).).

In its AOP Order, the Commission directed, *inter alia*, the following:

> 1) An advisory opinion proceeding is hereby instituted to ascertain whether: (a) the subject GDOs[1] operate their obstacle detectors at a constant energy level, as alleged by Nortek; and if so, (b) whether said GDOs infringe claims 1 or 21 of the '223 patent.
>
> 2) The advisory opinion proceeding shall be limited to the limitations of claims 1 and 21 of the '223 patent identified by Nortek in its request, namely, whether the subject GDOs: (a) operate their obstacle detectors in "a plurality of operating modes, wherein at least some of the operating modes have different energy usages"; and (b) "develop an obstacle detector operating mode control signal from the controller . . . wherein the obstacle detector is directly responsive to the . . . signal such that . . . during the second mode of energy consumption operation, the obstacle detector operates using a second energy usage, wherein the operating power used in one of the energy usages is less than the power used by the other energy usage." Nortek's Request at 15-16….
>
> 4) The ALJ shall conduct any appropriate proceedings and issue an initial advisory opinion within four months from the date of publication in the Federal Register of the Commission's notice to conduct the proceeding. The target date shall be two months thereafter. The ALJ may extend the target date, allowing two months for Commission review, for good cause.

(AOP Order at 1-4.).

## II. SELECTED PROCEDURAL BACKGROUND

The Commission instituted the underlying investigation on June 11, 2018 based on a complaint filed by The Chamberlain Group, Inc. ("Chamberlain," and with Nortek, "the Parties") of Oak Brook, Illinois. 83 FR 270-20-21 (June 11, 2018). The complaint alleges a violation of section 337 of the Tariff Act, as amended, 19 U.S.C. 1337 ("Section 337") through the importation, sale for importation, or sale in the Unites States after importation of certain movable barrier operator ("MBO") systems and garage door openers ("GDO") that allegedly infringe one or more the asserted claims of the '223 patent"), U.S. Patent No. 8,587,404 ("the '404 patent"), and U.S. Patent No. 6,741,052 ("the '052 patent.").

[1] GDO's are Garage Door Openers.

Following an evidentiary hearing from June 10 through June 14, 2019, on November 25, 2019 an Initial Determination on Violation ("Final ID") with a Recommended Determination on Remedy and Bond ("RD") issued. Among other findings, the Final ID found that there was not a violation of Section 337 because the asserted claims of the '223 and '404 patents are not infringed, while the asserted claim of the '052 patent is invalid. (Final ID, Doc. ID No. 695485 (Nov. 25, 2019).).

On April 22, 2020, the Commission issued a notice that it affirmed that there is no Section 337 violation with respect to the '404 and '052 patents. (Comm'n Notice at 3 (Apr. 22, 2020).). The Commission also vacated Order No. 38 and remanded the economic prong for further proceedings while the Commission continued to review the ID with respect to the '223 patent. (*See* Order Vacating and Remanding, Order No. 38, Doc. ID No. 708682 (Apr. 22, 2020) ("Remand Order").

On December 3, 2020, the Commission determined that Nortek violated Section 337 by infringing claims 1 and 21 of the '223 patent. (Notice of Final Determination Finding a Violation of Section 337, Issuance of a Limited Exclusion Order and Cease and Desist Orders, Termination of the Investigation, Doc. ID No. 727088 (Dec. 3, 2021).). In addition to a limited exclusion orders ("LEOs") and cease and desist orders ("CDOs") against Nortek's infringing products, the Commission also imposed a bond in the amount of 100 percent of the entered valued of the covered products during the Presidential review period. (*Id.* at 3.).

On December 18, 2020, Nortek filed its request for an advisory opinion that the GDOs, whether unaccused or redesigned, that operate their obstacle detectors at a constant energy level do not infringe the asserted claims 1 or 21 of the '223 patent, and thus should not be subject to the Commission's issued remedial orders. (*See* Request of Nortek, Inc. Nortek Security & Control

LLC f/k/a Linear, LLC and GTO Access Systems, LLC f//k/a Gates that Open LLC, for an Advisory Opinion Pursuant to Rule 210.79(a), Doc. ID No. 728489 (Dec. 18, 2020) ("Nortek Request").). The Nortek Products are limited to those identified in Nortek's Request and in Nortek's submission request ("CBP Request") to Customs and Border Protection ("CBP"). (*See* below; *see also* Joint Stipulation at 2.).

On January 21, 2021, the Commission determined to institute an advisory opinion proceeding and issued an order to that effect the same day. (Doc. ID No. 731278 (Jan. 21, 2021); Doc. ID No. 731279 (Jan. 21, 2021).).

In a January 28, 2021 filing, Chamberlain and Nortek notified the Commission that they had executed a joint stipulation ("Joint Stipulation") on January 21, 2021 that the Nortek Products at issue either had never included, or had been redesigned not to include, what has been described variously as the "low energy" mode, or the "beam off" or "sleep mode" ("Infringing Feature") that the Commission found infringes claims 1 and 21 of the '223 patent. (Letter at Ex. A, Joint Stipulation Between the Chamberlain Group, Inc. and GTO Acc Systems, LLC f/k/a Gates That Open, LLC, Nortek Security & Control, LLC f/k/a Linear LLC and Nortek, Inc., Doc. ID No. 732230 (Jan. 28, 2021).).

Among other provisions of the Joint Stipulation, Nortek agreed to file with the Commission or file with the Commission's Office of General Counsel the materials that Nortek provided to CPB in support of its CBP Request, including but not limited to source code, user guides, and declarations. Of course, samples of GDOs were excluded. (*See* Joint Stipulation at 3, ¶ 3.). Additionally, Chamberlain agreed that it would not oppose Nortek's Request for an Advisory Opinion in Nortek's favor given the evidence Chamberlain reviewed. (*Id*. at ¶ 4.).

To determine whether additional proceedings were necessary, consistent with the

Commission's AOP Order, a WebEx management conference ("Management Conference") with the Parties was scheduled for and held on February 2, 2021. (Order No. 43 (Jan. 29, 2021).).

The Parties represented during the February 2, 2021 WebEx Management Conference that they had executed the Joint Stipulation that the Nortek Products do not infringe the '223 patent. Because Nortek also reported that it intended to file an unopposed summary determination motion of non-infringement of the Nortek Products, no additional proceedings were required in response to the Commission's APO. (*See* Management Conference Transcript ("Mgmt. Conf. Tr."), Doc. ID No. 740309 (Apr. 20, 2021).).

On February 9, 2021, Nortek filed its unopposed motion for summary determination that certain of its accused, non-accused and redesigned products that were specifically a part of Nortek's Request, and part of its CBP Request (*see* below), i.e., the Nortek Products, do not infringe claims 1 and 21 of the '223 patent. (Unopposed Motion of Respondents Nortek Security & Control LLC, Nortek Inc. and GTO Access Systems for Summary Determination That Nortek's Non-Accused and Redesigned Products Do Not Infringe U.S. Patent No. 7,755,223, Motion Docket No. 1118-042 (Feb. 9, 2000) ("SD Motion").). As part of its SD Motion, Nortek submitted a memorandum of law ("SD Memorandum") with supporting evidence. Chamberlain examined the evidence submitted with the SD Motion and SD Memorandum, with a great deal of other evidence, as identified below and as Nortek explains. Chamberlain does not dispute that certain Nortek Products that were subject to the Commission's remedial orders, or certain unaccused or redesigned Nortek Products do not infringe claims 1 and 21 of the '223 patent. (*Id*.).

On March 18, 2021, Nortek filed on EDIS a March 11, 2021 *inter partes* administrative ruling that CBP issued pursuant to 19 C.F.R. Part 177 ("CBP Administrative Ruling"), that

Nortek's Products do not infringe claims 1 and 21 of the '223 patent upon which the 1118 LEO is based. (*See* Respondents' Notice of Supplemental Authority in Support of its Unopposed Motion for Summary Determination, Doc. ID No. 737441 (Mar. 18, 2021).).

## III. ADVISORY OPINION AND RECOMMENDATION

Based upon the Parties' Joint Stipulation and based upon undisputed facts and evidence that Nortek presents in and with Nortek's SD Motion and SD Memorandum, Nortek's SD Motion, Motion Docket No. 1118-042, is *granted*.

It is recommended, respectfully, that the Commission affirm the granting of Nortek's SD Motion with its factual and evidentiary support and adopt this Advisory Opinion.

It is recommended pursuant to Commission Rule § 210.76 (a) that the Commission issue a recission order that the LEOs and CDOs that the Commission issued against certain Nortek Products be revoked. A recission of the Commission's remedial orders is recommended because Nortek's unaccused, redesigned products, and new products that are GDOs, i.e., the Nortek Products identified by Mr. Null (discussed below in Section IV.B), and as supported with evidence, do not infringe claims 1 and 21 of the '223 patent.

Although it is non-binding, the CBP's Administrative Ruling serves as additional support that a reflective, adjudicative administrative body, after examining the evidence submitted to it, has concluded that the Nortek Products do not infringe claims 1 and 21 of the '223 patent and are not subject to the Commission's 1118 remedial orders.

## IV. DISCUSSION AND ANALYSIS

### A. Overview

As set forth in Nortek's SD Motion and SD Memorandum, and in Nortek's Statement of Undisputed Facts ("SUF"), Nortek has proven it is undisputed that none of the Nortek Products at

issue have obstacle detectors with "a plurality of operating modes, wherein at least some of the operating modes have different energy usages," as both claims 1 and 21 of the '223 patent require.

Nortek undisputedly has proven that none of the Nortek Products have the "Infringing Feature" that is capable of turning off, or reducing power to, the infrared photobeams in the GDOs or MBOs, or garage openers or garage gates, that the Commission found infringe the '223 patent. (Comm'n Op. at 8-10, Doc. ID No. 727089 (Dec. 3, 2020).). This is so, because as Nortek notes, the Nortek Products either "never had such an infringing feature to begin with, or they have been redesigned to remove it." (SD Mem. at 1, 2). Or, as Nortek also explains without dispute: "all of the products subject to this request simply leave the photobeams continuously fully powered." (*Id.* at 1.). Pertinent aspects of claims 1 and 21 of the '223 patent and the features of the Nortek GDOs that the Commission found to infringe (i.e., Infringing Feature) those claims are explained in more detail below in Section IV.E.

Finally, Nortek argues correctly that there cannot be (and there is not) a viable argument for infringement whether literally or under the doctrine of equivalents ("DOE"). None of Nortek's GDOs is even capable of infringing based upon redesigns and changes to firmware and source code. (*Id.* at 6.).

Chamberlain has reviewed Nortek's evidence and agrees with Nortek: none of the Nortek Products that the Commission found to infringe the '223 patent contain the Infringing Feature. To that list, Nortek has added evidentiary support that other GDO Nortek Products do not infringe, as identified in Chart 1, below. The CBP has determined the same. (CBP Administrative Ruling at 1.).

### B. The Non-Infringing GDO Nortek Products

Nortek has identified the GDOs that it previously imported that contained what the Commission found to be the Infringing Feature. Those Nortek Products have been redesigned to exclude the Infringing Feature. Additionally, Nortek has identified "new" GDOs that have been designed post investigation not to infringe the '223 patent. Nortek also has re-identified certain GDOs that Chamberlain agrees were not accused of infringement in the underlying 1118 investigation.

Nortek has identified its GDO Nortek Products in several documents, including in the Declaration of David Null, an Engineer at Nortek who states he is familiar with all of the Nortek Products and their source code or firmware. (*See* SD Mem., Declaration of David Null ("Null Decl.") at ¶ 3 (no "Beam Off" feature ), ¶¶ 9, 10 (describing excerpts of the current redesigned firmware with source code that no longer is even capable of implementing "beam off"), ¶ 6 (identification of Ex. 6, engineering change order to remove "beam off" feature), ¶ 7 (describing and identifying source code that could turn photobeams off and on in infringing Nortek Products).). There is no reason to doubt or contest the contents of Mr. Null's Declaration or any of the evidence offered to support Mr. Null's Declaration. There is no reason to doubt any other Declarations that Nortek submitted, or evidence filed in support of those Declarations.

Mr. Null has provided a chart that identifies the corresponding source code/firmware that controls the operations of the various "classes" of GDOs, i.e., those that infringed but have been redesigned, new GDO's, and those that were not accused of infringement although Chamberlain knew of the latter during the underlying investigation. (*Id.*, Null Decl. at ¶ 19.).

The other key source of the identification of the Nortek Products is the Stipulation. (Stipulation at pp. 2-3; reproduced as SD Motion Attachment to the Declaration of Evan Day ("Day Decl.").).

Mr. Null identifies the representative source code or firmware in each type of, or model of, the Nortek Products, some of which were subject to Commission remedial orders, and whether they were redesigned to eliminate the "beam off" feature which was part of the photobeam operation that the Commission found to infringe. (SD Mem., Null Decl. at ¶¶ 7, 8, 10, 11, 13-15, 18, 19.). For convenience, the chart containing the Nortek Products as described in the Null Declaration, with their associated source code or firmware, and their status, is reproduced below.

**Chart 1. Nortek Products: Redesigned or Unaccused With Source Code/Firmware and with Beam Status**

| **Product(s)** | **Planned new model number** | **Status in 1118 Investigation** | **Representative Source Code directory (current product)** | **Status of "Beam Off" Feature** |
|---|---|---|---|---|
| LDO33<br>LDO33-8<br>LDO50<br>LDO50-09<br>LDO50-13<br>LDO50-14<br>LDO50-15<br>LDO50-2T1KB<br>LDO502T1KB8<br>LSO50<br>LSO50B<br>LCO75 | N/A | Known to Complainant and technical discovery provided, but never accused or found to infringe | LDO\Firmware\218836E\ source (unchanged since discovery portion of 1118 Investigation) | Never had "beam off" feature; beam stays on continuously |
| Amarr860-12<br>Amarr860B12 | Amarr861-12<br>Amarr861B12 | Redesigned accused product | Nsctlh_gdo_pro_mc (Ex. 8) | Redesigned to remove "beam off" feature; beam stays on continuously |

| | | | | |
|---|---|---|---|---|
| LDCO841<br>LDCO863B | N/A | New product post investigation | Nsctlh_gdo_pro_mc (Ex. 8) | Never had "beam off" feature; beam stays on continuously |
| MM9545M<br>MM9545MCO | MM9555N<br>MM9555NCO | Redesigned accused product | nsctlh_gdo_retail_cs (Ex. 9) | Redesigned to remove "beam off" feature; beam stays on continuously |
| LDCO800<br>LDCO800-12<br>LDCO800-08 | LDCO801<br>LDCO801-12<br>LDCO801-08 | Redesigned accused product | Nsctlh_gdo_LDCO800/230208/source (Ex. 7) | Redesigned to remove "beam off" feature; |
| LDCO800-14<br>LDCO800-15<br>LDCO800-16<br>LDCO800-17 | LDCO801-14<br>LDCO801-15<br>LDCO801-16<br>LDCO801-17 | | | beam stays on continuously |

(*See* SD Mem., Null Decl. at ¶ 19.).

Of special note in Mr. Null's Declaration are his inclusions and explanations of the specific lines of firmware or source code that change, where necessary, the operations of the now redesigned GDOs, or those that did not have the Infringing Feature in the initial products that were identified but not accused in the 1118 Investigation. (*Id.*, Null Decl. at ¶¶ 7, 8, 10, 11, 13-15, 18, 19; *see also* SUF, SD Mem. at 2-4.).

Chamberlain examined the source code, firmware, user guides and even samples of the GDOs that Nortek provided. Chamberlain was satisfied with the evidence Nortek provided.

### C. Advisory Opinion Legal Standard

Commission Rule 210.79(a) provides in pertinent part: "Upon request of any person, the Commission may, upon such investigation as it deems necessary, issue an advisory opinion as to

whether the person's proposed course of action or conduct would violate a Commission exclusion order, cease and desist order, or consent order." 19 C.F.R. §210.79(a).

A respondent who seeks an advisory opinion that its redesigned product(s), or in this instance both unaccused and "new" products, fall outside the scope of an exclusion order or a cease and desist order against it bears the burden of demonstrating that such product does not infringe the patent(s) at issue. *See Certain Foam Footwear*, 337-TA-567, Report of the Office of Unfair Import Investigations As To Whether Certain Foam Footwear Infringes U.S. Design Patent No. D517,789 Or Claims 1 And 2 Of U.S. Patent No. 6,993,858, at 4, Doc. ID No. 594573 (Nov. 7, 2016) (citing *Certain Hardware Logic Emulation Systems and Components Thereof*, Inv. No. 337-TA-383, Commission Opinion on Remedy, The Public Interest and Bonding at 16-17 (March 1998)(citations omitted); *aff'd* Notice Of A Commission Determination To Adopt A Report Issued By The Office Of Unfair Import Investigations As Its Advisory Opinion, Doc. ID 598992, 81 Fed. Reg. 94417 (Dec. 23, 2016).

**D. Infringement and Doctrine of Equivalents Legal Standards**

To prove infringement, a patentee must establish the scope of the patented invention through claim construction. *Markman v. Westview Instruments*, Inc., 517 U.S. 370, 373-74 (1996). Then, the patentee must show that the accused product meets all of the claim's limitations, either literally or under the doctrine of equivalents ("DOE"). (*See, e.g.*, *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1273 (Fed. Cir. 2004). According to the doctrine of equivalents, "a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is equivalence between the elements of the accused product or process and the claimed elements of the patented invention." *WarnerJenkins Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (1997) (internal citation omitted).

Equivalence is determined by either: (1) the "function-way-result" test or (2) the "insubstantial differences" test. *Warner-Jenkins*, 520 U.S. at 39. An accused product infringes under the "function-way-result" if on a limitation-by-limitation basis, it "performs substantially the same function [as the claimed invention] in substantially the same way with substantially the same result." *Crown Packaging Tech., Inc. v. Rexam Beverage Can Co*., 559 F.3d 1308 (Fed. Cir. 2009). An accused product infringes under the second test if "[a]n element in the accused device is equivalent to a claim limitation if the only differences between the two are insubstantial." *Honeywell Int'l, Inc. v. Hamilton Sundstrand Corp*., 370 F.3d 1131, 1139 (Fed. Cir. 2004). Like the determination of literal infringement, infringement under the DOE is a question of fact.

**E. Analysis**

**1. The Infringing Feature and the Commission Opinion**

At a high level, the '223 patent, which is entitled "Movable Barrier Operator With Energy Management Control and Corresponding Method," is directed to a GDO or other MBO system that reduces energy consumption by varying energy usage as a given system's needs change. (*See* '223 patent at Abstract, 2:44-67, 6:38-55, 10:31-41.). The '223 patent teaches various embodiments of "movable barrier operators," or garage doors and gates, whether operated with or without WiFi, that when coupled with a controller and an obstacle detector connected to a power supply, will perform in various "operating modes," and "have different energy usages." (Comm'n Op. at 9, 10 (citing '223 patent at 11:7-14 (claim 1) and 13:15-22 (claim 21).).

The Commission affirmed the Final ID to the extent that the Final ID adopted and used the claim construction issued as part of a *Markman* Order that the word "operates" or "operating" as used in a number of claims, including claims 1 and 21 of the '223 patent, have a plain and ordinary meaning. (*Id.* at 9; Final ID at 143-144.). By their plain and ordinary meaning, those

terms would not require an obstacle detector to be energized sufficiently to perform work or to detect objects to any specific degree. (*Id*.).

However, the Commission took issue with and departed from the Final ID in holding that "[t]he language of the claims does not impose any functional limitations on the terms 'operates' or 'operating modes,' let alone require the detector to work, function, or detect objects to any degree during the lower-energy mode." (Comm'n Op. at 10 (citing '223 patent at 11:7-22 (claim 1), 13:15-29 (claim 21).). The Commission found that the only limitation in the claims at issue, as supported by the '223 patent specification, is that the energy usage in one operating mode must be less than the energy usage in the other operating mode. (*Id.* (citing '223 patent at 11:1822 (claim 1), 13:26-29 (claim 21), Abstract 5:2-44-61).). To that end, the Commission noted that the '223 patent specification discloses an embodiment in which an obstacle detector comprises two (2) independently controllable photobeam elements (12A and 12B) with two different energy modes. (*Id.* at 11 (citing '223 patent at 3:62-65, 6:6-31).). According to the referenced embodiment, in the first energy mode, both photobeams are turned on, for example, when a gate or door is moving (12B). In the second energy mode, only one of the photobeam elements is turned on while the second photobeam is turned off (12A). (*See* '223 patent at 6:1227; *see also* Comm'n Op. at 11.). The Commission also noted that the detector that is photobeam 12A does not have the two (2) energy modes as required by claims 1 and 21 because it remains "on" at all times. (Comm'n Op. at 11 (citing '223 patent at 10:13-16).).

The Commission also found that the embodiment described "supports construing claims 1 and 21 to mean that an obstacle detector can be turned off and continue to 'operate' even though the energy usage is zero, and then be switched back on to the high energy mode as needed." (*Id.* at 11-12.).

### 2. The Nortek Products Do Not Have the Infringing Feature

Undisputedly, in the evidence Nortek submitted to the CBP and with its SD Motion here, Nortek has proven it is entitled to summary determination because none of the Nortek Products contain the Infringing Feature as the Commission has construed the '223 patent.

In its CBP Request, Nortek identified claim 1 of the '223 patent as representative also of claim 21. (CBP Administrative Ruling at 6.). Moreover, the differences between claims 1 and 21 did not affect the Commission's analysis or its opinion outcome of what the Infringing Feature is or how it operates. (Comm'n Op. at 6.). In other words, for purposes of infringement, the same analysis of the Infringing Feature drives the same outcome for claims 1 and 23 of the '223 patent.

In its CBP Request, Nortek reported, as it does here, that the redesigned Nortek Products eliminate the required elements or limitations of the '223 patent (whether of claim 1 or 21) that the Commission identified in its Opinion, while other GDOs never had the required elements or limitations of the '223 patent. (CBP Administrative Ruling at 7.). Nortek represented to the CBP, *inter alia*, that it had eliminated the capability of any of the photobeam detectors to place a photobeam in a reduced energy or "off" state. This is the "beam off" feature that is described in Chart 1, above. Specifically, Nortek represented to the CBP that:

> None of the products subject to this request have the feature at issue in this Investigation (i.e., a reduced power or "off" state for the photobeam system), either because they never had that feature to begin with or because Nortek has redesigned them to remove the feature. In short, every product that Nortek seeks CBP approval to import with this Request simply leaves the photobeam on all the time, and never places the photobeam in a reduced power or "off" state.

(*See* CBP Administrative Ruling at 7.).

In all identified Nortek Products (*see* Chart 1), because of the continuous operation of the photobeams, the obstacle detectors have neither a "low energy mode" nor a

"high energy" mode, i.e., the limitations that the Commission found the '223 patent requires.

Nortek made an equivalent representation in its SD Memorandum as it made to the CBP, above, with respect to its redesigned, unaccused or new Nortek Products. Nortek represents to the Commission:

> As set forth in the Statement of Undisputed Material Facts… it is undisputed that all of the Nortek Products-At-Issue in this proceeding lack the feature found by the Commission to infringe the '223 patent (i.e., turning power to infrared safety photobeams down or off) either because those products never had that feature to begin with or have been redesigned to remove it. In other words, all of the products subject to this request simply leave the photobeams continuously fully powered. Therefore, the products subject to this request do not have obstacle detectors with "a plurality of operating modes, wherein at least some of the operating modes have different energy usages."

(SD Mem. at 1; *see also* SD Motion at 1.).

Given the continuously powered states of the GDO Nortek Products, they cannot infringe claims 1 and 21 of the '223 patent as the Commission has construed infringement of those claims.

As previously noted, Nortek submitted to Chamberlain for its review: pertinent Nortek source code, expert opinion, testimony from the underlying 1118 investigation, users' guides, declarations of Nortek personnel, and physical samples. (SD Mem. at 7.). Much of the same evidence that Chamberlain reviewed both for Nortek's SD Motion and as part of the CBP *inter partes* process that resulted in the CBP Administrative Ruling is submitted in support of Nortek's SD Motion. (*See* SD Mot., Appendix of Declarations and Exhibits Ex. 1, Declaration of Evan S. Day, with exhibits 1-10 thereto; Ex. 2, Null Decl. with exhibits 6, 7, 8 and 9.).

Nortek has agreed to make available to the Commission and/or General Counsel "all of the materials provided to Chamberlain in connection with Nortek's Customs Request, including source code, user guides, and declarations, but excluding physical samples." (Stipulation at ¶ 3.).

## V. CONCLUSION AND ORDER

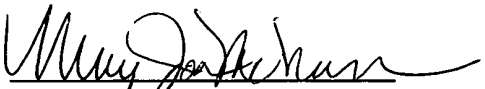
Based upon the undisputed evidence submitted, Nortek is entitled to an advisory opinion that its Nortek Products as defined and identified, do not infringe either claim 1 or 21 of the '223 patent. Similarly, the Nortek Products as defined and identified do not infringe either claim 1 or 21 under the doctrine of equivalents analysis or law. The Nortek Products cannot infringe, because the GDO photobeams have been "disabled" so they are continuously on and, therefore, do not practice claims 1 and 21 of the '223 patent.

This advisory opinion is certified to the Commission. All orders and documents filed with the Secretary, including the record exhibits in this Investigation, as defined in 19 C.F.R. § 210.38(a), are not certified, since they are already in the Commission's possession in accordance with Commission Rules. *See* 19 C.F.R. § 210.38(a). In accordance with 19 C.F.R. § 210.39(c), all material found to be confidential under 19 C.F.R. § 210.5 is to be given *in camera* treatment.

Within fourteen (14) days of the date of this document the Parties shall submit to the Office of Administrative Law Judges a joint statement whether they seek to have any portion of this document deleted from the public version. The Parties' submission shall be made by hard copy and must include a copy of this ID with yellow highlighting, with or without red brackets, indicating any portion asserted to contain confidential business information ("CBI") to be deleted from the public version. The submission shall also include a chart that: (i) contains the page number of each proposed redaction; and (ii) states (next to each page number) every sentence or phrase, listed separately, that the party proposes be redacted; and (iii) for each such sentence or phrase that the party proposes be redacted, a citation to case law with an explanation as to why each proposed redaction constitutes CBI consistent with case law. Any proposed redaction that is

not explained may not be redacted after a review. The Parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

**SO ORDERED.**



MaryJoan McNamara
Administrative Law Judge

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118 (Advisory Proceeding)**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **INITIAL DETERMINATION** has been served upon the following parties as indicated, on **June 30, 2021.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of The Chamberlain Group, Inc.:**

David C. Marcus, Esq.
**WILMER CUTLER PICKERING HALE AND DORR LLP**
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**On Behalf of Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems LLC. f/k/a Gates That Open, LLC:**

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**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

| **In the Matter of**<br>**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1118** |
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# NOTICE OF FINAL DETERMINATION FINDING A VIOLATION OF SECTION 337; ISSUANCE OF A LIMITED EXCLUSION ORDER AND CEASE AND DESIST ORDERS; TERMINATION OF THE INVESTIGATION

**AGENCY:** U.S. International Trade Commission.

**ACTION:** Notice.

**SUMMARY:** Notice is hereby given that the U.S. International Trade Commission (the "Commission") has determined to: (1) find that respondents Nortek Security & Control, LLC of Carlsbad, California; Nortek, Inc. of Providence, Rhode Island; and GTO Access Systems, LLC of Tallahassee, Florida (collectively, "Nortek") have violated Section 337 by way of infringing claims 1 and 21 of U.S. Patent No. 7,755,223 ("the '223 patent"); and (2) issue a limited exclusion order and cease and desist orders against each Nortek respondent, and set a bond in the amount of 100 percent of the entered value of the covered products during the period of Presidential review. The investigation is hereby terminated.

**FOR FURTHER INFORMATION CONTACT:** Carl P. Bretscher, Office of the General Counsel, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, telephone (202) 205-2382. Copies of non-confidential documents filed in connection with this investigation may be viewed on the Commission's electronic docket system ("EDIS") at https://edis.usitc.gov. For help accessing EDIS, please email EDIS3Help@usitc.gov. General information concerning the Commission may also be obtained by accessing its Internet server at https://www.usitc.gov. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal, telephone (202) 205-1810.

**SUPPLEMENTARY INFORMATION:** The Commission instituted this investigation on June 11, 2018, based on a complaint, as supplemented, filed by The Chamberlain Group, Inc. ("CGI") of Oak Brook, Illinois. 83 FR 27020-21 (June 11, 2018). The complaint alleges a violation of section 337 the Tariff Act, as amended, 19 U.S.C. 1337 ("Section 337") in the importation, sale for importation, or sale in the United States after importation of certain movable barrier operator ("MBO") systems that purportedly infringe one or more of the asserted claims of the '223 patent and U.S. Patent Nos. 8,587,404 ("the '404 patent") and 6,741,052 ("the '052 patent"). *Id.* The Commission's notice of investigation named Nortek as respondents. *Id*. The Office of Unfair Import Investigations was not named as a party to this investigation. *See id*.

The Commission subsequently terminated the investigation with respect to certain patent claims withdrawn by CGI. *See* Order No. 16 (Feb. 5, 2019), *unreviewed by* Comm'n Notice

(March 6, 2019); Order No. 27 (June 7, 2019), *unreviewed by* Comm'n Notice (June 27, 2019); Order No. 31 (July 30, 2019), *unreviewed by* Comm'n Notice (Aug. 19, 2019); Order No. 32 (Sept. 27, 2019), *unreviewed by* Comm'n Notice (Oct. 17, 2019).

On June 5, 2019, the presiding administrative law judge ("ALJ") issued a *Markman* order (Order No. 25) construing the claim terms in dispute.

On December 12, 2018, CGI filed a motion for summary determination that it satisfied the economic prong of the domestic industry requirement. Nortek opposed the motion. On June 6, 2019, the ALJ issued a notice advising the parties that the motion would be granted and a formal written order would be issued later. Order No. 26 (June 6, 2019).

The ALJ held an evidentiary hearing on the issues in dispute on June 10-14, 2019.

On November 25, 2019, the ALJ issued Order No. 38, finding no issue of material fact that CGI's investments in labor and capital relating to its domestic industry products were "significant" and that CGI has satisfied the economic prong of the domestic industry requirement pursuant to Section 337(a)(3)(B) (19 U.S.C. 1337(a)(3)(B)). Order No. 38 (Nov. 25, 2019). Order No. 38 also finds that genuine issues of material fact precluded entry of summary determination with respect to CGI's investments in plant and equipment, under Section 337(a)(3)(A) (19 U.S.C. 1337(a)(3)(A)). *Id*.

On the same date, the ALJ issued the final Initial Determination on Violation of Section 337 ("Final ID") and Recommended Determination on Remedy and Bond ("RD"), finding no violation of Section 337 because the asserted claims of the '223 and '404 patents, if valid, are not infringed and the asserted claim of the '052 patent is invalid, even if infringed. The RD sets forth the ALJ's recommendations on remedy and bond.

On February 19, 2020, the Commission issued a notice of its determination to review Order No. 38 and to partially review the Final ID with respect to certain issues relating to each of the three asserted patents. 85 FR 10723-26 (Feb. 25, 2020). The Commission directed the parties to brief questions on violation and requested briefing from the parties, the public, and any interested government entities on remedy, the public interest, and bonding. *Id*. at 10725. The parties submitted initial responses and replies in response to the notice. The Commission did not receive any comments from third parties in response to its notice.

On April 22, 2020, the Commission issued a determination finding no violation with respect to the '404 and '052 patents. Comm'n Notice at 3 (April 22, 2020). The Commission also vacated Order No. 38 and remanded the economic prong issue to the presiding ALJ for further proceedings while the Commission continued to review issues relating to the '223 patent. *Id*.; Order Vacating and Remanding Order No. 38 (April 22, 2020) ("Remand Order").

On May 15, 2020, the ALJ issued Order No. 39, seeking additional information from the parties in light of the Commission's Remand Order. Order No. 39 (May 15, 2020). On July 10, 2020, the ALJ issued the subject Remand Initial Determination ("Remand ID"), finding that CGI has made significant investments, both quantitatively and qualitatively, in plant and equipment and labor and capital, pursuant to Section 337(a)(3)(A) and (B) (19 U.S.C. 1337(a)(3)(A), (B)), respectively. Remand ID (July 10, 2020). The Remand ID concludes that CGI has satisfied the

economic prong of the domestic industry requirement in relation to the '223 patent, pursuant to Sections 337(a)(3)(A) and (B). *Id.*

On July 20, 2020, Nortek filed a petition for review of the Remand ID. CGI filed its opposition to Nortek's petition for review on July 27, 2020. On September 9, 2020, the Commission determined to review the Remand ID and directed the parties to brief a number of questions with respect to the economic prong of the domestic industry requirement. 85 FR 57249-51 (Sept. 15, 2020). The Commission also allowed the parties to update their prior submissions on remedy, the public interest, and bonding, if necessary, and invited interested government entities and other interested parties to file written submissions on those issues as well. *Id*. at 57251.

The parties filed their initial responses to the Commission's questions on September 23, 2020. The parties filed their respective replies on September 30, 2020. The Commission did not receive any comments from third parties in response to its notice.

Having reviewed the Remand ID, the parties' submissions, and the evidence of record, the Commission has determined to find that Nortek violated Section 337 with respect to the '223 patent. In particular, the Commission finds that Nortek infringed claims 1 and 21 of the '223 patent; CGI practiced at least claim 1 of the patent; and CGI satisfied the economic prong of the domestic industry requirement with respect to the '223 patent under both Sections 337(a)(3)(A) and (B). The Commission has determined to issue a limited exclusion order and cease and desist orders against each Nortek respondent and to impose a bond in the amount of 100 percent of the entered value of the covered products during the period of Presidential review. The Commission has further determined that the statutory public interest factors do not preclude issuance of a remedy. The investigation is hereby terminated.

The Commission voted to approve these determinations on December 3, 2020.

The authority for the Commission's determinations is contained in Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in part 210 of the Commission's Rules of Practice and Procedure (19 CFR part 210).

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: December 3, 2020

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served upon the following parties as indicated, on **December 3, 2020.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

David C. Marcus, Esq.
**WILMER CUTLER PICKERING HALE AND DORR LLP**
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Los Angeles, CA 90071
Email: David.marcus@wilmerhale.com

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**On Behalf of Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems LLC. f/k/a Gates That Open, LLC:**

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**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

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| **In the Matter of**<br><br>**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1118** |

# LIMITED EXCLUSION ORDER

The United States International Trade Commission ("Commission") has determined that there is a violation of section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), in the unlawful importation, sale for importation, or sale within the United States after importation by respondents Nortek Security & Control, LLC of Carlsbad, California; Nortek, Inc. of Providence, Rhode Island; and GTO Access Systems, LLC of Tallahassee, Florida (collectively, "Respondents") of certain movable barrier operator systems and components thereof (as defined in paragraph 2, below) that infringe one or more of claims 1 and 21 of U.S. Patent No. 7,755,223 ("the '223 patent").

Having reviewed the record in this investigation, including the written submissions of the parties, the Commission has made its determinations on the issues of remedy, the public interest, and bonding. The Commission has determined that the appropriate form of relief is a limited exclusion order prohibiting the unlicensed entry of infringing movable barrier operator systems and components thereof manufactured by or on behalf of Respondents or any of their affiliated companies, parents, subsidiaries, agents, or other related business entities, or its successors or assigns.

The Commission has also determined that the public interest factors enumerated in 19 U.S.C. § 1337(d) do not preclude the issuance of the limited exclusion order, and that the

bond during the period of Presidential review shall be in the amount of 100 percent (100%) of the entered value of the articles subject to this Order.

Accordingly, the Commission hereby **ORDERS** that:

1. Movable barrier operator systems and components thereof that infringe one or more of claims 1 and 21 of the ’223 patent and are manufactured abroad by, or on behalf of, or imported by or on behalf of Respondents or any of their affiliated companies, parents, subsidiaries, agents, or other related business entities, or its successors or assigns, are excluded from entry for consumption into the United States, entry for consumption from a foreign-trade zone, or withdrawal from a warehouse for consumption, for the remaining terms of the Asserted Patents, except under license from, or with the permission of, the patent owner or as provided by law.

2. The movable barrier operator systems and components thereof subject to this exclusion order (*i.e.*, “covered articles”) are as follows: certain garage door operators and components thereof.

3. Notwithstanding paragraph 1 of this Order, covered articles are entitled to entry into the United States for consumption, entry for consumption from a foreign trade zone, or withdrawal from a warehouse for consumption, under bond in the amount of 100 percent (100%) of their entered value, pursuant to subsection (j) of section 337 (19 U.S.C. § 1337(j)) and the Presidential Memorandum for the United States Trade Representative of July 21, 2005 (70 Fed. Reg. 43,251), from the day after this Order is received by the United States Trade Representative until such time as the United States Trade Representative notifies the Commission that this Order is approved or disapproved, or takes no action, but, in any event, not later than sixty (60) days after the receipt of this Order. All entries of covered articles made pursuant to this paragraph are

to be reported to U.S. Customs and Border Protection ("CBP"), in advance of the date of the entry, pursuant to procedures CBP establishes.

4. At the discretion of CBP and pursuant to the procedures it establishes, persons seeking to import covered articles may be required to certify that they are familiar with the terms of this Order, that they have made appropriate inquiry, and thereupon state that, to the best of their knowledge and belief, the products being imported are not excluded from entry under paragraph 1 of this Order. At its discretion, CBP may require persons who have provided the certification described in this paragraph to furnish such records or analyses as are necessary to substantiate the certification.

5. In accordance with 19 U.S.C. § 1337(l), the provisions of this Order shall not apply to covered articles that are imported by and for the use of the United States, or imported for and to be used for, the United States with the authorization or consent of the Government.

6. The Commission may modify this Order in accordance with the procedures described in Rule 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).

7. The Secretary shall serve copies of this Order upon each party of record in this investigation that has retained counsel or otherwise provided a point of contact for electronic service and upon CBP.

8. Notice of this Order shall be published in the Federal Register.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: December 3, 2020

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER, COMMISSION** has been served upon the following parties as indicated, on **December 3, 2020.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

David C. Marcus, Esq.
**WILMER CUTLER PICKERING HALE AND DORR LLP**
350 South Grand Avenue, Suite 2400
Los Angeles, CA 90071
Email: David.marcus@wilmerhale.com

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**On Behalf of Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems LLC. f/k/a Gates That Open, LLC:**

Matthew C. Bernstein, Esq.
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**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

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| **In the Matter of**<br><br>**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1118** |

# CEASE AND DESIST ORDER

**IT IS HEREBY ORDERED THAT RESPONDENT** Nortek Security & Control, LLC, 1950 Camino Vida Roble, Carlsbad, California, 92008, cease and desist from conducting any of the following activities in the United States: importing, selling, offering for sale, marketing, advertising, distributing, transferring (except for exportation), soliciting United States agents or distributors, and aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer (except for exportation), or distribution of certain movable barrier operator systems and components thereof (as defined in Definition (G) below) that infringe one or more of claims 1 or 21 of U.S. Patent No. 7,775,223 ("the Asserted Patent") in violation of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337).

## I.
## Definitions

As used in this order:

(A) "Commission" shall mean the United States International Trade Commission.

(B) "Complainant" shall mean The Chamberlain Group, Inc., 300 Windsor Drive, Oak Brook, Illinois, 60523.

(C) "Respondent" shall mean Nortek Security & Control, LLC, 1950 Camino Vida Roble, Carlsbad, California, 92008.

(D) "Person" shall mean an individual, or any non-governmental partnership, firm, association, corporation, or other legal or business entity other than Respondent or its majority-owned or controlled subsidiaries, successors, or assigns.

(E) "United States" shall mean the fifty States, the District of Columbia, and Puerto Rico.

(F) The terms "import" and "importation" refer to importation for entry for consumption under the Customs laws of the United States.

(G) The term "covered products" shall mean movable barrier operator systems and components thereof that infringe one or more of claims 1 and 21 of the Asserted Patent. The movable barrier operator systems and components thereof subject to this order are as follows: certain garage door operators and components thereof. Covered products shall not include articles for which a provision of law or license avoids liability for infringement.

## II.
## Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by section III, *infra*, for, with, or otherwise on behalf of, Respondent.

## III.
## Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order. For the remaining terms of the Asserted Patents, Respondent shall not:

(A) import or sell for importation into the United States covered products;

(B) market, distribute, sell, or otherwise transfer (except for exportation) in the United States imported covered products;

(C) advertise imported covered products;

(D) solicit U.S. agents or distributors for imported covered products; or

(E) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or distribution of covered products.

## IV.
## Conduct Permitted

Notwithstanding any other provision of this Order, specific conduct otherwise prohibited by the terms of this Order shall be permitted if:

(A) in a written instrument, the owner of the Asserted Patents licenses or authorizes such specific conduct; or

(B) such specific conduct is related to the importation or sale of covered products by or for the United States.

## V.
## Reporting

For purposes of this requirement, the reporting periods shall commence on January 1 of each year and shall end on the subsequent December 31. The first report required under this section shall cover the period from the date of issuance of this order through December 31, 2020. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory (whether held in warehouses or at customer sites) of covered products in the United States.

Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has (i) imported and/or (ii) sold in the United States after importation during the reporting period, and (b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period.

When filing written submissions, Respondent must file the original document electronically on or before the deadlines stated above. Submissions should refer to the investigation number ("Inv. No. 337-TA-1118") in a prominent place on the cover pages and/or the first page. *See* Handbook for Electronic Filing Procedures, http://www.usitc.gov/secretary/fed_reg_notices/rules/handbook_on_electronic_filing.pdf. Persons with questions regarding filing should contact the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainant's counsel.[1]

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

## VI.
## Record-Keeping and Inspection

(A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, marketing, or distribution in the United

[1] Complainants must file a letter with the Secretary identifying the attorney to receive reports and bond information associated with this Order. The designated attorney must be on the protective order entered in the investigation.

States of covered products, made and received in the usual and ordinary course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.

(B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal offices during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

## VII.
## Service of Cease and Desist Order

The Secretary shall serve copies of this Order upon each party of record in this investigation that has retained counsel or otherwise provided a point of contact for electronic service and upon CBP.

Respondent is ordered and directed to:

(A) Serve, within fifteen (15) days after the effective date of this Order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;

(B) Serve, within fifteen (15) days after the succession of any persons referred to in subparagraph VII(A) of this order, a copy of the Order upon each successor; and

(C) Maintain such records as will show the name, title, and address of each person upon whom the Order has been served, as described in subparagraphs VII(A) and VII(B) of this order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until the expiration of the Asserted Patents.

## VIII.
## Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to section VI of this order should be made in accordance with section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

## IX.
## Enforcement

Violation of this order may result in any of the actions specified in section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for civil penalties under section 337(f) of the Tariff Act of 1930 (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

## X.
## Modification

The Commission may amend this order on its own motion or in accordance with the procedure described in section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).

## XI.
## Bonding

The conduct prohibited by section III of this order may be continued during the sixty (60) day period in which this Order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)), subject to Respondent's posting of a bond in the amount of 100 percent (100%) of their entered value. This bond provision does not apply to conduct that is otherwise permitted by section IV of this Order. Covered products imported on or after the date of issuance of this Order are subject to the entry bond as set forth in the exclusion order issued by the Commission and are not subject to this bond provision.

The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds by complainants in connection with the issuance of temporary exclusion orders. (*See* 19 C.F.R. § 210.68.) The bond and any accompanying documentation are to be provided to and approved by the Commission prior to the commencement of conduct that is otherwise prohibited by section III of this Order. Upon the Secretary's acceptance of the bond, (a) the Secretary will serve an acceptance letter on all parties, and (b) Respondent must serve a copy of the bond and accompanying documentation on Complainant's counsel.[2]

The bond is to be forfeited in the event that the United States Trade Representative approves this Order (or does not disapprove it within the review period), unless (i) the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final determination and order as to Respondent on appeal, or (ii) Respondent exports or destroys the products subject to this bond and provides certification to that effect that is satisfactory to the Commission.

[2] *See* Footnote 1.

This bond is to be released in the event (i) the United States Trade Representative disapproves this Order and no subsequent order is issued by the Commission and approved (or not disapproved) by the United States Trade Representative, (ii) the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final determination and order as to Respondent on appeal, or (iii) Respondent exports or destroys the products subject to this bond and provides certification to that effect that is satisfactory to the Commission, upon service on Respondent of an order issued by the Commission based upon application therefor made by Respondent to the Commission.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: December 3, 2020

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER, COMMISSION** has been served upon the following parties as indicated, on **December 3, 2020.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

David C. Marcus, Esq.
**WILMER CUTLER PICKERING HALE AND DORR LLP**
350 South Grand Avenue, Suite 2400
Los Angeles, CA 90071
Email: David.marcus@wilmerhale.com

☐ Via Hand Delivery
☐ Via Express Delivery
☐ Via First Class Mail
☒ Other: Email Notification of Availability for Download

**On Behalf of Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems LLC. f/k/a Gates That Open, LLC:**

Matthew C. Bernstein, Esq.
**PERKINS COIE LLP**
11452 El Camino Real, Suite 300
San Diego, CA 92130
Email: MBernstein@perkinscoie.com

☐ Via Hand Delivery
☐ Via Express Delivery
☐ Via First Class Mail
☒ Other: Email Notification of Availability for Download

**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

| | |
|---|---|
| **In the Matter of**<br><br>**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1118** |

# CEASE AND DESIST ORDER

**IT IS HEREBY ORDERED THAT RESPONDENT** Nortek, Inc., 500 Exchange Street, Providence, Rhode Island, 02903, cease and desist from conducting any of the following activities in the United States: importing, selling, offering for sale, marketing, advertising, distributing, transferring (except for exportation), soliciting United States agents or distributors, and aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer (except for exportation), or distribution of certain movable barrier operator systems and components thereof (as defined in Definition (G) below) that infringe one or more of claims 1 or 21 of U.S. Patent No. 7,775,223 ("the Asserted Patent") in violation of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337).

## I.
## Definitions

As used in this order:

(A) "Commission" shall mean the United States International Trade Commission.

(B) "Complainant" shall mean The Chamberlain Group, Inc., 300 Windsor Drive, Oak Brook, Illinois, 60523.

(C) "Respondent" shall mean Nortek, Inc., 500 Exchange Street, Providence, Rhode Island, 02903.

(D) "Person" shall mean an individual, or any non-governmental partnership, firm, association, corporation, or other legal or business entity other than Respondent or its majority-owned or controlled subsidiaries, successors, or assigns.

(E) "United States" shall mean the fifty States, the District of Columbia, and Puerto Rico.

(F) The terms "import" and "importation" refer to importation for entry for consumption under the Customs laws of the United States.

(G) The term "covered products" shall mean movable barrier operator systems and components thereof that infringe one or more of claims 1 and 21 of the Asserted Patent. The movable barrier operator systems and components thereof subject to this order are as follows: certain garage door operators and components thereof. Covered products shall not include articles for which a provision of law or license avoids liability for infringement.

## II.
## Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by section III, *infra*, for, with, or otherwise on behalf of, Respondent.

## III.
## Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order. For the remaining terms of the Asserted Patents, Respondent shall not:

(A) import or sell for importation into the United States covered products;

(B) market, distribute, sell, or otherwise transfer (except for exportation) in the United States imported covered products;

(C) advertise imported covered products;

(D) solicit U.S. agents or distributors for imported covered products; or

(E) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or distribution of covered products.

## IV.
## Conduct Permitted

Notwithstanding any other provision of this Order, specific conduct otherwise prohibited by the terms of this Order shall be permitted if:

(A) in a written instrument, the owner of the Asserted Patents licenses or authorizes such specific conduct; or

(B) such specific conduct is related to the importation or sale of covered products by or for the United States.

## V.
## Reporting

For purposes of this requirement, the reporting periods shall commence on January 1 of each year and shall end on the subsequent December 31. The first report required under this section shall cover the period from the date of issuance of this order through December 31, 2020. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory (whether held in warehouses or at customer sites) of covered products in the United States.

Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has (i) imported and/or (ii) sold in the United States after importation during the reporting period, and (b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period.

When filing written submissions, Respondent must file the original document electronically on or before the deadlines stated above. Submissions should refer to the investigation number ("Inv. No. 337-TA-1118") in a prominent place on the cover pages and/or the first page. *See* Handbook for Electronic Filing Procedures, http://www.usitc.gov/secretary/fed_reg_notices/rules/handbook_on_electronic_filing.pdf. Persons with questions regarding filing should contact the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainant's counsel.[1]

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

## VI.
## Record-Keeping and Inspection

(A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, marketing, or distribution in the United

[1] Complainants must file a letter with the Secretary identifying the attorney to receive reports and bond information associated with this Order. The designated attorney must be on the protective order entered in the investigation.

States of covered products, made and received in the usual and ordinary course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.

(B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal offices during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

## VII.
## Service of Cease and Desist Order

The Secretary shall serve copies of this Order upon each party of record in this investigation that has retained counsel or otherwise provided a point of contact for electronic service and upon CBP.

Respondent is ordered and directed to:

(A) Serve, within fifteen (15) days after the effective date of this Order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;

(B) Serve, within fifteen (15) days after the succession of any persons referred to in subparagraph VII(A) of this order, a copy of the Order upon each successor; and

(C) Maintain such records as will show the name, title, and address of each person upon whom the Order has been served, as described in subparagraphs VII(A) and VII(B) of this order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until the expiration of the Asserted Patents.

## VIII.
## Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to section VI of this order should be made in accordance with section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

## IX.
## Enforcement

Violation of this order may result in any of the actions specified in section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for civil penalties under section 337(f) of the Tariff Act of 1930 (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

## X.
## Modification

The Commission may amend this order on its own motion or in accordance with the procedure described in section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).

## XI.
## Bonding

The conduct prohibited by section III of this order may be continued during the sixty (60) day period in which this Order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)), subject to Respondent's posting of a bond in the amount of 100 percent (100%) of their entered value. This bond provision does not apply to conduct that is otherwise permitted by section IV of this Order. Covered products imported on or after the date of issuance of this Order are subject to the entry bond as set forth in the exclusion order issued by the Commission and are not subject to this bond provision.

The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds by complainants in connection with the issuance of temporary exclusion orders. (*See* 19 C.F.R. § 210.68.) The bond and any accompanying documentation are to be provided to and approved by the Commission prior to the commencement of conduct that is otherwise prohibited by section III of this Order. Upon the Secretary's acceptance of the bond, (a) the Secretary will serve an acceptance letter on all parties, and (b) Respondent must serve a copy of the bond and accompanying documentation on Complainant's counsel.[2]

The bond is to be forfeited in the event that the United States Trade Representative approves this Order (or does not disapprove it within the review period), unless (i) the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final determination and order as to Respondent on appeal, or (ii) Respondent exports or destroys the products subject to this bond and provides certification to that effect that is satisfactory to the Commission.

[2] *See* Footnote 1.

This bond is to be released in the event (i) the United States Trade Representative disapproves this Order and no subsequent order is issued by the Commission and approved (or not disapproved) by the United States Trade Representative, (ii) the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final determination and order as to Respondent on appeal, or (iii) Respondent exports or destroys the products subject to this bond and provides certification to that effect that is satisfactory to the Commission, upon service on Respondent of an order issued by the Commission based upon application therefor made by Respondent to the Commission.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: December 3, 2020

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER, COMMISSION** has been served upon the following parties as indicated, on **December 3, 2020.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

David C. Marcus, Esq.
**WILMER CUTLER PICKERING HALE AND DORR LLP**
350 South Grand Avenue, Suite 2400
Los Angeles, CA 90071
Email: David.marcus@wilmerhale.com

☐ Via Hand Delivery
☐ Via Express Delivery
☐ Via First Class Mail
☒ Other: Email Notification of Availability for Download

**On Behalf of Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems LLC. f/k/a Gates That Open, LLC:**

Matthew C. Bernstein, Esq.
**PERKINS COIE LLP**
11452 El Camino Real, Suite 300
San Diego, CA 92130
Email: MBernstein@perkinscoie.com

☐ Via Hand Delivery
☐ Via Express Delivery
☐ Via First Class Mail
☒ Other: Email Notification of Availability for Download

**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

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|---|---|
| **In the Matter of**<br><br>**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1118** |

# CEASE AND DESIST ORDER

**IT IS HEREBY ORDERED THAT RESPONDENT** GTO Access Systems, LLC, 3121 Hartsfield Road, Tallahassee, Florida, 32303, cease and desist from conducting any of the following activities in the United States: importing, selling, offering for sale, marketing, advertising, distributing, transferring (except for exportation), soliciting United States agents or distributors, and aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer (except for exportation), or distribution of certain movable barrier operator systems and components thereof (as defined in Definition (G) below) that infringe one or more of claims 1 or 21 of U.S. Patent No. 7,775,223 ("the Asserted Patent") in violation of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337).

## I.
## Definitions

As used in this order:

(A) "Commission" shall mean the United States International Trade Commission.

(B) "Complainant" shall mean The Chamberlain Group, Inc., 300 Windsor Drive, Oak Brook, Illinois, 60523.

(C) "Respondent" shall mean GTO Access Systems, LLC, 3121 Hartsfield Road, Tallahassee, Florida, 32303.

(D) "Person" shall mean an individual, or any non-governmental partnership, firm, association, corporation, or other legal or business entity other than Respondent or its majority-owned or controlled subsidiaries, successors, or assigns.

(E) "United States" shall mean the fifty States, the District of Columbia, and Puerto Rico.

(F) The terms "import" and "importation" refer to importation for entry for consumption under the Customs laws of the United States.

(G) The term "covered products" shall mean movable barrier operator systems and components thereof that infringe one or more of claims 1 and 21 of the Asserted Patent. The movable barrier operator systems and components thereof subject to this order are as follows: certain garage door operators and components thereof. Covered products shall not include articles for which a provision of law or license avoids liability for infringement.

## II.
## Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by section III, *infra*, for, with, or otherwise on behalf of, Respondent.

## III.
## Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order. For the remaining terms of the Asserted Patents, Respondent shall not:

(A) import or sell for importation into the United States covered products;

(B) market, distribute, sell, or otherwise transfer (except for exportation) in the United States imported covered products;

(C) advertise imported covered products;

(D) solicit U.S. agents or distributors for imported covered products; or

(E) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or distribution of covered products.

## IV.
## Conduct Permitted

Notwithstanding any other provision of this Order, specific conduct otherwise prohibited by the terms of this Order shall be permitted if:

(A) in a written instrument, the owner of the Asserted Patents licenses or authorizes such specific conduct; or

(B) such specific conduct is related to the importation or sale of covered products by or for the United States.

## V.
## Reporting

For purposes of this requirement, the reporting periods shall commence on January 1 of each year and shall end on the subsequent December 31. The first report required under this section shall cover the period from the date of issuance of this order through December 31, 2020. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory (whether held in warehouses or at customer sites) of covered products in the United States.

Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has (i) imported and/or (ii) sold in the United States after importation during the reporting period, and (b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period.

When filing written submissions, Respondent must file the original document electronically on or before the deadlines stated above. Submissions should refer to the investigation number ("Inv. No. 337-TA-1118") in a prominent place on the cover pages and/or the first page. *See* Handbook for Electronic Filing Procedures, http://www.usitc.gov/secretary/fed_reg_notices/rules/handbook_on_electronic_filing.pdf. Persons with questions regarding filing should contact the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainant's counsel.[1]

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

## VI.
## Record-Keeping and Inspection

(A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, marketing, or distribution in the United

[1] Complainants must file a letter with the Secretary identifying the attorney to receive reports and bond information associated with this Order. The designated attorney must be on the protective order entered in the investigation.

States of covered products, made and received in the usual and ordinary course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.

(B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal offices during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

## VII.
## Service of Cease and Desist Order

The Secretary shall serve copies of this Order upon each party of record in this investigation that has retained counsel or otherwise provided a point of contact for electronic service and upon CBP.

Respondent is ordered and directed to:

(A) Serve, within fifteen (15) days after the effective date of this Order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;

(B) Serve, within fifteen (15) days after the succession of any persons referred to in subparagraph VII(A) of this order, a copy of the Order upon each successor; and

(C) Maintain such records as will show the name, title, and address of each person upon whom the Order has been served, as described in subparagraphs VII(A) and VII(B) of this order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until the expiration of the Asserted Patents.

## VIII.
## Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to section VI of this order should be made in accordance with section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

## IX.
## Enforcement

Violation of this order may result in any of the actions specified in section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for civil penalties under section 337(f) of the Tariff Act of 1930 (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

## X.
## Modification

The Commission may amend this order on its own motion or in accordance with the procedure described in section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).

## XI.
## Bonding

The conduct prohibited by section III of this order may be continued during the sixty (60) day period in which this Order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)), subject to Respondent's posting of a bond in the amount of 100 percent (100%) of their entered value. This bond provision does not apply to conduct that is otherwise permitted by section IV of this Order. Covered products imported on or after the date of issuance of this Order are subject to the entry bond as set forth in the exclusion order issued by the Commission and are not subject to this bond provision.

The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds by complainants in connection with the issuance of temporary exclusion orders. (*See* 19 C.F.R. § 210.68.) The bond and any accompanying documentation are to be provided to and approved by the Commission prior to the commencement of conduct that is otherwise prohibited by section III of this Order. Upon the Secretary's acceptance of the bond, (a) the Secretary will serve an acceptance letter on all parties, and (b) Respondent must serve a copy of the bond and accompanying documentation on Complainant's counsel.[2]

The bond is to be forfeited in the event that the United States Trade Representative approves this Order (or does not disapprove it within the review period), unless (i) the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final determination and order as to Respondent on appeal, or (ii) Respondent exports or destroys the products subject to this bond and provides certification to that effect that is satisfactory to the Commission.

[2] *See* Footnote 1.

This bond is to be released in the event (i) the United States Trade Representative disapproves this Order and no subsequent order is issued by the Commission and approved (or not disapproved) by the United States Trade Representative, (ii) the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final determination and order as to Respondent on appeal, or (iii) Respondent exports or destroys the products subject to this bond and provides certification to that effect that is satisfactory to the Commission, upon service on Respondent of an order issued by the Commission based upon application therefor made by Respondent to the Commission.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: December 3, 2020

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER, COMMISSION** has been served upon the following parties as indicated, on **December 3, 2020.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

David C. Marcus, Esq.
**WILMER CUTLER PICKERING HALE AND DORR LLP**
350 South Grand Avenue, Suite 2400
Los Angeles, CA 90071
Email: David.marcus@wilmerhale.com

☐ Via Hand Delivery
☐ Via Express Delivery
☐ Via First Class Mail
☒ Other: Email Notification of Availability for Download

**On Behalf of Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems LLC. f/k/a Gates That Open, LLC:**

Matthew C. Bernstein, Esq.
**PERKINS COIE LLP**
11452 El Camino Real, Suite 300
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☒ Other: Email Notification of Availability for Download

**PUBLIC VERSION**

**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

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|---|---|
| **In the Matter of**<br><br>**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1118** |

# COMMISSION OPINION

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# I. INTRODUCTION

The Commission has determined that there has been a violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 ("Section 337"), through the importation, sale for importation, or sale in the United States after importation of certain movable barrier operator systems and components thereof that infringe one or more claims of U.S. Patent No. 7,755,223 ("the '223 patent"). The Commission previously affirmed that there is no violation of Section 337 with respect to the other two patents asserted in this investigation, U.S. Patent Nos. 8,587,404 ("the '404 patent") and 6,741,052 ("the '052 patent"). *See* Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond ("Final ID") at 286-87 (Nov. 25, 2019), *aff'd in part, reviewed in part by* Comm'n Notice at 3 (Apr. 22, 2020).

The Commission has determined to issue a limited exclusion order ("LEO") and cease and desist orders ("CDOs") against each respondent and impose a bond in the amount of 100 percent of the entered value of the covered products during the period of Presidential review.

This opinion sets forth the Commission's reasoning in support of its final determination. The Commission also affirms the findings of the Final ID and the Remand Initial Determination ("Remand ID") (July 10, 2020) that are not inconsistent with this opinion.

# II. BACKGROUND

## A. Procedural History

The Commission instituted this investigation on June 11, 2018, based on a complaint, as supplemented, filed by The Chamberlain Group, Inc. ("CGI") of Oak Brook, Illinois. 83 Fed. Reg. 27020-21 (June 11, 2018). The complaint alleges a violation of Section 337 in the importation, sale for importation, or sale in the United States after importation of certain movable barrier operator ("MBO") systems (*i.e.*, garage door openers ("GDOs") and gate operators) that infringe one or more of the asserted claims of CGI's '223, '404, and '052 patents.

*Id*. The Commission's notice of investigation names Nortek Security & Control, LLC of Carlsbad, California; Nortek, Inc. of Providence, Rhode Island; and GTO Access Systems, LLC of Tallahassee, Florida (collectively, "Nortek") as respondents. *Id.* The Office of Unfair Import Investigations was not named as a party to this investigation. *See id.*

On June 5, 2019, the presiding Administrative Law Judge ("ALJ") issued a *Markman* order (Order No. 25) construing the claim terms in dispute, including the term "operates," which is recited in asserted claims 1 and 21 of the '223 patent.

On December 12, 2018, CGI filed a motion for summary determination that it has satisfied the economic prong of the domestic industry ("DI") requirement. Nortek filed a response opposing the motion on February 11, 2019, following a one-month shutdown of the federal government in January 2019. On June 6, 2019, the ALJ issued Order No. 26, advising the parties that the motion would be granted and a formal written order would follow.

The ALJ held an evidentiary hearing on the issues still in dispute on June 10-14, 2019.

On November 25, 2019, the ALJ issued an initial determination ("ID") (Order No. 38), finding no factual dispute that CGI made "significant" investments in labor and capital for its domestic industry products and thus satisfied the economic prong requirement under Subsection 337(a)(3)(B) (19 U.S.C. § 1337(a)(3)(B)). Order No. 38 also found, however, that factual disputes over CGI's investments in plant and equipment precluded entry of summary determination under Subsection 337(a)(3)(A).

On the same date, the ALJ issued the Final ID, finding no violation of Section 337 because the asserted claims of the '223 and '404 patents are not infringed and the sole asserted claim of the '052 patent is invalid. *See* Final ID at 286-87. The Final ID also includes the ALJ's Recommended Determination ("RD"), recommending that, if a violation is found, the

Commission should issue an LEO and CDOs against each Nortek respondent and set the bond in the amount of 100 percent of the entered value of the covered products during the period of Presidential review. Final ID at 277-86. The Commission received no responses from the parties under Commission Rule 210.50(a)(4) regarding the public interest. The Commission also received no responses from the public or other agencies in response to the Commission's notice published on December 26, 2019. 84 Fed. Reg. 70998-999 (Dec. 26, 2019).

On December 4, 2019, Nortek and CGI filed petitions for review of Order No. 38. The parties filed their respective responses on December 11, 2019. Both parties filed petitions for review of the Final ID on December 9, 2019, and their respective responses on December 17, 2019.

On February 19, 2020, the Commission determined to review Order No. 38 and to partially review the Final ID with respect to certain issues relating to each of the three asserted patents. 85 Fed. Reg. 10723-26 (Feb. 25, 2020). The Commission directed the parties to brief multiple questions on violation and requested briefing from the parties, the public, and any interested government entities on remedy, the public interest, and bonding. *Id*. at 10725.

The parties filed their initial responses on March 4, 2020,[1] and their replies on March 11, 2020.[2] The Commission did not receive any responses to the notice from any third parties.

[1] *See* Complainant The Chamberlain Group, Inc.'s Written Submission Regarding Commission's Questions on the Issues Under Review, and on Remedy, Bonding, and the Public Interest (Mar. 4, 2020) ("CGI's Sub."); Respondents' Written Submission in Response to the Commission's February 19, 2020 Notice of Review (Mar. 4, 2020) ("Nortek's Sub.").

[2] *See* Complainant The Chamberlain Group, Inc.'s Response to Nortek's Submission Regarding Commission's February 19, 2020 Notice (Mar. 11, 2020); Respondents' Reply to Complainant's Written Response to the Commission's February 19, 2020 Notice of Review (Mar. 11, 2020).

On April 22, 2020, the Commission adopted the Final ID's findings of no violation for the '404 and '052 patents and continued its review of the '223 patent.[3] Comm'n Notice at 3 (April 22, 2020). The Commission also vacated Order No. 38 and remanded the economic prong of the domestic industry requirement as to the '223 patent to the ALJ for further consideration. *Id.*; Order Vacating and Remanding Order No. 38 (April 22, 2020) ("Remand Order").

On May 15, 2020, the ALJ issued Order No. 39, which instructed CGI to provide updated information regarding its domestic and foreign investments, an acceptable allocation analysis, and information regarding certain other issues in response to the Remand Order. Order No. 39 at 2-4 (May 15, 2020). The parties informed the ALJ that no further discovery was needed.

On July 10, 2020, the ALJ issued a Remand ID, finding that CGI satisfied the economic prong requirement with respect to the '223 patent by making significant investments in plant and equipment and significant employment of labor and capital under Subsections 337(a)(3)(A) and (B), respectively. Remand ID at 2, 13, 31-35; 19 U.S.C. § 1337(a)(3)(A), (B). The Remand ID finds that CGI's argument under Subsection 337(a)(3)(C) was waived as untimely. *Id.* at 5 n.10; 19 U.S.C. § 1337(a)(3)(C).

On July 20, 2020, Nortek filed a petition for review of the Remand ID.[4] CGI filed its opposition to Nortek's petition for review on July 27, 2020. On September 9, 2020, the Commission determined to review the Remand ID and directed the parties to address a number of questions with respect to the economic prong requirement. 85 Fed. Reg. 57249-51 (Sept. 15,

[3] The Commission also denied CGI's request to amend Order No. 37 (Nov. 20, 2019), which awarded Nortek certain costs and fees stemming from CGI's allegedly late production of documents. Comm'n Final Notice at 2, 3. The Commission adopted Order No. 37 as final. *Id.*

[4] Respondent's Petition for Review of the Remand Initial Determination (July 20, 2020) ("Nortek's Pet. Remand ID").

2020). The Commission also allowed the parties to update their submissions on remedy, the public interest, and bond, if necessary, and invited interested government entities and third parties to file written submissions as well. *Id*. at 57251.

The parties filed their initial responses to the Commission's questions on September 23, 2020. The parties filed their respective replies on September 30, 2020. The Commission did not receive any comments from non-parties in response to its notice.

### B. The Asserted '223 Patent

The '223 patent, entitled "Movable Barrier Operator With Energy Management Control and Corresponding Method," is directed to a garage door opener or other movable barrier operator system that reduces energy consumption by varying the energy usage of a system component(s), such as an obstacle detector, as the system's needs change. *See* '223 patent, Abstract, 2:44-67, 6:38-55, 10:31-41. For example, the system may cause the obstacle detector to operate in a high-energy mode when it is needed (*e.g.*, when the garage door or barrier is moving), and then cause the obstacle detector to operate in a lower-energy mode when it is not likely to be needed (*e.g.*, when the garage door has not moved for a period of time). *Id.* at 2:62-67, 5:27-58. The '223 patent states that its invention is preferable to a conventional MBO system, which provides full power to the system components at all times, regardless of whether the barrier is open or closed. *See generally id.* at 1:31-54.

CGI accuses Nortek of infringing claims 1 and 21 of the '223 patent. Independent claim 1 recites the following, with its claim elements identified by bracketed letters, and the specific claim terms at issue identified by underlined italics:

> 1. [preamble] A movable barrier operator apparatus comprising:
>
> [a] a power supply that operably couples to at least one source of alternating current;

> [b] an obstacle detector; and
>
> [c] a movable barrier operator which includes a controller, the movable barrier operator operably coupled to the power supply, receives operating power from the power supply and has at least a first and a second mode of energy consumption operation and being further configured and arranged to:
>
> > [d] selectively open and close a corresponding movable barrier; and
> >
> > [e] develop an obstacle detector operating mode control signal from the controller as a function of movable barrier operator system state information that indicates whether the barrier is open or closed, the obstacle detector operating mode control signal being operable to directly control the energy usage of the obstacle detector, the control signal from the controller developed as a result of the state information, the state information selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof,
>
> [f] the obstacle detector operably coupled to the power supply and to the movable barrier operator, receives operating power from the power supply, and has a plurality of operating modes, wherein at least some of the operating modes have different energy usages, and wherein the obstacle detector is directly responsive to the movable barrier operator obstacle detector operating mode control signal such that:
>
> > [g] during the first mode of energy consumption operation, the obstacle detector *operates* using a first energy usage; and
> >
> > [h][i] during the second mode of energy consumption operation, the obstacle detector *operates* using a second energy usage, [ii] wherein the operating power used in one of the energy usages is less than the power used by the other energy usage.

*Id.* at 10:50-11:22 (claim 1, emphasis added to disputed limitations).

Independent claim 21 is similar to claim 1, although element [h][ii] in claim 21 reads, "wherein the second energy usage is lower than the first energy usage." *Id.* at 13:26-29 (claim 21). Claim 21 also states that the "control signal" is based on "whether the barrier is travelling," instead of "whether the barrier is open or closed," as in claim 1. *Compare id.* at 13:5-8 (element 21[e]) *with id.* at 10:62-65 (element 1[e]). Neither difference affects the analysis that follows.

### C. The Accused Products

The accused products are several dozen Nortek garage door opener systems (including private label and alternative models) that allegedly infringe claims 1 and 21 of the '223 patent ("the '223 Accused Products"). *See* Final ID at 18-19. CGI did not accuse Nortek's gate operator systems of infringing the '223 patent (*see id.*), so those products are not at issue.

### D. The Domestic Industry Products

The domestic industry products are several dozen models of CGI garage door openers. *See id.* at 20-21. CGI alleges that these models ("the '223 DI Products") practice claim 1 of the '223 patent. *See id.* at 146.

## III. STANDARD OF REVIEW

The Commission may review an initial determination, in whole or in part, based on a petition or on its own initiative. *See* 19 C.F.R. §§ 210.43(d), 210.44. When the Commission reviews an initial determination, it reviews the determination *de novo*. *Certain Soft-Edged Trampolines and Components Thereof*, Inv. No. 337-TA-908, Comm'n Op. at 4 (May 1, 2015). With respect to the issues under review, "the Commission may affirm, reverse, modify, set aside or remand for further proceedings, in whole or in part, the initial determination of the administrative law judge." 19 C.F.R. § 210.45(c). The Commission also "may take no position on specific issues or portions of the initial determination," and "may make any finding or conclusions that in its judgment are proper based on the record in the proceeding." *Id.*

## IV. ANALYSIS

For the reasons set forth below, the Commission finds that Nortek infringes claims 1 and 21 of the '223 patent and that CGI practices claim 1 for technical prong purposes. The Commission reverses the Final ID's findings to the contrary. The Commission also affirms the Remand ID's findings that CGI has satisfied the economic prong of the DI requirement, with the

modified analysis discussed herein. The Commission thus concludes that Nortek has violated Section 337 with respect to the '223 patent. The Commission further affirms and adopts the Final ID's and Remand ID's findings, conclusions, and supporting analyses that are not inconsistent with this opinion.

### A. Claim Construction: "Operates"

#### 1. Legal Background

Claim terms are normally construed according to their ordinary and customary meaning in the art, as understood by a person of ordinary skill in the art in the context of the entire patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). Claim construction focuses mainly on the intrinsic evidence, which consists of the claim language, the specification, and prosecution history. *Id.* at 1313-17. The patent specification is usually the best guide to the meaning of a claim term, and thus is highly relevant and usually dispositive. *Id.* at 1315. "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316.

If the intrinsic evidence does not establish the meaning of a claim, then extrinsic evidence may be considered. *Id.* at 1371. Extrinsic evidence consists of all evidence external to the patent and the prosecution history, and may include, for example, inventor testimony, expert testimony, learned treatises, and dictionaries. *Id.* A court may consider extrinsic evidence to the extent it deems it helpful in determining the true meaning of the claim language, but extrinsic evidence cannot be used to change or override the claim meaning derived from the intrinsic evidence. *Id.*

#### 2. The *Markman* Order and Final ID

Claims 1 and 21 of the '223 patent require, in pertinent part, that the obstacle detector "*operates*" in a "first mode of energy consumption operation" using a "first energy usage," and "*operates*" in a "second mode of energy consumption operation" using a "second energy usage,"

wherein the energy usage, or power, in one mode is "less than" the energy usage, or power, in the other mode. *See* '223 patent at 11:9-22 (claim 1), 13:17-29 (claim 21) (emphasis added).

The *Markman* Order finds that "operates" should be given its plain and ordinary meaning and rejects Nortek's attempt to limit "operates" to "works or functions." Order No. 25, Appx. A at 4 (June 5, 2019). The Final ID reiterates that "operates" does not mean the obstacle detector must be energized to a level sufficient to detect objects or perform another function. Final ID at 143-44. Yet the Final ID, in applying the claim term to assess infringement, also finds that "operates" does not mean that "any amount of power, no matter how miniscule, corresponds to a device that is in fact 'operating.'" *Id.* at 144. Crediting testimony that the components of the obstacle detectors in the '223 Accused Products are "not designed to perform ***any*** function" and "there is ***nothing*** in the entire circuit schematic of the obstacle detector infrared detector circuit that is operating" when the obstacle detector is in the lower energy usage state, the Final ID concludes this limitation does not read on the '223 Accused Products. *Id.* (emphasis in original).

**3. Determination**

The Commission affirms the Final ID to the extent it finds that "operates" should be given its plain and ordinary meaning, which does not require that the obstacle detector work or function. *See id.* at 143-44. The Commission further adopts the Final ID's finding that "operates" does not mean the detector must be energized to a level sufficient to perform work or detect objects to any degree. *See id.* However, the Commission reverses the Final ID to the extent it applies this term, contrary to its plain and ordinary meaning, to require that the obstacle detector detect objects or perform a function while in the lower energy mode.

The Commission finds that this plain meaning of "operates" is supported by the language of claims 1 and 21, which indicates that "operates" should be understood as performing in any of various "*operating modes*," which "have different energy usages." '223 patent at 11:7-14 (claim

1), 13:15-22 (claim 21) (emphasis added). Both claims also require that: (1) "during the first mode of energy consumption *operation*, the obstacle detector *operates* using a first energy usage"; and (2) "during the second mode of energy consumption *operation*, the obstacle detector *operates* using a second energy usage"; wherein (3) the operating power, or energy usage, in one mode is less than the operating power, or energy usage in the other mode. *Id.* at 11:15-22 (claim 1), 13:23-29 (claim 21) (emphasis added). The specification similarly uses the term "operates" in conjunction with phrases like "operating mode." *See, e.g., id.* at Abstract, 5:11-17 (controller "*operates* using a first [or second] mode of energy consumption *operation*"), 5:33-17 (controller determines "whether to *operate* in a first [or second] mode of *operation*"), 10:31-35 ("one nor more components . . . can be configured to *operate* in at least two different modes of *operation*").

The language of the claims does not impose any functional limitations on the terms "operates" or "operating modes," let alone require the detector to continue to work, function, or detect objects to any degree during the lower-energy mode. *See id.* at 11:7-22 (claim 1), 13:15-29 (claim 21). The claims also impose no limitations on how low the energy usage or power may be in the lower "mode of energy consumption operation," nor do they preclude energy usage or power from going to zero. *See id.* The only limitation is that the energy usage in one operating mode must be less than the energy usage in the other operating mode. *See id*. at 11:18-22 (claim 1), 13:26-29 (claim 21); *see also id.* at Abstract, 5:2:44-61. Even though the specification may express a desire to avoid compromising efficacy or safety (*see id.* at 2:62-67, 10:31-41), the claims themselves impose no such limitations. The Commission thus finds the claim language supports the plain meaning of "operates" but does not impose any limitations on

the detector's ability to detect objects, function, or maintain even minimal energization when it is in its lower-energy mode.[5]

This plain reading of "operates" is also supported by the specification. For example, the specification discloses an embodiment in which an obstacle detector comprises two independently controllable photobeam elements **(12A, 12B)** with two different energy modes. *See* '223 patent at 3:62-65, 6:6-31.[6] In the first energy mode, both photobeam elements **(12A, 12B)** are turned on, such as when the barrier is moving. *Id.* at 6:12-17. In the second energy mode only one of the photobeam elements **(12A)** is turned on, while the second element **(12B)** is turned off, thus saving "50 percent in energy utilized to power the photobeam operation," such as when the door has remained stationary for a period of time. *Id.* at 6:12-27. The only detector in this example that has two different energy modes, as in claims 1 and 21, is photobeam element **12B**, because it is the only element that can be turned on and off to save energy. *Id.* at 6:6-31. The other detector, photobeam element **12A**, does not have two energy modes as required by claims 1 or 21, because it remains on at all times. *Id.*; *see also id.* at 10:13-16. This embodiment supports construing claims 1 and 21 to mean that an obstacle detector can be turned off and

[5] The Commission also notes that claim 7 (which depends indirectly from claim 1) and claim 27 (which depends indirectly from claim 21) both state that when the frequency of energization of the detector is lowered to reduce power consumption, the low-power mode (*i.e.*, "relatively infrequent energization") of the detector may use "substantially no energization." '223 patent at 11:26-28, 37-42 (claims 3, 6, 7), 13:33-35, 43-29 (claims 23, 26, 27). These claims support the plain meaning of "operates" to include a mode of operation in which the obstacle detector receives "substantially no energization," and thus performs no work or function.

[6] Although the specification identifies the pair of photobeam elements as an "obstacle detector," this passage does not limit the "obstacle detector" in claims 1 and 21 to this arrangement. Each photobeam element has its own light source and receptor for detecting objects, and each can be independently controlled. *Id.* at 3:62-4:11, 5:23-26, 6:23-31, 10:13-16. Thus, each photobeam element falls within the plain and ordinary meaning of "obstacle detector" in claims 1 and 21.

continue to "operate" even though its energy usage is zero, and then be switched back on to the high-energy mode as needed.

Other passages in the '223 patent specification support this interpretation of "operates." The specification states that "[a]s already described above, a photobeam-based obstacle detector **12** can be configured to permit reduction of the energization cycle and/or *complete powering down* to accomplish a *reduced energy consumption mode of operation*." *See* '223 patent at 10:13-16 (emphasis added). As another example, as when the movable barrier has been closed for an extended period of time, an obstacle detector may be relieved of one or more functions, *e.g.*, of turning on a work light, which in turn may facilitate "the partial or *complete powering down* of the obstacle detector **12** as already suggested above." *Id.* at 10:21-30 (emphasis added). These passages support construing the plain meaning of "operates" to include "a partial or *complete powering down*."[7] *See id*. (emphasis added). Thus, Nortek's assertion that "there is no disclosure in the '223 patent of a mode where the obstacle detector 12 is incapable of detecting an obstacle" is not accurate. Nortek's Sub. at 15.

Nortek suggests that the obstacle detector must be capable of detecting objects in lower-energy mode so as to not compromise "the efficacy of this safety system." *Id.* at 15; *see id.* at 14-15. The '223 patent, however, does not contemplate continuous operation of the obstacle detector to ensure safe operation of the system; rather, it carefully selects when to use the lower-power mode in order to balance safety and energy consumption. *See, e.g.*, '223 patent at 10:31-

[7] The specification similarly describes other components that may be powered down completely when the barrier has remained fully closed for a period of time. *See, e.g.*, '223 patent at 10:1-8. For example, an RPM detector on the garage door motor may enter a "quiescent state," or "a second mode of operation," that may include "*powering down the [RPM] detector **8** completely*." '223 patent at 10:6-11 (emphasis added). The specification also describes shutting down the power supply during a "second mode of operation," or "quiescent state," "which will *shut down,* partially or *completely*," those components that require power. *Id.* at 8:39-46 (emphasis added).

42. As the specification explains, by making an "appropriate selection of the dynamic alterations that facilitate the selection of reduced energy consumption operating states, and by appropriately selecting when to use such operating states, [the] operational efficacy and safety [of the system] are not unduly compromised while simultaneously achieving considerable power savings over time." *Id.* at 2:62-67, 10:36-41 ("By matching use of such lower power modes of operation with operational states that present reduced operational challenges, however, a reasonable compromise can be reached as between operational efficacy on the one hand and well managed energy usage on the other.").

Accordingly, the Commission affirms the Final ID's finding that "operates" should be construed according to its plain and ordinary meaning, which does not require that the obstacle detector continue to function or detect obstacles to any degree in its second, lower-energy state. The Commission reverses the Final ID to extent it interprets or applies "operates" in a manner so as to impose any minimal functional or energy requirements on that term.

### B. Infringement

#### 1. Legal Background

Section 337 prohibits "the importation into the United States, the sale for importation, or the sale within the United States after importation . . . of articles that infringe a valid and enforceable United States patent . . . ." 19 U.S.C. § 1337(a)(1)(B)(i). Direct infringement includes making, using, offering to sell, or selling a patented invention within the United States or importing a patented invention into the United States, without the consent of the patent owner. 35 U.S.C. § 271(a).

To prove direct infringement, the plaintiff must establish by a preponderance of the evidence that one or more claims of the asserted patent reads on the accused product or process, either literally or under the doctrine of equivalents. *Advanced Cardiovascular Sys., Inc. v.*

*Scimed Life Sys., Inc.*, 261 F.3d 1329, 1336 (Fed. Cir. 2001). Each limitation in a patent claim is considered material and essential to an infringement determination. *See London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991). "Literal infringement of a claim exists when each of the claim limitations reads on, or in other words is found in, the accused device." *Allen Eng. Corp. v. Bartell Indus.*, 299 F.3d 1336, 1345 (Fed. Cir. 2002). If any claim limitation is found to be absent from the accused product or process, then there is no literal infringement. *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 141, 1247 (Fed. Cir. 2000).

**2. Final ID**

The Final ID finds that the '223 Accused Products include an obstacle detector with two operating modes: a high-energy mode when the detector's beam is on, and a lower-energy sleep mode when the beam is off, but the detector is still consuming some power. Final ID at 134-36, 142-43, 146 (discussing the '223 patent, limitations 1[f]-[h], 21[f]-[h]). Nonetheless, the Final ID finds that CGI failed to prove that the obstacle detector in the '223 Accused Products "operates" in its lower-energy mode, as required by limitations 1[h][i] and 21[h][i]. *Id.* at 106, 143-45.

Despite finding that "operates" does not require that the obstacle detector perform any work or function, the Final ID rejects applying that term in a way such "that any amount of power, no matter how miniscule, corresponds to a device that is in fact 'operating.'" *See id.* at 144. The Final ID cites the testimony of a Nortek engineer for the proposition that nothing in the obstacle detector circuits operates when in "sleep mode." *See, e.g.,* Final ID at 144-45 [[

]]). The Final ID finds that CGI did not provide any evidence or explanation as to what the obstacle detectors do in their "sleep mode," or what part of the circuitry, if any, might be operating at that time. *Id.* at 145.

The Final ID concludes that the '223 Accused Products do not infringe claim 1 or 21 because the obstacle detectors do not "perform ***any*** function" in their sleep mode, and "there is ***nothing*** in the entire circuit schematic of the obstacle detector infrared detector circuit that is operating when the circuit" when it is in its lower-energy mode. *Id.* at 144 (emphasis in original).

**3. Determination**

As stated above, the Commission affirms the ALJ's construction of "operates" according to its plain and ordinary meaning, which does not require that the obstacle detector continue to function or detect objects in its lower-energy state. *See* Order No. 25, Appx. A at 4 (June 5, 2019); Final ID at 143-44. The Final ID diverged from the plain meaning of that term, however, when it requires the obstacle detector to perform some function or operation when it is in the lower-energy mode. *See* Final ID at 143-44.

There is no dispute that the obstacle detectors in the '223 Accused Products have two operating modes, a high-energy mode and lower-energy sleep mode, as required by limitations 1[f]-1[g], 1[h][ii] and 21[f]-21[g], 21[h][ii]. *See id.* at 134-42, 146. Given that the claim term "operates" does not impose any functional requirement on the obstacle detector when it is in the second power usage mode, the Commission finds that the obstacle detector in each '223 Accused Product "operates" in both energy modes, as required by limitations 1[h][i] and 21[h][i], even if it does not detect objects or perform any function in its sleep mode. The Commission thus reverses the Final ID's finding to the contrary, because it misapplies the plain meaning of "operates" in the context of the '223 patent.

There is no dispute that the '223 Accused Products satisfy all of the remaining limitations 1[a]-1[e] and 21[a]-21[e]. *See id.* at 113-34. Accordingly, the Commission finds that the '223 Accused Products literally infringe claims 1 and 21 of the '223 patent. *Compare id.* at 286-87.

### C. Domestic Industry

When a Section 337 investigation is based on allegations of patent infringement under Section 337(a)(1)(B), the complainant must show that "an industry in the United States, relating to the articles protected by the patent . . . exists or is in the process of being established." 19 U.S.C. § 1337(a)(2). "[A]n industry is considered to exist if there is in the United States, with respect to the articles protected by the patent . . . concerned—

> (A) significant investment in plant and equipment;
>
> (B) significant employment of labor or capital; or
>
> (C) substantial investment in its exploitation, including engineering, research and development, or licensing."

19 U.S.C. § 1337(a)(3).

The "domestic industry requirement" consists of a so-called "technical prong" and "economic prong." A complainant satisfies the technical prong by showing it is practicing, licensing, or otherwise exploiting the patents at issue. *Certain Microsphere Adhesives, Process for Making Same and Products Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm'n Op. at 8, 1996 WL 1056095 at *4-5 (Jan. 16, 1996). The test for "practicing" a patent is essentially the same as it is for infringement, only it involves comparing the complainant's own "domestic industry products" to one or more claims of the patent. *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003). It is sufficient that the domestic industry product practices at least one claim of each patent that serves as a basis for relief; it is not necessary for the complainant to practice the same claims it is asserting against the respondent. *Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Comm'n Op. at 38, 2007 WL 9772268 at *22 (Aug. 1, 2007).

### 1. Technical Prong of Domestic Industry

Based on the same rationale provided above for infringement, the Commission finds that CGI's '223 DI Products practice claim 1 of the '223 patent, and it reverses the Final ID's findings to the contrary. *Compare* Final ID at 146, 159-62 (element 1[h][i]). Having found that "operates" does not impose any functional requirement, the Final ID errs in requiring CGI to prove that the obstacle detector in the '223 DI Products continues to operate or function when it is in the lower-energy mode. *See id.* at 159-62. The claims also impose no limitation on how low the energy usage, or power, may be in the lower-energy mode, as discussed earlier, while the specification discloses embodiments in which the obstacle detector or other components may be turned off. *See, e.g.*, '223 patent at 10:13-16, 10:21-30, 11:7-22 (claim 1), 13:15-29 (claim 21). The Commission finds that the obstacle detector in the '223 DI Products, like the '223 Accused Products, has both a high-energy operating mode and lower-energy operating mode, and continues to "operate" even in that lower-energy mode, when that term is properly construed and applied in the context of the '223 patent. *See, e.g.*, Final ID at 159 ("[O]ne of CGI's documents describing the hardware specification of the . . . '223 products indicate [*sic*] that [[

]]").

Because CGI's '223 DI Products practice claim 1 of the '223 patent, the Commission concludes that CGI satisfies the technical prong of the domestic industry requirement for that patent.

### 2. Economic Prong of Domestic Industry

#### a. Remand ID

The Remand ID finds that CGI satisfied the economic prong of the domestic industry requirement under Subsections 337(a)(3)(A) and (B) by making significant investments in plant and equipment and significant employment of labor and capital, respectively, relating to the '223

DI Products. *See* Remand ID at 1-2, 13, 31-35. CGI's DI products are garage door openers that are manufactured in [[ ]]. CGI's claimed domestic activities involve industrial design, product testing, and technical service and support provided in the United States for the DI products. The Remand ID's findings are summarized below.

**1) Subsection 337(a)(3)(A): Plant and Equipment**

The Remand ID finds that CGI's total domestic investments in plant and equipment relating to the '223 DI Products were $[[ ]], including $[[ ]] for "engineering" and $[[ ]] for its Technical Service Center ("TSC") in Arizona, which is the [[ ]]. *Id.* at 20, 22. The Remand ID states that CGI's engineering expenses included its industrial design, product testing, and headquarters facilities in Illinois, the rents CGI paid for those facilities over roughly 4.5 years (from 2013 to the filing of the complaint in May 2018), the [[ ]]. *Id.* at 13-16, 23. The Remand ID summarizes these investments in Table 1, which follows:

**Remand ID Table 1: CGI's Domestic Plant & Equipment Investments in '223 DI Products**

| | Initial Thomas Report | Alternate Calculation |
|---|---|---|
| Engineering | $ | Redacted |
| Technical Service Center | | |
| Total Domestic Investments | $ | |

*Id.* at 22 (internal citations omitted).

The Remand ID explains that CGI used a three-step, sales-based allocation method to calculate its relevant plant and equipment expenditures. *Id.* at 16-17. First, CGI multiplied its total domestic plant and equipment expenditures by the ratio of its U.S. engineering personnel to its total U.S. personnel to isolate its engineering-related expenditures from its non-engineering (*e.g.*, administrative) expenditures. *Id.* Second, CGI multiplied this product by the ratio of engineering expenses by its [[ ]] business unit to its total U.S. engineering expenditures, thereby allocating its domestic expenditures to the [[ ]] business unit responsible for its '223 DI products. *Id.* Third, CGI multiplied this second product by the ratio of the [[ ]] unit's U.S. sales of '223 DI products to its total U.S. sales of all products to calculate a third product that allocates CGI's engineering-related plant and equipment expenditures to its '223 DI Products.[8] *Id.* As a result, the Remand ID finds that $[[ ]] of the total $[[ ]] [[ ]] that CGI invested in the United States in plant and equipment related to engineering can be allocated to its '223 DI Products. *Id.*

The Remand ID explains that CGI used a similar three-step, sales-based method to allocate its plant and equipment expenses by its TSC to its '223 DI Products. *Id.* at 20-21. The Remand ID finds that CGI's plant and equipment expenses in its TSC relating to its '223 DI Products were approximately $[[ ]], bringing its total relevant domestic plant and equipment investments to about $[[ ]]. *Id.* at 21-22.

The Remand ID finds that CGI also invested nearly $[[ ]] overseas in plant and equipment relating to engineering for the '223 DI Products, as shown in the table below. *Id.* at

[8] On remand, CGI adjusted its calculations by comparing the [[ ]] unit's U.S. sales of '223 DI Products to its sales of all products in the United States, rather than comparing its U.S. sales of '223 DI Product to its sales of only garage door openers, as in its original motion. *See* Remand ID at 16-17, 25-26; CGI's Resp. at 4.

22-23. [[ ]] foreign expenditures were related to CGI's technical service activities, which take place [[ ]]. *Id.*

**Remand ID Table 2: CGI's Foreign Plant & Equipment Investments in '223 DI Products**

| | Initial Thomas Report | Alternate Calculation |
|---|---|---|
| Engineering | $ | Redacted |
| Technical Service Center | | |
| Total Foreign Investments | $ | |

*Id.* at 23 (internal citations omitted).

The Remand ID concludes that CGI's domestic investment in plant and equipment relating to its '223 DI products was "significant," both in absolute terms (about $[[ ]]) and relative terms, because it represents [[ ]] – about [[ ]] percent – of CGI's worldwide, $[[ ]] investment in engineering-related plant and equipment, as shown below. *Id.* at 13, 33-34.

**Remand ID Table 6: Alternative Calculations: Comparisons to Total Engineering and Technical Support Center Investments in the DI Products, in Corresponding Activities**

| | DI Product Investments | | | As a % of Total | |
|---|---|---|---|---|---|
| | Domestic | Foreign | Total | Domestic | Foreign |
| Subsection (A) | $ | Redacted | | | |
| Subsection (B) | $ | | | | |
| Subsection (C) | $ | | | | |

*Id.* at 33 (internal citations omitted).

The Remand ID finds that CGI's domestic investment was also "qualitatively significant" because it supports engineering, R&D, product design, and other activities that are "critical," or

"foundational," to the development, commercialization, and sale of the '223 DI products. *Id.* at 31. The Remand ID also finds that CGI's sales of its '223 DI products [[ ]] from 2013-2017, both in absolute terms and as [[ ]] of garage door openers. *Id.*

The Remand ID concludes that CGI's investments in plant and equipment relating to its '223 DI Products were "significant," both quantitatively and qualitatively, and satisfied the economic prong requirement under Subsection 337(a)(3)(A). *Id.* at 13, 31-34.

**2) Subsection 337(a)(3)(B): Employment of Labor and Capital**

The Remand ID finds that over a roughly 4.5-year period (Jan. 2013-May 2018), CGI domestically employed labor and capital worth about $[[ ]] in relation to its '223 DI Products. *Id.* at 29-30. This total includes about $[[ ]] for its TSC and $[[ ]] for the [[ ]] U.S. engineers and technical personnel CGI engaged in product development, engineering, design, testing, and other domestic activities. *Id.* at 23-29. CGI calculated the relevant domestic expenditures for labor and capital using three-step allocation methods similar to the ones it used to allocate its plant and equipment expenditures, as discussed above and in the Remand ID. *Id.* at 25-26, 28-29. These figures are presented in the table below.

**Remand ID Table 3: CGI's Domestic Labor and Capital Investments in '223 DI Products**

| | Initial Thomas Report | Alternate Calculation |
|---|---|---|
| Engineering | $ | Redacted |
| Technical Service Center | | |
| Total Domestic Investments | $ | |

Remand ID at 30 (internal cites omitted).

The Remand ID finds that CGI's foreign expenditures for engineering-related labor and capital relating to its '223 DI products totaled about $[[ ]], or about [[ ]] percent of its total worldwide investments in labor and capital for engineering and technical service of about $[[ ]]. *Id.* at 26-27, 30, 32-33. The Remand ID thus finds that CGI's claimed domestic investments in engineering and technical service-related labor and capital account for about [[ ]] percent ($[[ ]]) of the worldwide total. *Id.* at 33, 35. These figures are presented in the Remand ID's Table 6, reproduced earlier. *See id.* at 33.

The Remand ID also finds that CGI's domestic labor and capital investments are "significant" because they support engineering, R&D, and technical support that are "critical" and "foundational" to its '223 DI products. *Id.* at 31. Accordingly, the Remand ID finds that CGI's domestic labor and capital investments relating to its '223 DI products are "significant" in both qualitative and quantitative terms, under Subsection 337(a)(3)(B). *Id.* at 1-2, 31, 34-35.

The Remand ID thus concludes that CGI satisfied the economic prong of the domestic industry requirement under both subparagraphs (A) and (B). *Id.*

**b. Determination**

Nortek petitioned for review of the Remand ID, focusing on two primary issues. First, Nortek argued that the Remand ID erred by failing to require CGI to include its foreign manufacturing expenditures in its comparison of its domestic and foreign investments because CGI manufactures [[ ]] (in [[ ]]). *See* Nortek's Pet. Remand ID at 2-3, 4-6. Second, Nortek argued that the Remand ID erred in relying on CGI's sales-based calculations because CGI erroneously allocated its U.S. expenditures based on its U.S. sales of its '223 DI Products, rather than its worldwide sales of such products, since its domestic investments benefited products sold worldwide. *See id.* at 2-5, 7-8, 11; *see also* Remand ID at 18-19, 34-35.

Nortek has never challenged the accuracy of CGI's financial data, its reliance on sales-based allocations as a general proposition, or its mathematical calculations. Nor has Nortek ever presented any data, calculations, or other evidence to contest CGI's calculations. *See* Remand ID at 6, 13, 15, 16, 18-20, 24-25, 27, 29, 31, 34, 35. Thus, the Commission accepts the accuracy and reliability of the data, allocations, and calculations in the Remand ID, subject to the following modifications discussed below.

**1) Whether to Consider Foreign Manufacturing Expenses[9]**

Nortek's Petition for Review cites no authority holding that a complainant's economic prong calculations must include its foreign manufacturing expenditures when it manufactures the [[ ]]. Rather, Commission precedent permits complainants to present evidence of their U.S. investments using methods and approaches that are appropriate to the facts of a particular investigation; such methods and approaches may include a comparison between complainant's domestic investments to the complainant's foreign investments to inform the contextual analysis for determining whether the claimed domestic investments are significant or substantial. *See, e.g., Certain Optoelectronic Devices for Fiber Optic Communications*, Inv. No. 337-TA-860, Comm'n Op. at 18-19 (May 9, 2014). Depending on the facts of the investigation, the Commission has held that the significance of the complainant's investments may be proven, *inter alia,* by a comparative analysis of the complainant's domestic and foreign costs for producing a saleable DI product. *See, e.g.*, *Male Prophylactics*, Inv. No. 337-TA-546, Comm'n Op., 2007 WL 9772268 at *25 (finding that domestic investments and activities in lubricating, foiling, testing, and packaging of products are significant because those domestic

[9] Chair Kearns does not join this section. *See* Separate Views of Commissioner Kearns Regarding Economic Prong Issues.

operations added 34 percent to the value of the imported bulk latex balloons, transformed the unfinished imported condoms into saleable merchandise, and included operations directed to the practice of certain claim terms).

Thus, while foreign manufacturing costs may be relevant to proving that a complainant's investments are significant or substantial, Nortek has provided no authority that compels a finding that domestic investments cannot satisfy the domestic industry requirement in the absence of presenting a comparison of foreign manufacturing costs to a complainant's U.S. investments. Nortek's failure to cite authority for its argument that the foreign manufacturing data point is dispositive of the issue of the economic prong led the ALJ to reject Nortek's position. *See* Remand ID at 34, 35. As such, the Remand ID did not err in rejecting Nortek's argument that CGI was required to include foreign manufacturing expenditures in its contextual analysis. Nortek does not otherwise challenge the propriety of CGI's contextual analysis, which includes a comparison with respect to the '223 DI products between CGI's plant and equipment assets and labor and capital, with respect to engineering and technical services, deployed in the United States and [[ ]] as discussed above.

The cases Nortek cites are not inconsistent on this point. For example, Nortek relies on *Certain Printing and Imaging Devices and Components Thereof* ("*Printing Devices*"), Inv. No. 337-TA-690, Comm'n Op., 2011 WL 1303160 (Feb. 17, 2011), in arguing that a complainant that relies on a comparative assessment of its "product-related domestic activities to its product-related foreign activities" must include its foreign manufacturing expenditures. *See* 2011 WL 1303160 at *18. *Printing Devices*, however, does not mandate consideration of foreign manufacturing expenditures, even when the domestic industry products are manufactured abroad, [[ ]]. *See id.* Instead, in the absence of evidence of a complainant's foreign

investments, the Commission focused on whether the evidence presented by the complainant was sufficient to show that the domestic investments and activities in question (*i.e.*, service and repair) were "significant" with respect to the products protected by the patent, as for example, by showing the value added to products that were manufactured overseas. *See id.* at *17-18. The Commission concluded that the complainant in *Printing Devices* had presented no evidence or contextual analysis to determine whether its service and repair activities were significant and that this determination could not be made based solely on the absolute magnitude of its expenditures. *Id.* at *15, *17. The Commission explained how in other cases, a contextual analysis demonstrated that a complainant's service, repair, and other post-sale activities were found to be significant and satisfied the economic prong requirement, based on the facts of those cases. *See id.* at *16 (collecting cases).

Likewise, in *Certain Carburetors and Products Containing Such Carburetors* ("*Carburetors*"), Inv. No. 337-TA-1123, Comm'n Op., 2019 WL 5622443 (Oct. 28, 2019), also cited by Nortek, the Commission observed that "comparing a complainant's domestic expenditures to its foreign expenditures" was one of multiple ways of conducting a contextual analysis of a complainant's domestic activities, which may also include evaluating the value added to the product by a complainant's domestic activities. *See* 2019 WL 5622443 at *12. The Commission cited *Carburetors* in another opinion relied on by Nortek, where the Commission found that a complainant's sales-based comparison "[did] not provide context of the company's operations, the marketplace, or the industry in question necessary to understand whether the relative value of its domestic activities and investments is significant or substantial." *See Certain Earpiece Devices and Components Thereof*, Inv. No. 337-TA-1121, Comm'n Op., 2019 WL 9596569, at *14 (Nov. 8, 2019) (vacating summary determination that the economic prong

was satisfied). Thus, although the Commission indicated that a value-added analysis could be informative in a contextual analysis, in neither of these cases did the Commission require the complainant to present an analysis of its foreign manufacturing expenditures.[10]

Accordingly, the Commission affirms the Remand ID's findings that CGI was not required to include its foreign manufacturing expenditures in its economic prong analysis. *See* Remand ID at 34-35. On the present record, CGI met its burden to show that its domestic investments were "significant" under Subsections 337(a)(3)(A) and (B).

**2) Worldwide Sales v. U.S. Sales**

The Commission finds Nortek's second objection moot because CGI's relevant investments in plant and equipment and labor and capital remain significant, even after CGI employed two "conservative," or "adverse," assumptions to approximate an allocation based on its worldwide sales.[11]

[10] This is not to say that foreign manufacturing data is irrelevant. Such evidence may be useful in evaluating the significance of a complainant's domestic activities where, [[ ]], the DI products are manufactured primarily (or exclusively) overseas. On this record, there is nothing to suggest that the consideration of CGI's foreign manufacturing expenditures for the DI products would lead to the conclusion that CGI's domestic investments were not significant for purposes of the economic prong.

[11] Chair Kearns believes that, in general, a sales-based allocation based on worldwide sales is the most accurate, particularly in a situation where, as here, the domestic investments benefitted products sold both in and outside the United States. *Certain Robotic Vacuum Cleaning Devices and Components Thereof Such as Spare Parts* ("*Robotic Vacuums I*"), Inv. No. 337-TA-1057, Order No. 39 at 29-30, 2018 WL 1210540 at *19 (Feb. 13, 2018) (granting summary determination that the economic prong is met, applying a sales-based allocation based on worldwide sales figures), *aff'd with modifications by* Comm'n Op. at 11-14, 2018 WL 4635821 at *7-9 (Aug. 1, 2018) ("*Robotic Vacuums II*") (not disturbing the worldwide sales allocation method). However, there may be instances in which consideration of all products is not necessary to obtain a reasonably accurate allocation. There may also be instances in which the needed information is not in the complainant's possession and cannot be reasonably obtained; in such instances, something other than worldwide sales data may be sufficient.

First, CGI assumes that all of the products it sells outside the United States are garage door openers, even though only about [[ ]] of the sales made by its [[ ]] business unit (which is responsible for selling its '223 DI Products) are actually garage door openers. CGI's Response at 5. Second, CGI assumes that none of the products it sells outside the United States practice the '223 patent, even though its '223 DI Products accounted for nearly [[ ]] (about [[ ]] percent) of the garage door openers CGI sold in the United States over the relevant timeframe. *Id.* at 5-6. CGI argues that these two "adverse assumptions" will increase the denominator in its sales-based allocations (discussed below) without changing the numerator, thereby reducing its domestic allocations for its '223 DI Products to the maximum extent reasonably possible. *Id.* at 6.

Nortek objects to CGI's use of these two new assumptions in its calculations, calling them "unproven," "untimely," and unsupported by any case authority. *See* Nortek's Reply at 3. Nortek argues that CGI's reliance on such assumptions means CGI has failed to meet its burden of proof by "substantial, reliable, and probative evidence." *See id.* (citing 5 U.S.C. § 556).

The Commission does not agree. The absence of specific data on CGI's worldwide sales of its '223 DI Products or garage door openers in general does not fatally undermine the economic prong analysis in this case. CGI's reliance on adverse assumptions to estimate its worldwide sales is consistent with the parties' agreement on remand to set aside any discovery disputes and proceed with the then-existing evidentiary record, rather than to reopen discovery and incur the expense of another hearing.[12] *See* Remand ID at 3-6 & n.8. Also, Nortek has not argued that CGI's adverse assumptions are incorrect or misleading in their substance. CGI's

[12] The Commission sees no need to reopen the parties' disputes over the timeliness or sufficiency of Nortek's requests for, or CGI's production of, its worldwide sales data. These disputes were either resolved by the ALJ or set aside by the parties. *See, e.g.*, Remand ID at 3-6 & n.8.

arguments were also made in response to the Commission's questions regarding worldwide sales and thus not untimely in this context.

CGI's "conservative" assumptions are consistent with the extant record and weighted against the producing party, and thus are not prejudicial to Nortek. CGI's reliance on adverse assumptions is also consistent with Commission precedent that complainants do not need to provide a "precise accounting" of their expenditures, provided their sales-based allocations are reasonable under the circumstances. *See Certain Solid State Storage Drives, Stacked Electronics Components, and Products Containing Same*, Inv. No. 337-TA-1097, Comm'n Op. at 21, 2018 WL 4300500 at *13 (June 29, 2018) ("all that is required is the use of reasonable allocations for the purposes of establishing the economic prong of the domestic industry requirement."). As a result, conservative estimates of this kind are not uncommon in economic prong analyses. *See, e.g.*, *Certain Self-Anchoring Beverage Containers*, Inv. No. 337-TA-1092, Comm'n Op., 2019 WL 9442688 at *7 (July 24, 2019) (using "conservative" estimate of salaries in R&D, based on lowest employee salary in the applicable salary range); *Certain Powered Cover Plates*, Inv. No. 337-TA-1124, ID, 2019 WL 4635646 at *55 n.29 (Aug. 12, 2019) (using "conservative estimate" of R&D expenditures to exclude certain ineligible expenses), *aff'd by* Comm'n Notice (March 11, 2020); *Robotic Vacuums I*, Inv. No. 337-TA-1057, Order No. 39 at 10-11, 2018 WL 1210540 at *6-7 (relying on complainant's "most conservative identification of hours worked on projects related to the Domestic Industry Products," which was "quite conservative and underestimates" its actual labor expenses).

Accordingly, the Commission finds that CGI's reliance on certain adverse assumptions to estimate its worldwide sales of its '223 DI Products and other garage door openers was not unreasonable, prejudicial to Nortek, or inconsistent with Commission practice.

### 3) CGI's Revised Sales-Based Allocations and Calculations

Turning to the merits of CGI's revised sales-based allocations and calculations of its relevant domestic investments, the assumptions CGI proposed affect the third factor in its three-step, sales-based methodologies for allocating its domestic investments to its '223 DI Products, which the Remand ID describes in greater detail. *See* Remand ID at 15-23 (allocations for plant and equipment), 23-30 (allocations for labor and capital). CGI's methodology, as presented to the ALJ, for allocating its investments in plant and equipment ("P&E") in engineering related to its '223 DI Products may be summarized as follows:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Total P&E expenses | X | (U.S. engineers) (U.S. personnel, total) | X | ([[ ]] eng'g expenditures) (U.S. eng'g expenditures, total) | X | ([[ ]], '223 DI Product sales) (RAS, total U.S. sales) | = | P&E expenses for '223 DI Products (engineering) |
| | | Step (1): allocate P&E expenses to engineering | | Step (2): allocate P&E engineering expenses to [[ ]] | | Step (3): allocate [[ ]] engineering expenses to '223 DI prods. | | |

*See* Remand ID at 16-18. CGI used a similar methodology to allocate its labor and capital expenses for engineering related to its '223 DI Products. *See id.* at 25-26. CGI also developed sales-based methodologies to allocate its domestic investments in its Technical Service Center to its '223 DI Products. *Id.* at 21-22 (TSC, plant and equipment), 28-29 (TSC, labor and capital).

Each allocation methodology relies on the same sales-based allocation factor (Step 3), *i.e.*, the ratio of CGI's U.S. sales of its '223 DI Products (which are made through its [[ ]] business unit) to the [[ ]] unit's total U.S. sales. *See id.* at 16-17, 21, 25-26, 29.

As mentioned above, CGI – in response to the Commission's questions – now assumes that all of the products it sells outside the U.S. are garage door openers, and thus attributable to

its [[ ]] business unit, even though only about [[ ]] of the sales made by its [[ ]] are actually garage door openers. CGI's Resp. at 5-6. Based on this assumption, CGI estimates its total foreign sales of its garage door openers by subtracting its total U.S. sales of all products from its total worldwide sales of all products. *Id.* CGI then adds this estimate of its foreign sales of garage door openers (what CGI refers to as sales outside the United States, or "OUS") to its total [[ ]] U.S. sales to conservatively estimate its total *worldwide* sales of garage door openers. *Id.* CGI summarized these calculations in the following table:

**EXHIBIT 1**

**Table 1: Chamberlain's Total U.S. [ ] Sales + Outside of the U.S. ("OUS") Sales**

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018[1] | Total |
|---|---|---|---|---|---|---|---|
| | 1/1/2013 - 12/31/2013 | 1/1/2014 - 12/31/2014 | 1/1/2015 - 12/31/2015 | 1/1/2016 - 12/31/2016 | 1/1/2017 - 12/31/2017 | 1/1/2018 - 5/4/2018 | 1/1/2013 - 5/4/2018 |
| **Calculation of Worldwide GDO Product Line Sales (assuming all OUS sales are non-DI GDOs)** | | | | | | | |
| CGI's Total Worldwide Sales[2] **[A]** | **Redacted** | | | | | | |
| CGI's Total U.S. Sales (all products)[3] **[B]** | | | | | | | |
| Total OUS Sales **[C] = [A] - [B]** | | | | | | | |
| Total U.S. [ ] Sales (all)[4] **[D]** | | | | | | | |
| Total U.S. [ ] Sales (all) + Total OUS Sales **[E] = [D] + [C]** | | | | | | | |

[1] While actual 2018 worldwide sales are not available, actual 2018 U.S. sales are. 2018 worldwide sales have been estimated using the same ratio of U.S. to worldwide sales from 2017. All figures have been prorated through the filing date of the complaint.

[2] Total Worldwide Sales (all products) from Robin Decl. (MSD Appendix A), Ex. 11 (ITC_CGI_NSC00480551) (tab: "Chamberlain Total"); *id.*, Ex. 10 (ITC_CGI_NSC00480548) (tab: "Chamberlain").

[3] Total U.S. Sales (all products) from Robin Decl. (MSD Appendix A), Ex. 5 (ITC_CGI_NSC00480554); *see also* MSD, Initial Thomas Report, Ex. 4 (Summary of U.S. DI Product Sales).

[4] Total U.S. [ ] sales from Robin Decl. (MSD Appendix A), Ex. 6 (ITC_CGI_NSC00734189); *see also* MSD, App. C, Initial Thomas Report, Ex. 14 (U.S. TSC Sales-Based Allocation).

CGI's Resp., Ex. 1 at 1 (CGI's Table 1).

CGI then replaces total [[ ]] U.S. sales in the denominator of the sales-based ratio, as shown above, with this estimate of "worldwide" sales for garage door openers. CGI's Resp. at 6-7. Because CGI's estimated "worldwide" sales of garage door openers is larger than its total

[[ ]] U.S. sales, this revision necessarily increases the value of the denominator, thereby reducing the overall value of that sales-based ratio. Furthermore, CGI makes no change to the numerator because it assumes that it sells all of its '223 DI Products in the United States. *Id.* at 6. Taken as a whole, these two adverse assumptions increase the denominator of that third factor without changing its numerator, which reduces the ratio of U.S. '223 DI Product sales to "worldwide" sales to the maximum extent reasonably possible in view of available data. *See id.* at 6. CGI asserts that this revised ratio of [[ ]] U.S. to worldwide sales is about [[ ]] percent, as shown in CGI's table, reproduced below. *Id.* at 5, 7.

**Table 2: U.S. Engineering Sales-Based Allocation [Second Alternative Calculation]**

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018[5] | Total |
|---|---|---|---|---|---|---|---|
| | 1/1/2013 - 12/31/2013 | 1/1/2014 - 12/31/2014 | 1/1/2015 - 12/31/2015 | 1/1/2016 - 12/31/2016 | 1/1/2017 - 12/31/2017 | 1/1/2018 - 5/4/2018 | 1/1/2013 - 5/4/2018 |
| **GDO DI Products** | | | | | | | |
| Total U.S. GDO DI Product Sales[6] | | | | | | | |
| **Sales-Based Allocatio** | | | | | | | |
| Total [ ] Sales + OUS Sales[7] | | | | | | | |
| As a % of Total [ ] Sales + OUS Sales | | | | | | | |

**Redacted**

CGI's Resp., Ex. 1 at 2 (CGI's Table 2).

CGI asserts that this revised ratio represents a reduction of only about [[ ]] percent from its earlier calculation of the ratio of CGI's U.S. '223 DI Product sales to its U.S. sales. *Id.* at 7 [[ ]]. CGI argues this modest reduction is due to the fact that it sells [[ ]] its garage door openers and other products in the United States. *Id.* When this revised ratio is employed in its sales-based allocations, CGI contends that it reduces its relevant domestic investments in plant and equipment and employment of labor and capital relating to the '223 DI Products to about $[[ ]] and $[[ ]], respectively, as shown in CGI's table, reproduced below:

**Chamberlain's Domestic Investments in the '223 Products**

| | Domestic Plant and Equipment Investments (RID at 22 (Table 1)) | Domestic Labor and Capital Investments (RID at 30 (Table 3)) |
|---|---|---|
| Initial Thomas Report | $ | |
| Alternate Calculation | $ | |
| *Alternate Calculation Further Reduced by* [redacted] | $ | |

**Redacted**

CGI's Resp. at 7.

The Remand ID finds that CGI's domestic investments in plant and equipment for engineering and technical service and support account for about [[ ]] percent of its worldwide investments relating to its '223 DI Products. *See* Remand ID at 26-27, 30, 35. The Remand ID similarly finds that CGI's domestic employment of labor and capital for engineering and technical service and support accounts for about [[ ]] percent of its worldwide investments relating to those products. *Id.* at 13, 33-34. CGI argues that applying its revised allocation ratio does not reduce the "relative portion" of its domestic industry investments because the same ratio must be applied to both its domestic and foreign expenditures for its '223 DI Products, *i.e.*, to both the numerator and denominator in its calculations of relevant expenditures. CGI's Resp. at 8. CGI further argues that the relevant portions of its Technical Service Center expenditures relating to its '223 DI Products [[ ]] because [[ ]] percent of those services and nearly [[ ]] percent of its engineering activities occur in the United States. *Id.*

On review, as on remand, Nortek offers no alternative data, expert opinions, allocations, calculations, or other evidence to counter CGI's original or revised sales-based allocations or calculations. Nor does Nortek argue that CGI's data, allocations, or calculations are mathematically flawed, erroneous, or unreliable, apart from the issues addressed above. The Commission thus finds no evidence that undermines the reasonableness or reliability of CGI's

financial data, sales-based allocations, or calculations, as presented in the Remand ID and revised on review by CGI, to reflect its worldwide sales data.

The Commission finds that, even with these downward adjustments as applied herein, CGI's domestic investments in plant and equipment and employment of labor and capital relating to its '223 DI Products are quantitatively "significant" in both absolute terms and relative to its worldwide expenditures, pursuant to Subsections 337(a)(3)(A) and (B), respectively.

The Commission finds that CGI's domestic investments in plant and equipment and employment of labor and capital for engineering and technical service and support are qualitatively "significant" as well. Qualitative factors may include, for example, whether the complainant's domestic activities or its purchases of components in the United States are crucial to its domestic industry products. *See, e.g.*, *Lelo v. Int'l Trade Comm'n*, 786 F.3d 879, 882-83 (Fed. Cir. 2015). In this case, the Commission finds that CGI's domestic investments are qualitatively significant because they support R&D, engineering, product development, and technical services that are "critical" and "foundational" to the '223 DI Products. Remand ID at 31; *see also, e.g., Robotic Vacuums II*, Comm'n Op. at 11-13, 2018 WL 4635821 at *7-9 (finding that complainant's R&D activities sufficed to establish a domestic industry under Subsection 337(a)(3)(B)). CGI's sales of its '223 DI products also [[ ]] from 2013 to 2017, both in absolute terms and as [[ ]] of garage door openers. Remand ID at 31. Nortek provided no contrary evidence, arguments, or expert opinions or otherwise challenged these findings or the qualitative significance of CGI's domestic activities.

In sum, the Commission has determined that Nortek's products infringe claims 1 and 21 of the '223 patent, which have not been shown to be invalid, that CGI's domestic industry

products practice claim 1 of that patent, and that CGI has satisfied the economic prong of the domestic industry requirement with respect to the '223 patent. The Commission thus concludes that Nortek has violated Section 337 by way of importing into the United States, selling for importation, or selling in the United States after importation garage door openers and components thereof that infringe the asserted claims of the '223 patent.

## V. REMEDY, THE PUBLIC INTEREST, AND BONDING

The Commission has "broad discretion in selecting the form, scope, and extent of the remedy." *Viscofan, S.A. v. U.S. Int'l Trade Comm'n*, 787 F.2d 544, 548 (Fed. Cir. 1986).

### A. Limited Exclusion Order

Section 337(d)(1) provides that "[i]f the Commission determines, as a result of an investigation under this section, that there is a violation of this section, it shall direct that the articles concerned, imported by any person violating the provision of this section, be excluded from entry into the United States, unless, after considering the [public interest], it finds that such articles should not be excluded from entry." 19 U.S.C. § 1337(d)(1).

Nortek contends that its garage door products are no longer infringing because it has allegedly discontinued use of the power-saving feature covered by the asserted claims of the '223 patent. Nortek's Resp. at 24-25 (relying on a declaration from its general counsel, which was created after the Commission's last briefing request). That contention has never been tested, however, as Nortek never raised its allegedly non-infringing products before the ALJ.

Accordingly, the Commission has determined to issue a LEO covering Nortek's accused garage door opener products (but not gate operators) and components thereof that can be combined into infringing products. The LEO is not limited to the model(s) determined to be infringing but extends to cover other infringing products, including redesigns thereof. *See Certain Optical Disk Controller Chips & Chipsets & Prods. Containing Same, Including DVD*

*Players & PC Optical Storage Devices*, Inv. No. 337-TA-506, Comm'n Op., 2007 WL 4713920, *64 (Sept. 28, 2005) ("[W]hile individual models may be evaluated to determine importation and infringement, the Commission's jurisdiction extends to all models of infringing products that are imported at the time of the Commission's determination and to all such products that will be imported during the life of the remedial orders.") (internal quotation omitted).

The LEO includes the standard certification provision for non-infringing products. Should Nortek consider importation of its redesigned products, those products cannot enter the United States under certification until such products have been adjudicated to be outside the scope of the LEO. Nortek can obtain a ruling on whether its its redesigned models fall within the scope of the exclusion order through procedures available under Commission Rules 210.76 (modification proceeding) or 210.79 (advisory opinion). *See* 19 C.F.R. §§ 210.76, 210.79. The Commission directs that CBP only accept a certification as to articles that have been previously determined not to violate the LEO. *See Automated Teller Machines, ATM Modules, Components Thereof, & Prods. Containing the Same*, Inv. No. 337-TA-972, Comm'n Op., 2017 WL 11198798, *17 (June 12, 2017) ("The standard certification language does not apply to redesigns that have not been adjudicated as non-infringing.") (quotation omitted).

### B. Cease and Desist Orders

Section 337(f)(1) provides that in addition to, or in lieu of, the issuance of an exclusion order, the Commission may issue a cease and desist order as a remedy for violation of Section 337. *See* 19 U.S.C. § 1337(f)(1). CDOs are generally issued when, with respect to the imported infringing products, respondents maintain commercially significant inventories in the United States or have significant domestic operations that could undercut the remedy provided by an

exclusion order.[13] *See, e.g.*, *Certain Table Saws Incorporating Active Injury Mitigation Technology & Components Thereof* ("*Table Saws*"), Inv. No. 337-TA-965, Comm'n Op. at 4-6 (Feb. 1, 2017); *Certain Protective Cases & Components Thereof*, Inv. No. 337-TA-780, USITC Pub. No. 4405, Comm'n Op. at 28 (Nov. 19, 2012) (citing *Certain Laser Bar Code Scanners & Scan Engines, Components Thereof & Prods. Containing Same*, Inv. No. 337-TA-551, Comm'n Op. at 22 (June 24, 2007)). Complainant bears the burden on this issue. "A complainant seeking a cease and desist order must demonstrate, based on the record, that this remedy is necessary to address the violation found in the investigation so as to not undercut the relief provided by the exclusion order." *Table Saws*, Comm'n Op. at 5 (citing *Certain Integrated Repeaters, Switches, Transceivers, & Prods. Containing Same*, Inv. No. 337-TA-435, USITC Pub. No. 3547 (Oct. 2002), Comm'n Op. at 27 (Aug. 16, 2002); *see also* H.R. REP. No. 100-40, at 160 (1987)).

The Commission has determined to issue CDOs against each Respondent. CGI contends that, when non-infringing gate operators are removed from consideration (because they are not covered by the '223 patent), there remain an estimated [[ ]] accused garage door openers in Nortek's domestic inventory, or the equivalent of more than [[ ]] worth of sales, with a total import value of [[ ]]. CGI's Resp. at 26-27. Although Nortek contends that (1) its current inventories include only about [[ ]] accused garage door openers and (2) this supply will likely be depleted by the target date for completion of this investigation (*see* Nortek's Reply

[13] When the presence of infringing domestic inventory or domestic operations is asserted as the basis for a CDO under section 337(f)(1), Commissioner Schmidtlein does not adopt the view that the inventory or domestic operations needs to be "commercially significant" in order to issue the CDO. *See, e.g.*, *Certain Magnetic Tape Cartridges and Components Thereof*, Inv. No. 337-TA-1058, Comm'n Op. at 65, n.24 (Mar. 25, 2019); *Table Saws*, Comm'n Op. at 6-7, n.2 (Feb. 1, 2017). In Commissioner Schmidtlein's view, the presence of some infringing domestic inventory or domestic operations, regardless of its commercial significance, provides a basis to issue a CDO. *Id.* Accordingly, because CGI has shown that Nortek maintains some infringing domestic inventory, Commissioner Schmidtlein concurs with issuing CDOs.

at 19), the Commission finds that, under the circumstances, the record evidence is sufficient to warrant issuing cease and desist orders. The CDOs contain standard language for reporting on decreases in inventory levels, and such facts will be taken into account as is customary under the circumstances.

### C. Public Interest

Section 337 requires the Commission, upon finding a violation of Section 337, to issue an LEO "unless, after considering the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers, it finds that such articles should not be excluded from entry." 19 U.S.C. § 1337(d)(l). Similarly, the Commission must consider these public interest factors before issuing a CDO. *See* 19 U.S.C. § 1337(f)(1).

Under appropriate facts and circumstances, the Commission may determine that no remedy should issue due to the adverse effects on the public interest. *See, e.g.*, *Certain Fluidized Supporting Apparatus & Components Thereof*, Inv. Nos. 337-TA-182/188, USITC Pub. 1667, Comm'n Op. at 1-2, 23-25 (Oct. 1984) (finding that the public interest warranted denying complainant's requested relief). Moreover, when the circumstances of a particular investigation require, the Commission has tailored its relief in light of the statutory public interest factors. For example, the Commission has allowed continued importation for ongoing medical research, exempted service parts, grandfathered certain infringing products, and delayed the imposition of remedies to allow affected third-party consumers to transition to non-infringing products. *E.g.*, *Certain Microfluidic Devices*, Inv. No. 337-TA-1068, Comm'n Op. at 1, 22-48, 53-54 (analyzing the public interest, discussing applicable precedent, and ultimately issuing a tailored LEO and a tailored CDO); *Certain Road Milling Machines & Components Thereof*, Inv. No. 337-TA-1067, Comm'n Op. at 32-33 (July 18, 2019) (exempting service parts); *Certain Baseband Processor*

*Chips & Chipsets, Transmitter, & Receiver (Radio) Chips, Power Control Chips, & Prods. Containing Same, Including Cellular Tel. Handsets*, 337-TA-543, USITC Pub. No. 4258, Comm'n Op. at 150-51 (Oct. 2011) (grandfathering certain products); *Certain Personal Data & Mobile Comm'n Devices & Related Software*, 337-TA-710, USITC Pub. No. 4331, Comm'n Op., at 72-73, 80-81 (June 2012) (delaying imposition of remedy).

The statute requires the Commission to consider and make findings on the public interest in every case in which a violation is found, regardless of the quality or quantity of public interest information supplied by the parties. 19 U.S.C. § 1337(d)(l), (f)(l). Thus, the Commission publishes a notice inviting the parties as well as interested members of the public and interested government agencies to gather and present evidence on the public interest at multiple junctures in the proceeding. 19 U.S.C. § 1337(d)(l), (f)(l).

In this case, Nortek has not presented any arguments or evidence to show that the public interest precludes issuance of a remedy. The Commission has also received no responses from the public to its requests for comments on remedy and the public interest.

Upon consideration of CGI's undisputed contentions, the Commission finds that the statutory public interest factors do not preclude issuance of a remedy in this investigation. First, the infringing garage door openers do not raise public health or welfare concerns because they are typically used in residential and commercial settings and do not involve any technologies that are unique or would impede public access to healthcare, safety, or other similar concerns. CGI's Sub. at 39 (March 4, 2020). Second, excluding the accused garage door openers will not degrade competitive conditions in the U.S. because, according to CGI (and not disputed by Nortek), CGI and its multiple competitors make a number of competing garage door opener products that will not be impacted by the exclusion order. *Id.* at 40. Third, there is no evidence that the exclusion

order will adversely affect the production of like or directly competitive products in the United States. According to CGI (and not disputed by Nortek), CGI and its competitors purportedly have sufficient capacity to meet increased demand for non-infringing garage door openers. *Id.* Finally, the exclusion order will not adversely affect U.S. consumers because it is not disputed that there are multiple manufacturers of a variety of competing products on the market, and the '223 patent presents no barrier to compliance with relevant safety standards. *Id.*

**D. Bond**

If the Commission enters an exclusion order or cease and desist order, a respondent may continue to import and sell its covered products during the 60-day period of Presidential review subject to a bond in an amount determined by the Commission to be "sufficient to protect the complainant from any injury." 19 U.S.C. § 1337(j)(3); 19 C.F.R. § 210.50(a)(3). When reliable price information is available in the record, the Commission typically sets the bond in an amount sufficient to eliminate the price differential between the domestic product and the imported, infringing product. *See Certain Microsphere Adhesives, Processes for Making Same, & Prods. Containing Same, Including Self-stick Repositionable Notes*, Inv. No. 337-TA-366, USITC Pub. No. 2949, Comm'n Op. at 24 (Jan. 16, 1996). The Commission has also used a reasonable royalty rate to set the bond amount when a reasonable royalty rate can be ascertained from the record. *See, e.g.*, *Certain Audio Digital-to-Analog Converters & Prods. Containing Same*, Inv. No. 337-TA-499, Comm'n Op. at 25 (Mar. 3, 2005). Where the record evidence establishes that the calculation of a price differential is not possible or there is insufficient evidence in the record to determine a reasonable royalty, the Commission typically imposes a bond in the amount of 100 percent of the entered value of the covered products during the Presidential review period. *See, e.g.*, *Certain Liquid Crystal Display Modules, Prods. Containing Same, & Methods Using the Same*, Inv. No. 337-TA-634, Comm'n Op. at 6-7 (Nov. 24, 2009). The complainant bears the

burden of establishing the need for a bond. *Certain Rubber Antidegradants, Components Thereof & Prods. Containing Same*, Inv. No. 337-TA-533, USITC Pub. No. 3975, Comm'n Op. at 40 (July 21, 2006).

The Commission has determined to impose a bond in the amount of 100 percent of the entered value of the covered products during the period of Presidential review. The RD finds that the large number of accused garage door openers and broad range of competing products, as well as deficiencies in Nortek's pricing data, make it difficult to make meaningful price comparisons. Final ID at 283-85. The RD also finds that the bond cannot be based on a reasonable royalty because the patent has never been licensed. *Id.* at 285-86. The RD's finding that the record did not permit an accurate calculation of a pricing differential was reasonable, supported by the evidence of record, and consistent with Commission precedent. *See, e.g.*, *Liquid Crystal Display Modules, Products Containing Same, and Methods Using the Same*, Inv. No. 337-TA-634, Comm'n Op. at 6-7, 2010 WL 5176682 at *18 (Dec. 1, 2010).

The Commission is not persuaded by Nortek's objections to the RD's finding that its own pricing data was deficient. Nortek's Sub. at 40 (March 4, 2020). Nortek contends that it produced pricing data and argues that CGI, as the party bearing the burden of proof, failed to ask for additional pricing information it believed it needed. Nortek's Sub. at 40 (incorporated by reference in Nortek's Reply at 19-20). Nortek's argument, however, fails to identify any legal or factual error in the RD's findings, nor does it dispute the RD's findings that it is impracticable to calculate a price differential because Nortek and Chamberlain sell their products at [[

]] and structure their businesses differently. *See* Final ID at 283-84. The Commission concludes that CGI has met its burden to prove the need for a bond. *See id.*

Accordingly, the Commission has determined to issue an LEO and CDOs against the Nortek respondents, and to impose a bond in the amount of 100 percent during the Presidential review period.

## VI. CONCLUSION

For the reasons set forth herein, the Commission determines that Nortek has established a violation of Section 337 by way of infringing claims 1 and 21 of the '223 patent. Accordingly, the investigation is terminated with a finding of violation of Section 337. The Commission determines that an appropriate remedy is the issuance of an LEO and CDOs directed to each Nortek respondent, the public interest does not preclude that remedy, and the bond during the period of Presidential review is set in the amount of 100 percent of the entered value of the covered products.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: January 12, 2021

**PUBLIC VERSION**

## SEPARATE VIEWS OF CHAIR KEARNS REGARDING ECONOMIC PRONG ISSUES

While I agree that complainant has satisfied the economic prong of the domestic industry requirement, I do not join the discussion in section IV(C)(2)(b)(1) ("Whether to Consider Foreign Manufacturing Expenses") of the Commission's opinion. Under the facts and posture of this investigation, I concur in using the contextual analysis placed on the record and considered by the ALJ on remand. However, it remains an open question for me whether, in future investigations, it would be more appropriate to look at all foreign expenditure[1] (including those for manufacturing) when assessing significance under section 337(a)(3)(A) or (B).

In this investigation, where the domestic industry articles are manufactured abroad, complainant relies on expenditures for domestic engineering and technical service and support to satisfy the economic prong of the domestic industry requirement. In a prior investigation with some overlap in domestic industry products, the same complainant relied on similar expenditures and did not compare them to foreign expenditures; the ALJ found the economic prong met and the Commission did not review that part of the ID. *See Access Control Systems and Components Thereof*, Inv. No. 337-TA-1016, Initial Determination on Violation of Section 337 at 257-61, 288-93, 294 (Oct. 23, 2017), *reviewed in part*, Comm'n Notice, 2017 WL 6555603 at *2-3 (Dec. 22, 2017) (no review of economic prong findings). Thus, it is understandable that complainant relied on similar expenditures and methodology here, although the record here also includes a comparison to foreign expenditures for engineering and technical service and support. In this investigation, after the Commission remanded the economic prong issue back to the ALJ, the parties agreed that no reopening of the record was necessary, despite the apparent absence of

[1] In these views, I use "expenditures" as shorthand for investment in plant and equipment and employment of labor or capital.

record information on foreign manufacturing expenditures. Thus, complainant continued to rely on the same data and basic methodology on remand. Given this history, I find it appropriate here to allow complainant to prove it has satisfied the economic prong requirement with the comparison it offered.

The section of the Commission's opinion that I do not join concludes that, where a complainant is relying on a comparison of its domestic and foreign expenditures to show significance under section 337(a)(3)(A) or (B), it is never required to include manufacturing expenditures. In my view, it remains an open question whether, in general, a proper assessment of the significance of the domestic expenditures should include all expenditures related to the domestic industry product(s), and not merely the sorts of expenditures that the complainant wishes to rely upon.

Under the statute and controlling law (*e.g.*, *Lelo v. Int'l Trade Comm'n*, 786 F.3d 879 (Fed. Cir. 2015)), the determination of significance for domestic industry requires a quantitative analysis. The Commission has accepted several methods for performing this analysis, including a value-added analysis and comparison of domestic to worldwide expenditures. Complainant here relies on the latter. It seems to me that such a comparison is most meaningful if it includes all of the expenditures related to the product; that is, all the investments in plant and/or equipment with respect to the domestic industry products under (A), or all the employed labor and/or capital with respect to the domestic industry products under (B). The alternative is to allow a complainant to choose some subset of activities related to a product (e.g., product design services or a narrow category of technical support) and claim a domestic industry based on such activities that occur all or mostly in the United States while ignoring others, even when the claimed expenditures are very small compared to overall expenditures on the relevant product.

I acknowledge that the Commission may not have given sufficient guidance over the years regarding how best to assess significance, and my colleagues and I have been striving to provide more certainty with respect to this issue. As we make these efforts, I would expect complainants in future investigations that are relying on a comparison of domestic to foreign expenditures to place evidence on the record that would enable the Commission to compare all the claimed domestic expenditures to all worldwide expenditures, including manufacturing expenditures. I also look forward to briefing from parties regarding the appropriate comparisons to evaluate significance.

I finally note that the significance analysis can include qualitative factors in addition to quantitative factors. Thus, for example, even if claimed non-manufacturing activities in the United States are relatively small compared to overall worldwide expenditures related to the domestic industry products, the nature of the domestic activities may render them significant.

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **COMMISSION OPINION** has been served upon the following parties as indicated, on **January 12, 2021.**

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

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**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

| **In the Matter of** | |
|---|---|
| **CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1118** |

# NOTICE OF A COMMISSION DETERMINATION TO REVIEW A REMAND INITIAL DETERMINATION; REQUEST FOR WRITTEN SUBMISSIONS

**AGENCY:** U.S. International Trade Commission.

**ACTION:** Notice.

**SUMMARY:** Notice is hereby given that the U.S. International Trade Commission (the "Commission") has determined to: (1) review a Remand Initial Determination ("Remand ID") finding that the complainant The Chamberlain Group, Inc. ("CGI") has satisfied the economic prong of the domestic industry requirement with respect to U.S. Patent No. 7,755,223 ("the '223 patent"); and (2) request supplemental briefing on remedy, the public interest, and bonding for the limited purpose of updating submissions submitted in March 2020.

**FOR FURTHER INFORMATION CONTACT:** Carl P. Bretscher, Office of the General Counsel, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, telephone (202) 205-2382. Copies of non-confidential documents filed in connection with this investigation may be viewed on the Commission's electronic docket system ("EDIS") at https://edis.usitc.gov. For help accessing EDIS, please email EDIS3Help@usitc.gov. General information concerning the Commission may also be obtained by accessing its Internet server at https://www.usitc.gov. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal, telephone (202) 205-1810.

**SUPPLEMENTARY INFORMATION:** The Commission instituted this investigation on June 11, 2018, based on a complaint, as supplemented, filed by CGI of Oak Brook, Illinois. 83 FR 27020-21 (June 11, 2018). The complaint alleges a violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. 1337 ("Section 337"), in the importation, sale for importation, or sale in the United States after importation of certain movable barrier operator ("MBO") systems that purportedly infringe one or more of the asserted claims of the '223 patent and U.S. Patent Nos. 8,587,404 ("the '404 patent") and 6,741,052 ("the '052 patent"). *Id.* The Commission's notice of investigation named Nortek Security & Control, LLC of Carlsbad, CA; Nortek, Inc. of Providence, RI; and GTO Access Systems, LLC of Tallahassee, FL (collectively, "Nortek") as respondents. *Id*. The Office of Unfair Import Investigations was not named as a party to this investigation. *See id*.

The Commission subsequently terminated the investigation with respect to certain patent claims withdrawn by CGI. *See* Order No. 16 (Feb. 5, 2019), *unreviewed by* Comm'n Notice (March 6, 2019); Order No. 27 (June 7, 2019), *unreviewed by* Comm'n Notice (June 27, 2019);

Order No. 31 (July 30, 2019), *unreviewed by* Comm'n Notice (Aug. 19, 2019); Order No. 32 (Sept. 27, 2019), *unreviewed by* Comm'n Notice (Oct. 17, 2019).

On June 5, 2019, the presiding administrative law judge ("ALJ") issued a Markman order (Order No. 25) construing the claim terms in dispute.

On December 12, 2018, CGI filed a motion for summary determination that it satisfied the economic prong of the domestic industry requirement. Nortek opposed the motion. On June 6, 2019, the ALJ issued a notice advising the parties that the motion would be granted and a formal written order would be issued later. Order No. 26 (June 6, 2019).

The ALJ held an evidentiary hearing on the issues in dispute on June 10-14, 2019.

On November 25, 2019, ALJ issued Order No. 38, finding no issue of material fact that CGI's investments in labor and capital relating to its domestic industry products were "significant" and that CGI has satisfied the economic prong of the domestic industry requirement pursuant to Section 337(a)(3)(B) (19 U.S.C. 1337(a)(3)(B)). Order No. 38 (Nov. 25, 2019). Order No. 38 also finds that genuine issues of material fact precluded entry of summary determination with respect to CGI's investments in plant and equipment, under Section 337(a)(3)(A) (19 U.S.C. 1337(a)(3)(A)). *Id*.

On the same date, the ALJ issued a final initial determination ("Final ID"), finding no violation of Section 337 because the asserted claims of the '223 and '404 patents, if valid, are not infringed and the asserted claim of the '052 patent is invalid, even if infringed. Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond (Nov. 25, 2019).

On February 19, 2020, the Commission issued a notice of its determination to review Order No. 38 and to partially review the Final ID with respect to certain issues relating to each of the three asserted patents. 85 FR 10723-26 (Feb. 25, 2020). The Commission also directed the parties to brief its questions on violation and requested briefing from the parties, the public, and any interested government entities concerning remedy, the public interest, and bonding. *Id*.

On April 22, 2020, the Commission issued a determination finding no violation with respect to the '404 or '052 patents. Comm'n Notice at 3 (April 22, 2020). The Commission also vacated Order No. 38 and remanded the economic prong issue with respect to the '223 patent. *Id*.; Order Vacating and Remanding Order No. 38 (April 22, 2020) ("Remand Order").

On May 15, 2020, the ALJ issued Order No. 39, seeking additional information from the parties in light of the Commission's Remand Order. Order No. 39 (May 15, 2020). On July 10, 2020, the ALJ issued the subject Remand ID, finding that CGI has made significant investments, both quantitatively and qualitatively, in plant and equipment and labor and capital, pursuant to Section 337(a)(3)(A) and (B) (19 U.S.C. 1337(a)(3)(A)-(B)), respectively. Remand Initial Determination (July 10, 2020). The Remand ID concludes that CGI has satisfied the economic prong of the domestic industry requirement in relation to the '223 patent. *Id.*

On July 20, 2020, Nortek filed a petition for review of the RID. CGI filed its opposition to Nortek's petition for review on July 27, 2020.

Having reviewed the Remand ID, the parties' submissions, and the record in this investigation, the Commission has determined to review the Remand ID and requests the parties to brief the following questions:

(1) With respect to CGI's garage door opener ("GDO") products that purportedly practice the '223 patent ("'223 DI products"), provide the percentage of CGI's sales of its '223 DI products in the United States compared to its total, worldwide sales of such products. Explain whether this percentage substantially differs from the percentage of CGI's sales of all GDO products in the United States compared to its worldwide sales of all GDO products or the percentage of CGI's sales of all products in the United States compared to its worldwide sales of all products, as provided by CGI. If so, explain whether using the percentage of CGI's sales of '223 DI products in the United States, compared to its total worldwide sales of such products, would materially affect calculation of its relevant domestic industry investments or foreign investments in plant and equipment or labor and capital, and how this may affect the economic prong analysis.

(2) Explain whether CGI's calculations of its foreign expenditures for plant and equipment or labor and capital relating to its '223 DI products include its foreign manufacturing expenditures. If not, please indicate what information is in the record regarding its foreign manufacturing expenses, and provide, if possible, calculations comparing domestic expenditures to total expenditures (that include the foreign manufacturing expenses). Based on these calculations, discuss how including CGI's foreign manufacturing expenditures affects assessment of the significance of its relevant domestic industry investments in either plant and equipment or labor and capital.

(3) When were the calculations and analyses that the Commission has requested in questions (1) and (2) performed? Who performed them?

(4) Did Nortek previously present any calculations or analyses using CGI's worldwide sales?

(5) Please provide further detail (as available in the record) regarding the activities performed at CGI's Technical Support Center in Tucson. Explain, with reference to relevant Commission precedent, the extent to which the Commission should consider such expenses in its assessment of the economic prong. Also explain whether these activities are the sort that a mere importer would need to carry out in the United States (as opposed to in another country).

(6) Please discuss the similarities and differences between the allocation methodologies Chamberlain used in this investigation and allocation

methodology used in the 1016 investigation, *Certain Access Control Systems and Components Thereof*, Inv. No. 337-TA-1016.

(7) In the 1016 investigation, did the presiding ALJ or the Commission require Chamberlain to evaluate its worldwide sales or foreign manufacturing when it was concluded that Chamberlain satisfied the economic prong? *See generally* 1016 Initial Determination at 222-293 (Oct. 23, 2017); Comm'n Notice (Dec. 22, 2017). Apart from the 1057 and 1097 investigations that the parties have already addressed, please briefly identify any Commission precedent requiring a complainant to present its manufacturing investment data.

(8) Please discuss whether, in an investigation in which the DI products are manufactured outside the United States, it is consistent with the statute, legislative history, and court and Commission precedent not to consider foreign manufacturing expenses in determining the significance of domestic industry investments and expenditures.

(9) Chamberlain has argued that the '223 DI products overlap with the products analyzed in the 1016 investigation. *See* Chamberlain Submission on Remand at 25 (June 1, 2020). Please discuss the extent of the overlap in the DI products in the 1016 investigation and the present investigation.

(10) Given that the parties responded to the Commission's request for briefing on remedy, the public interest, and bonding five months ago, the parties should revise their submissions on these subjects for the limited purpose of updating them in light of the last five months. The parties should include a discussion as to whether limiting the scope of the violation (if any) and covered products to the '233 patent and excluding the '404 and '052 patents would impact the determination of remedy (*e.g.*, by affecting the scope of Nortek's domestic inventory), the public interest, bonding, or any other issues on review. The parties, in preparing their supplemental submissions, should follow the instructions provided by the Commission in its earlier notice of partial review of the Final ID. *See* 85 FR at 10724-26 (Feb. 19, 2020).

The parties are requested to brief only the discrete issues identified above, with reference to the applicable law and evidentiary record. The parties are not to brief any other issues on review, which have already been adequately presented in the parties' previous filings. In addition, parties to the investigation, interested government agencies, and any other interested parties are encouraged to file written submissions on the issues of remedy, the public interest, and bonding. Such initial submissions should include views on the recommended determination by the ALJ on the issues of remedy and bonding.

The parties' written submissions and proposed remedial orders must be filed no later than the close of business on **September 23, 2020**. Reply submissions must be filed no later than the close of business on **September 30, 2020**. Opening submissions are limited to 30 pages. Reply

submissions are limited to 25 pages. Third-party submissions should be filed no later than the close of business on **September 30, 2020**, and may not include 10 pages, not including any attachments. No further submissions on any of these issues will be permitted unless otherwise ordered by the Commission.

Persons filing written submissions must file the original document electronically on or before the deadlines stated above. The Commission's paper filing requirements in 19 CFR 210.4(f) are currently waived. 85 FR 15798 (Mar. 19, 2020). Submissions should refer to the investigation number ("Inv. No. 337-TA-1118") in a prominent place on the cover page and/or first page. (*See Handbook for Electronic Filing Procedures, https://www.usitc.gov/documents/handbook_on_filing_procedures.pdf*.). Persons with questions regarding filing should contact the Secretary (202-205-2000).

Any person desiring to submit a document to the Commission in confidence must request confidential treatment. All such requests should be directed to the Secretary to the Commission and must include a full statement of the reasons why the Commission should grant such treatment. *See* 19 CFR 201.6. Documents for which confidential treatment by the Commission is properly sought will be treated accordingly. All information, including confidential business information and documents for which confidential treatment is properly sought, submitted to the Commission for purposes of this Investigation may be disclosed to and used: (i) By the Commission, its employees and Offices, and contract personnel (a) for developing or maintaining the records of this or a related proceeding, or (b) in internal investigations, audits, reviews, and evaluations relating to the programs, personnel, and operations of the Commission including under 5 U.S.C. Appendix 3; or (ii) by U.S. government employees and contract personnel, solely for cybersecurity purposes. All contract personnel will sign appropriate nondisclosure agreements. All non-confidential written submissions will be available for public inspection at the Office of the Secretary and on EDIS.

The authority for the Commission's determination is contained in Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in part 210 of the Commission's Rules of Practice and Procedure (19 CFR part 210).

The Commission voted to approve these determinations on September 9, 2020.

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: September 9, 2020

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served upon the following parties as indicated, on September 9, 2020.

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

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**UNITED STATES INTERNATIONAL TRADE COMMISSION**

**Washington, D.C.**

| **In the Matter of** | |
|---|---|
| **CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Inv. No. 337-TA-1118** |

# REMAND INITIAL DETERMINATION

**Administrative Law Judge MaryJoan McNamara**

(July 10, 2020)

## I. INTRODUCTION

On April 22, 2020,[1] the Commission issued an Order ("Remand Order") in which it remanded an Initial Determination ("MSD ID") (Order No. 38 (Nov. 25, 2019)) that granted Chamberlain Group Inc.'s ("CGI") motion for summary determination ("Motion" or "MSD") that it satisfied the economic prong of the domestic industry requirement under Section 337(a)(3)(B)[2] (Motion Docket No. 1118-014 (Dec. 12, 2018)). (Doc. ID No. 708682 (Apr. 23, 2020) (confidential); Order No. 38 at 23.).

In the Remand Order, the Commission vacated the MSD ID with respect to the economic prong and directed that a remand Initial Determination ("RID") issue on whether CGI has satisfied the economic prong of the domestic industry ("DI") requirement with respect to the

[1] The official date of the Remand Order is April 23, 2020.

[2] In its Motion, CGI argued that it satisfied the economic prong requirement under Section 337(a)(3)(A) and (B) with respect to each of the three patents asserted in this Investigation: U.S. Patent Nos. 6,741,052 ("the '052 patent"); 7,755,223 ("the '223 patent"); and 8,587,404 ("the '404 patent") (collectively, "the Asserted Patents").

'223 patent. (Remand Order at 6.). For the reasons set forth below in the Discussion (Section IV, *infra*), it is a finding of this RID that with respect to the '223 patent, CGI has satisfied the economic DI requirement under Sections 337(a)(3)(A) and (B).

## II. RELEVANT PROCEDURAL HISTORY

### A. CGI's MSD

On December 12, 2018, CGI filed its MSD in which it argued that it satisfies the economic prong of the domestic industry requirement under Sections 337(a)(3)(A) and (B).[3] (Mot. at 1.). On February 11, 2019, Respondents Nortek Security & Control LLC, Nortek, Inc., and GTO Access Systems ("Nortek," and with CGI, the "Parties") filed an opposition ("Opposition") to CGI's MSD.[4] (Doc. ID No. 666542 (Feb. 11, 2019).).

On February 27, 2019, CGI moved for leave to file a reply ("Reply Motion") to the MSD. (Motion Docket No. 1118-020 (Feb. 27, 2019).). Nortek filed an opposition to CGI's Reply Motion on March 11, 2019. (Doc. ID No. 669621 (Mar. 11, 2019).). Subsequently, Nortek filed a contingent motion for leave to file a sur-reply ("Sur-Reply Motion") in opposition to CGI's MSD. (Motion Docket No. 1118-022 (Mar. 14, 2019).). In its Sur-Reply Motion, Nortek submitted that "if CGI's reply is accepted, Nortek would like to provide the attached sur-reply." (*Id.* at 1.). CGI filed an opposition to Nortek's Sur-Reply Motion on March 25, 2019. (Doc. ID No. 671203 (Mar. 25, 2019).).

CGI's MSD was briefly discussed during a telephone conference that was held on May

[3] In support of its MSD, CGI also filed a memorandum ("Memorandum"), a statement of undisputed material facts ("SUMF"), the Declaration of CGI's Director of Finance for its Residential Business Unit, Thomas Robin ("Robin Decl.") (MSD, App. A), and a Declaration of CGI's economic expert, Vincent Thomas (MSD, App. C (attaching his Initial Expert Report ("Thomas Initial Report")).).

[4] With its Opposition, Nortek filed a response to CGI's SUMF ("Response to SUMF").

31, 2019 ("May 31, 2019 Teleconference"). (Doc. ID No. 677777 (May 31, 2019 Tel. Tr.) at 90:5-91:9 (June 5, 2019).). During the May 31, 2019 Teleconference, the Parties were told that they would be notified informally of a ruling on the MSD. (*Id.*).

On June 6, 2019, an Order issued that CGI's MSD with respect to both Sections 337(a)(3)(A) and (a)(3)(B) would be granted. (Order No. 26 at 1-2 (June 6, 2019).). Order No. 26 also reconsidered Order No. 21, which initially denied CGI's Reply Motion and Nortek's Sur-Reply Motion. Both Motions were granted. (*Id.* at 2.). Accordingly, CGI's Reply and Nortek's Sur-Reply became a part of the record to ensure a complete record.

The MSD ID issued on November 25, 2019 as Order No. 38. (Doc. ID No. 695438 (Nov. 25, 2019).). The MSD ID analyzed the information that the Parties provided as part of CGI's MSD and Nortek's responses to CGI's MSD. The MSD ID provided the rationale for the oral Order that was issued on May 31, 2019 that granted CGI's MSD with respect to Sections 337(a)(3)(B) only. However, the Commission found that there was a problem with the MSD ID's analyses of both Sections 337(a)(3)(A) and 337(a)(3)(B). (Remand Order at 5-6.). The Commission cited to problems with "adjusted" figures that favored CGI, even though by virtue of inclusion in the MSD ID, the analysis was no longer simply the allowance of CGI's MSD. (Remand Order at 5.).

After re-reviewing the fact witness testimony, the expert witness testimony and expert reports that CGI relied upon in for its MSD,[5] it became evident that CGI had not provided sufficient information to address the issues that the Commission asked be addressed in its

[5] *See, e.g.*, MSD, App. A (Robin Decl. and attached exhibits); *id.*, App. B, Ex. 2 (Deposition of Thomas Robin); *id.*, App. C at Ex. 1 (Thomas Initial Report).).

Remand Order with respect to domestic and foreign investments or expenditures or a value-added analysis for the CGI products that practice the '223 patent ("223 DI Products").[6] (*Id.* at 5-6.).

On May 15, 2020, Order No. 39 issued, which identified detailed information both CGI and Nortek were required to provide to comply with the Commission's Remand Order. (Order No. 39 at 2-4 (May 15, 2020).). In Order No. 39, CGI was given until June 1, 2020 to submit revised calculations and any necessary revised expert testimony and/or factual information. (*Id.* at 2.). In Order No. 39, Nortek was also given an opportunity to respond to CGI's June 1, 2020 Submission, consistent with Commission Rule 210.15(c). (*Id.* at 4.).

On May 22, 2020, a teleconference was held to elicit the CGI's and Nortek's preferences with respect to how they would present their adjusted information and arguments ("May 22, 2020 Teleconference"). (Doc. ID No. 711418 (May 29, 2020).). CGI and Nortek were offered the option of a hearing as the Remand Order permits. (Remand Order at 6.). After discussion during the May 22, 2020 Teleconference, both CGI and Nortek agreed that they preferred

[6] The 223 DI Products include CGI's wi-fi enabled GDOs with the following model numbers: 8155W, 8160W, 8160WRGD, 8164W, 8164WAC, 8165W, 8165WRGD, 8355W, 8355W-267, 8355WRGD, 8360W, 8360WL, 8365W-267, 8365WRGD-267, 8550W, 8550W-267, 8550WL, 8550WL-267, 8550WLRGD, 8550WRGD, 8557W, 8587W, 8587WL, 8587WRGD, B550, B552, B750, B970, B970PLT6, B980, C450, C455, C870, HD750WF, HD950WF LW9000WF, WD1000WF, WLED-267. (Order No. 38 at at 3 (Table No. 3) (citations omitted).).

The 223 DI Products also include CGI's internet-capable GDOs with the following model numbers: 3043, 54915, 54918, 54920, 54930, 54931, 54985, 54990, 55918, 57915, 57918, 8065, 8075, 8155, 8155RGD, 8160, 8160RGD, 8165, 8165RGD, 8350, 8355, 8355-267, 8355RGD, 8360, 8365-267, 8365RGD-267, 8550, 8550-267, 8557, 8557-267, 8587, 8587RGD, B500, B503, B510, B730, C203, C205, C400, C410, HD210, HD420EV, HD420EVP, HD520EV, HD520EVG, HD520EVP, HD630EVP, HD920EV, HD930EV, HD930EVP, LW2200, LW3000EV, LW3500EV, LW3500EVPLT6, LW5000EV, M885, M8856, PD510, PD512, PD612EV, PD752KEV, PD762EV, WD832KEV, WD832KEVG, WD850KEVG, WD962EV, WD962KEV, WD962KPEV, WD962MLEV. (*Id.*).

making their submissions by paper. (May 22, 2020 Teleconf. Tr. at 12:10-17, 14:1-14, 15:18-16:18.). The Parties agreement was tantamount to a stipulation that a hearing to resolve their differences would not be required CGI and Nortek agreed that they did not wish to incur the expense of a hearing either for their clients or for the time it would require for all concerned. (*Id.*). In order to resolve the Commission's Remand Order, Nortek agreed that it waived its objection to CGI's reliance upon Mr. Thomas Robin's Declaration in support of CGI's MSD.[7] (*Id.* at 35:16-21, 35:24-36:20.).[8] As reflected below in footnote 8, the Parties made additional agreements to limit their objections during the May 22, 2020 Teleconference in order to eliminate a hearing on their papers and positions.

In its June 1, 2020 ("Submission"),[9] CGI argued yet again that it satisfies the economic prong of the domestic industry requirement for the '223 patent under each of subsections 19 U.S.C. § 1337(a)(3)(A), (B), and (C).[10] (Doc. ID No. 711585 (June 1, 2020); Submission at 4.).

[7] When he submitted his declaration, dated December 12, 12, 2018, Mr. Thomas Robin was the Director of Finance for the Residential Business Unit at CGI based in Oak Brook, Illinois. (MSD at App. A.).

[8] The Court clarified during the May 22, 2020 Teleconference that CGI is not required to provide a "value-added" analysis to establish satisfaction of the economic prong. (May 22, 2020 Teleconf. Tr. at 23-24, 44; *see also* Order No. 38 at 16-17.). The Parties also agreed that they would rely only on the documents and materials produced during fact discovery. The Parties also agreed that CGI's expert, Mr. Thomas, would not introduce new opinions beyond those contained in his initial expert report although it was evident he would be explaining some of the numbers and tables he had presented during fact discovery. (May 22, 2020 Teleconf. Tr. at 43-44.). He also explained his "adjustments."

[9] In support of its Submission, CGI filed the Supplemental Declaration of Vincent Thomas ("Thomas Supp. Decl.") and a Supplemental Statement of Undisputed Material Facts ("SSUMF").

[10] In its original MSD, CGI argued that it satisfied the economic prong requirement ***only*** under Sections 337(a)(3)(A) and (B). (MSD at 1.). In its MSD, CGI did not claim it satisfied Section 337(a)(3)(C). CGI provided neither evidence nor argument on Section 337(a)(3)(C). Accordingly, CGI waived the possibility of presenting an argument or analysis with respect to Section 337(a)(3)(C). Although CGI's MSD ID addressed CGI's arguments under both Sections 337(a)(3)(A) and (B), the MSD ID found that CGI satisfied the economic prong requirement ***only*** under Section 337(a)(3)(B). (Order No. 38 at 23.). In the Remand Order, the Commission gave no indication whether the scope of the economic prong should

In its Response to CGI's Submission, which Nortek filed on June 11, 2020 ("Response to Submission") (Doc. ID No. 712536 (June 11, 2020)), Nortek did not provide alternative figures to CGI's adjusted figures. (*See* Resp. to Submission.). Nortek did not provide a new or revised expert declaration to counter CGI's submission of Mr. Thomas' Supplemental Declaration. (*See id.*). As reflected in Sections IV.B and IV.C below, which analyze CGI's and Nortek's Submission and Response, Nortek's main arguments are that CGI's analyses and allocation methods are unreasonable and unsupported. However, Nortek's arguments are not supported by either evidence or expert opinion. (*See, e.g.*, *id.* at 1-2.).[11]

Based upon CGI's and Nortek's waiver of a hearing on the newly submitted evidence and arguments, the analysis in this RID is based upon CGI's MSD, Nortek's responses to CGI's MSD, and the Parties' written submissions to the Commission's Remand Order.

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be addressed in the RID or whether it should be broader than that of the MSD ID.

In its Submission, CGI cited *Certain Gas Spring Nailer Prods. and Components Thereof*, Inv. No. 337-TA-1082, Comm'n Op. at 79-84 (Apr. 28, 2020) ("*Gas Spring*"), in support of the proposition that CGI's assertion, at this stage, that it also satisfies the economic prong requirement under Section 337(a)(3)(C) is permissible. The Commission Opinion in *Gas Spring* found that the complainant also satisfied the economic prong requirement under Section 337(a)(3)(C), although the final ID at issue only found that the complainant met the economic prong requirement under Section 337(a)(3)(B). *Id.* at 77, 79. However, in *Gas Spring*, the complainant contended in its briefings before the issuance of the ID that it satisfied the economic prong of the domestic industry requirement under ***both*** Sections 337(a)(3)(B) and (C). *Gas Spring*, Final ID, at 51. Thus, the Commission Opinion in *Gas Spring* does not support CGI's position because the facts are different here. Unlike in *Gas Spring*, CGI did not provide evidence or an analysis of Section 337(a)(3)(C) in its MSD, or before the close of fact discovery. Therefore, CGI waived any such argument under Ground Rules 7.2 and 10.1. Accordingly, CGI's argument that CGI has satisfied the economic prong requirement under Section 337(a)(3)(C) is not addressed in this RID. Moreover, since satisfaction of the economic prong is disjunctive under the three sub-prongs, it should not matter on review whether CGI satisfies 337(a)(3)(C).

[11] As noted above, CGI subsequently moved for leave to file a reply to Nortek's Response to the June 1, 2020 Submission, which was granted. (*See* Order No. 42 (June 17, 2020); Motion Docket No. 1118-041 (June 15, 2020).). CGI attached its reply as Attachment A to its motion for leave.

### B. MSD ID and Petitions for Review

On November 25, 2019, the MSD ID issued explaining the rationale of the decision to grant CGI's MSD that CGI satisfied the economic prong requirement under Section 337(a)(3)(B.). (Order No. 38 (Nov. 25, 2019).).[12]

On December 4, 2019, Nortek filed a petition for review of the MSD ID ("MSD ID Petition"), and. (Doc. ID No. 696373 (Dec. 4, 2019).). Nortek specifically petitioned for the Commission's review of the economic prong findings in the MSD ID because Nortek claimed that the MSD ID improperly "attempted [to] correct" certain "deficiencies" in CGI's allocation methodology with "a revised, rough DI investment estimate. (MSD ID Petition at 1-2.).

CGI and Nortek each filed a response to Nortek's MSD ID Petition and CGI's MSD Contingent Petition, respectively. (Doc. ID No. 697039 (Dec. 11, 2019); Doc. ID No. 697043 (Dec. 11, 2019).).

### C. Remand Order

In its April 22, 2020 Remand Order the Commission, the Commission affirmed the ID's findings that there was no violation of Section 337 with respect to the '404 or '052 patents. (Remand Order at 3.).

[12] The final ID ("Final ID") also issued on November 25, 2019. The ID found that there was not a violation of Section 337 because: (i) Nortek did not infringe claim 11 of the '404 patent; (ii) Nortek did not infringe claims 1 or 21 of the '223 patent and CGI did not satisfy the technical prong of the domestic industry requirement for the '223 patent; and (iii) although certain accused products were found to practice claim 1 of the '052 patent, that claim was found to be invalid. (Final ID at 1, 286-87.). On December 9, 2019, CGI filed a petition for review of the Final ID ("Final ID Petition"). (Doc. ID No. 696775 (Dec. 9, 2019).). Nortek filed a contingent petition for review of the Final ID ("Final ID Contingent Petition"). (Doc. ID No. 696750 (Dec. 9, 2019).). CGI's Final ID Petition, Nortek's Final Contingent Petition, and the respective responses, which CGI and Nortek filed on December 17, 2019 (Doc. ID No. 697494 (Dec. 17, 2019); Doc. ID No. 697507 (Dec. 17, 2019)), do not provide arguments with respect to the economic prong. Thus, the identified Petitions and responses thereto are not relevant to the Remand Order or to this RID.

The Commission also determined to vacate the MSD ID (Order No. 38), finding that:

> Order No. 38 recognizes that CGI's data are "admittedly imperfect," CGI's adjusted labor and capital figure is "unknown," and its calculations of its DI investments are "inflated" at several points in analysis. Order No. 38 sought to adjust those calculations in [a] manner that generally favored Nortek, the non-movant. The Commission, however, finds those adjustments were not appropriate in the context of summary determination, where there should be no disputed issues of material fact.

(Remand Order at 5 (citations omitted).).

Additionally, the Commission found that:

> Order No. 38 does not appropriately evaluate the relative significance of CGI's investments in labor and capital or plant and equipment, as opposed to their absolute value. Rather, the analysis should include an appropriate assessment of the relative importance of CGI's domestic activities related to the DI products. . . . Among the analyses that may be helpful to the Commission in ascertaining significance are a comparison of domestic and foreign investments or expenditures in relation to the DI products or a value-added analysis.

(*Id.* at 5-6 (citations omitted).).

For the reasons discussed in Sections IV.B and IV.C, *infra*, CGI satisfies the economic prong of the DI requirement under Sections 337(a)(3)(A) and 337(a)(3)(B).

## III. LEGAL STANDARD FOR ECONOMIC PRONG OF THE DOMESTIC INDUSTRY REQUIREMENT

The Commission may only find a violation of Section 337 "if an industry in the United States relating to the articles protected by the patent . . . exists or is in the process of being established." 19 U.S.C. § 1337(a)(2) (emphases added). Typically, a complainant must show that a domestic industry existed at the time the complaint was filed. *See Motiva LLC v. Int'l Trade Comm'n*, 716 F.3d 596, 601 n.6 (Fed. Cir. 2013).

The domestic industry requirement consists of a "technical prong" and an "economic prong." *See, e.g.*, *Certain Elec. Devices, Including Wireless Commc'n Devices, Portable Music*

*& Data Processing Devices, & Tablet Computs.*, Inv. No. 337-TA-794, Order No. 88, 2012 WL 2484219, at *3 (June 6, 2012); *Certain Unified Commc'ns Sys., Prods. Used with Such Sys., and Components Thereof*, Inv. No. 337-TA-598, Order No. 9 at 2 (Sept. 5, 2007) ("*Communications Systems*"). A complainant satisfies the "technical prong" of the domestic industry requirement when it proves that its activities relate to an article "protected by the patent." *See Communications Systems*, Order No. 9 at 2. A complainant satisfies the "economic prong" of the domestic industry requirement when it demonstrates that the economic activities set forth in subsections (A), (B), and/or (C) of Section 337(a)(3) have taken place or are taking place with respect to the protected articles. *See id.*

Subsection 337(a)(3) states that:

> (3) For purposes of paragraph (2), and industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned –
>
> (A) significant investment in plant and equipment;
> (B) significant employment of labor, or capital; or
> (C) substantial investment in its exploitation, including engineering, research and development, or licensing.

19 U.S.C. § 1337(a)(3).

Because the criteria are listed in the disjunctive, satisfaction of any one of them will be sufficient to meet the economic prong of the domestic industry requirement. *Certain Integrated Circuits, Chipsets and Prods. Containing Same*, Inv. No. 337-TA-428, Order No. 10, Initial Determination (May 4, 2000) ("*Integrated Circuits*") (unreviewed). Establishment of the "economic prong" is not dependent on any "minimum monetary expenditure" and there is no need for a complainant "to define the industry itself in absolute mathematical terms." *Certain Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, Comm'n Op. at

25-26 (May 16, 2008) ("*Stringed Instruments*"). However, a complainant must substantiate the nature and the significance of its activities with respect to the articles protected by the patent at issue. *Certain Printing and Imaging Devices and Components Thereof*, Inv. No. 337-TA-690, Comm'n Op. at 30 (Feb. 17, 2011) ("*Imaging Devices*").

The Commission has interpreted Sections 337(a)(3)(A) and (B) to concern "investments in plant and equipment and labor and capital with respect to the ***articles*** protected by the patent." *Certain Ground Fault Circuit Interrupters and Prods. Containing Same,* Inv. No. 337-TA-739, 2012 WL 2394435, at *50, Comm'n Op. at 78 (June 8, 2012) ("*Circuit Interrupters*") (emphasis in original) (quoting 19 U.S.C. §§ 1337(a)(3)(A), (B)).

When a complainant proceeds under Section 337(a)(3)(C), it is not sufficient for the "substantial investment" under subsection (C) to merely relate to articles protected by the asserted patents. Rather, "the complainant must establish that there is a nexus between the claimed investment and asserted patent regardless of whether the domestic- industry showing is based on licensing, engineering, research and development." *Certain Integrated Circuit Chips & Prods. Containing*, Inv. No. 337-TA-845, Final Initial Determination, 2013 WL 3463385, at *14 (June 7, 2013).

In addition, the Commission has definitively stated that investments in plant and equipment or labor and capital that relate to engineering and research and development ("R&D") (that are expressly identified under subsection (C)), are properly considered under subsections (A) and (B):

> The statutory text of section 337 does not limit sections 337(a)(3)(A) and (B) to investments related to manufacturing or any other type of industry. It only requires that the domestic investments in plant and equipment, and employment of labor or capital be "with respect to the articles protected by the patent." 19 U.S.C. § 1337(a)(3). Moreover, even though subsection (C) expressly identifies

> "engineering" and "research and development" as exemplary investments in the "exploitation" of the patent, that language does not unambiguously narrow subsections (A) and (B) to exclude those same types of investments.

*Certain Solid State Storage Drives, Stacked Elecs. Components, and Prods. Containing Same*, Inv. No. 337-TA-1097, Comm'n Op. at 8 (June 29, 2018) ("*Storage Drives*"); *see also, e.g.*, *Certain Marine Sonar Imaging Devices, Including Downscan and Sidescan Devices, Prods. Containing the Same, and Components Thereof*, Inv. No. 337-TA-921, Comm'n Op. at 57-64 (Jan. 6, 2016) ("*Sonar Imaging Devices*").

There is no mathematical threshold test or a "rigid formula" for determining whether a domestic industry exists. *Certain Male Prophylactic Devices, Inc*., Inv. No. 337-TA-292, Comm'n Op. at 39, USITC Pub. 2390 (June 1991) ("*Male Prophylactic Devices*"). However, to determine whether investments are "significant" or "substantial," the actual amounts of a complainant's investments or a quantitative analysis must be performed. *Lelo Inc. v. Int'l Trade Comm'n*, 786 F.3d 879, 883-84 (Fed. Cir. 2015). Even after *Lelo*, which requires some quantification of a complainant's investments, there is still no bright line as to a threshold amount that might satisfy an economic industry requirement.

It is the complainant's burden to show by a preponderance of evidence that each prong of the domestic industry requirement is satisfied. *Certain Prods. Containing Interactive Program Guide and Parental Control Tech.*, Inv. No. 337-TA-845, Final Initial Determination, 2013 WL 3463385, at *14 (June 7, 2013.). Moreover, the Commission makes its determination by "an examination of the facts in each investigation, the article of commerce, and the realities of the marketplace." *Male Prophylactic Devices*, Comm'n Op. at 39 (quoting *Certain Double Sided-Floppy Disk Drives and Components Thereof*, Inv. No. 337-TA-215, Comm'n Op. at 17, USITC Pub. 1859 (May 1986)).

## IV. DISCUSSION

### A. CGI's Financial Reporting and Information Tracking Systems

As CGI explained in its MSD, and as adopted and uncontested, CGI tracks its U.S. engineering expenditures in the ordinary course of business through its [redacted], which serves as CGI's accounting and financial reporting system. (MSD, SUMF ¶¶ 18, 20, 34;[13] Opp'n, Resp. to SUMF ¶¶ 18, 20; *see* n.13 (regarding Opp'n, Resp. to SUMF ¶ 34).). CGI's engineering expenditures that are tracked in [redacted] are identified to projects associated with CGI's strategic business units, including its [redacted] business unit. (MSD, SUMF ¶¶ 19, 34-36; Opp'n, Resp. to SUMF ¶¶ 19, 35-36; *see* n.13 (regarding Opp'n, Resp. to SUMF ¶ 34).). CGI's garage door opener ("GDO") products, which include the 223 DI Products, are allocated to the [redacted] business unit. (MSD, SUMF ¶¶ 18-19; Opp'n, Resp. to SUMF ¶¶ 18-19.). CGI's Human Resource team tracks U.S. engineering headcount, as well as CGI's Elmhurst and Oak Brook headcount. (MSD, SUMF ¶ 37; *see* n.13.).

Nortek does not dispute that CGI tracks its U.S. technical service and support expenditures through CGI's [redacted] program. (MSD, SUMF ¶ 38; *see* n.13.). Data on CGI's customer service calls is also tracked through CGI's [redacted]. (MSD, SUMF ¶ 41; *see* n.13.). CGI tracks service calls by business unit based on the [redacted]

[13] In its original Opposition, Nortek objected to multiple SUMFs solely on the alleged untimeliness of the Robin Declaration (MSD, App. A). (*See* Opp'n, Resp. to SUMF ¶¶ 1-4, 6-11, 15, 22-23, 25, 34, 37-39, 41-43, 45-50, 53-55, 79-82, 104.). Because Nortek withdrew its objection to the Robin Declaration. (May 22, 2020 Teleconf. Tr. at 35:16-21, 35:24-36:20), SUMF ¶¶ 1-4, 6-11, 15, 22-23, 25, 34, 37-39, 41-43, 45-50, 53-55, 79-82, 104 are now ***undisputed***.

. CGI tracks data such as . (MSD, SUMF ¶¶ 42-43; *see* n.13.). CGI tracks the . (MSD, SUMF ¶¶ 42-43; *see* n.13.).

Nortek did not object to or offer an analysis of CGI's information tracking system or its financial reporting systems in its Response to CGI's June 1, 2020 Submission pursuant to the Commission's Remand Order. (Resp. to Submission at 1-2.). Additionally, Nortek did not dispute CGI's supplemental "statements of material fact." (*See* Resp. to Submission.). Therefore, CGI's material facts are adopted as "Statements of Uncontested Material Fact."

### B. Subsection (A): CGI's Domestic Industry Investment in Plant and Equipment Are Significant

The MSD ID found that CGI was not entitled to summary determination as a matter of law that the economic prong of the domestic industry requirement is met under Section 337(a)(3)(A) because there was an issue of material fact with respect to some of the expenditure figures upon which CGI relied. (Order No. 38 at 20-21.).

Having re-evaluated CGI's investments in plant and equipment ("P&E") for purposes of this RID, for the reasons discussed below, it is a finding of this RID that CGI has satisfied the economic prong DI requirement under Section 337(a)(3)(A).

#### 1. Chamberlain's United States Facilities

In its Submission, CGI relied on the same evidence it submitted with its MSD with regard to CGI's U.S. facilities. (Submission at 7-8.). In 2017, CGI relocated its headquarters from Elmhurst, Illinois to Oak Brook, Illinois. The new headquarters is a 20-acre facility that

occupies [redacted] and houses more than [redacted]. (MSD, SUMF ¶ 8.). Prior to its relocation to the Oak Brook facility, CGI had operated out of several facilities in Elmhurst, Illinois, including an Industrial Design Center at 505 West Grant Avenue, a Corporate Annex at 140 Industrial Drive, and a Corporate Office at 845 Larch Avenue. (MSD, SUMF ¶ 50.). CGI's Corporate Office occupied approximately [redacted], while its Corporate Annex occupied another [redacted]. (MSD, SUMF ¶ 51.). CGI also operated (and continues to operate) a Product Test Laboratory in Elmhurst, Illinois at 576 Lamont Road, which occupies approximately [redacted]. (MSD, SUMF ¶ 53.). CGI's Engineering Department employees are located at its Elmhurst and Oak Brook, Illinois facilities. (MSD, SUMF ¶¶ 47-49.). Additionally, CGI operates a Technical Support Center ("TSC") in Tucson, Arizona, which provides customer service and technical support. (MSD, SUMF ¶¶ 39-40.).

Nortek did not dispute the substance of CGI's statements in either its Opposition to CGI's MSD or in its Response to CGI's Submission. (Opp'n, Resp. to SUMF ¶ 51; *see* n.13 (regarding Opp'n, Resp. to SUMF ¶¶ 8, 47-50, 53); *see also generally* Resp. to Submission.).

**2. Rent Attributable to Domestic Engineering Activities**

In its Submission, CGI relied on the same evidence it submitted with its MSD with regard to the rent associated with CGI's domestic engineering activities. (Submission at 8.). In 2017, the net rent for the Oak Brook facility was approximately [redacted]. (MSD, SUMF ¶ 54.). The rent for CGI's Product Test Laboratory was approximately [redacted] in 2018. (MSD, SUMF ¶ 53.). In 2016, rents for CGI's Industrial Design Center, Corporate Annex, and Corporate Office were approximately [redacted], respectively. (MSD, SUMF ¶ 52.). In total, the evidence indicates that between 2013 and the filing of the Complaint in this Investigation (May 4, 2018), CGI incurred approximately [redacted] in rent

at its facilities in Elmhurst and Oak Brook, Illinois. (MSD, SUMF ¶ 58.).

In the ordinary course of business, CGI tracks engineering headcount as well as total Elmhurst and Oak Brook headcount. (MSD, SUMF ¶ 37.). Based on the total rents of CGI's facilities and the percentage of U.S. engineering headcount as a percentage of total Elmhurst Oak Brook headcount, CGI's economic expert, Mr. Vincent Thomas,[14] quantified the rent expenditures attributed to U.S. engineering activities at approximately from 2013 through the filing of the Complaint. (MSD, SUMF ¶ 80.).

Nortek did not dispute the substance of CGI's statements in either its Opposition to CGI's MSD or Response to CGI's Submission. (*See* n.13 (regarding Resp. to SUMF ¶¶ 37, 52-54, 58, 80).).

### 3. Investments in Domestic Plant and Equipment for Engineering Activities

CGI explained in its MSD and SUMF that apart from rent expense, CGI's investments in engineering activities include . (MSD, SUMF ¶¶ 48, 79.).

CGI tracks the identified expenses in the ordinary course of its business through its accounting program. (MSD, SUMF ¶ 34.). Using data from CGI's database, and in consultation with CGI personnel, Mr. Thomas categorized the Engineering Department expenditures incurred in the United States for plant and equipment, labor and capital, or other.

[14] When he submitted his Initial Report, Mr. Vincent Thomas was a Senior Managing Director for FTI Consulting, Inc. (MSD, Thomas Initial Report ¶ 1.). CGI retained Mr. Thomas to assess the economic prong of a domestic industry relating to the Asserted Patents. (*Id.* ¶ 6.).

(MSD, SUMF ¶¶ 79, 92, 104, 114; Thomas Initial Report, Ex. 7.). From 2013 through the filing of the Complaint, such plant and equipment engineering investments totaled approximately . (MSD, SUMF ¶ 79.).

Nortek did not dispute the substance of Mr. Thomas' statement or calculations s in either its Opposition to CGI's MSD or in its Response to CGI's Submission. (Opp'n, Resp. to SUMF at ¶ 92; *see* n.13 (regarding Opp'n, Resp. to SUMF ¶¶ 34, 48, 79, 104).).

As Mr. Thomas explained in his original MSD-related analysis, he allocated the U.S. plant and equipment expenditures that the Engineering Department incurred by removing expenses associated with administrative-type activities such as for non-engineers. (MSD, SUMF ¶ 82.). He performed his allocation based on headcount, using the percentage ratio of non-administrative engineering employees to the total Engineering Department employees in the United States. (*See, e.g.*, MSD, SUMF ¶¶ 82-83; MSD, Thomas Initial Report, Ex. 5A.).

Additionally, Mr. Thomas allocated CGI's domestic plant and equipment expenditures for the Engineering Department to specific business units. (MSD, SUMF ¶ 83.). He made this specific allocation by multiplying the total U.S. plant and equipment engineering expenditures incurred each year by the percentage ratio of the business unit's engineering expenditures to total U.S. engineering expenditures, as reflected on CGI's financial statement for that year. (MSD, SUMF ¶¶ 83-90.).

In his original MSD-related analysis, in order to allocate domestic plant and equipment expenditures to the DI Products, Mr. Thomas performed a sales-based allocation using DI Product sales data, as tracked in the ordinary course of business. (MSD, SUMF ¶ 34.). In his Initial Report, Mr. Thomas calculated the allocation ratio by comparing the DI garage door operator sales for the identified DI Product models to the total garage door ***operator*** sales for all

models in the [redacted] business unit ("a sub-business unit-based allocation"). (MSD, Thomas Initial Report, Ex. 10, note B; MSD, SUMF ¶¶ 83-85; 87-89.).

Mr. Thomas indicated in the notes to his Initial Report, and explained in his Supplemental Declaration, that this allocation methodology was grounded on his discussions with CGI's Vice President of Global Engineering Services, Larry Strait, who confirmed that the [redacted] of CGI's research and development ("R&D") effort is directed to its garage door operators and the "in-the-box" accessories sold with the garage door operators rather than other items, such as [redacted], that are included in total reported sales of the [redacted] business unit. (MSD, Thomas Initial Report, Ex. 10; Submission, Thomas Supp. Decl. at ¶ 16.). Mr. Thomas explained that applying an allocation which relies on the entire business unit in the denominator ("a business unit-based allocation"), would assign weight to certain of CGI products (such as [redacted]), even though its engineering investment spend was not actually related to these products. (*Id.*).

Nevertheless, in response to the Remand Order and Order No. 39, Mr. Thomas provided a Supplemental Declaration: (i) explaining his reasons for his original methodology (Thomas Supp. Decl. at ¶¶ 16-18); and (ii) a set of alternative calculations ("Alternative Calculations")[15] to allocate CGI's engineering expenditures based on the ratio of sales of the DI Product operators to total sales for the [redacted] business unit (Thomas Supp. Decl. at ¶¶ 20, 31, 49, Alternative Calculations Exhibits 5, 5A, 5B, 10, 15, 15A, 16.).

Under his original allocation methodology, from 2013 through the filing of the Complaint, Mr. Thomas calculated that CGI's domestic plant and equipment engineering

[15] CGI uses the phrases "Alternative Calculations" and "Alternate Calculations" interchangeably.

investments for the 223 DI Products totaled approximately [redacted]. (MSD, SUMF ¶ 85; MSD, Thomas Initial Report ¶ 55.). Under the Alternate Calculation methodology, Mr. Thomas determined that CGI's investments in domestic plant and equipment engineering from 2013 through the filing of the Complaint totaled approximately [redacted]. (Submission, SSUMF ¶ 131; Submission, Thomas Supp. Decl. at ¶ 31, Alternate Exhibit 5A.) . This was one of Mr. Thomas' "adjustments," which the Commission found problematic for an MSD finding.

For CGI's Remand Order analysis and based on CGI's financial records for its worldwide expenditures for its engineering activities, Mr. Thomas also re-calculated the plant and equipment expenditures incurred outside the United States that are attributable to the DI Products. (Submission, Thomas Supp. Decl. ¶ 32.). Under his original calculation, Mr. Thomas calculated that the amount attributable to the foreign expenditures for plant and equipment for the 223 DI Products is approximately [redacted]. (MSD, Thomas Initial Report, Ex. 15A.). According to his Alternative Calculation, Mr. Thomas determined that the amount attributable to the foreign expenditures for plant and equipment for the 223 DI Products is approximately [redacted]. (Submission, Thomas Supp. Decl. at ¶ 33, Alternate Exhibit 15A; Submission, SSUMF ¶ 147.). That was another "adjustment."

Nortek did not specifically object to any of the revised figures or calculations that CGI and Mr. Thomas presented. Rather, with respect to Mr. Thomas' calculations according to his original allocation methodology, Nortek's main dispute was that because the 223 DI Products are also sold worldwide, CGI's methodology should have used worldwide sales data and not just U.S. sales data, which Nortek contended would have resulted in lower allocation percentages and corresponding DI investments. (Opp'n at 1-2; *see also, e.g.*, Opp'n, Resp. to SUMF ¶¶ 106-109.). That is true. Nonetheless, in its Remand Order submission, Nortek did not provide an

alternative supported argument, or calculations that CGI's U.S. sales-based allocation produced inflated numbers or that Nortek's preferred methodology would yield materially different results.

Nonetheless, in its Response to CGI's Submission, Nortek again argued that the sales-based allocation CGI used to determine its DI expenditures was not reasonable because CGI did not consider worldwide sales data. (Resp. to Submission at 6.). In support of this argument, Nortek provided two (2) alleged "examples" of work that CGI employees conduct in the U.S., which Nortek contended benefitted CGI products sold worldwide. (*Id.* at 6-7.). Even assuming, *arguendo*, this is the case, Nortek failed to present any evidence that its "examples" would have a material impact on CGI's and Mr. Thomas' figures, or on the ultimate conclusions to be drawn from them.

In its Response, Nortek also contends that CGI "never produced its worldwide [sales] data during fact discovery, or in this remand proceeding," and criticized CGI's reliance on U.S. sales data for CGI's sales-based allocation, claiming there is "no reliable evidence to support [CGI's] claim" that "the [redacted] of its sales were made in the U.S." (*Id.* at 6.). However, as CGI points out in its Reply in support of the MSD, CGI's total net product sales for all products worldwide for the years 2013 through 2017 are presented in Robin Declaration Exhibits 10 and 11 (*see* CX-0530C, tab "Chamberlain" at line "Net Product Sales"; CX-0533C, tab "Chamberlain Total" at line "Net Product Sales"); total U.S. sales of all CGI products are presented in Robin Declaration Exhibit 5 (*see* CX-0536C). Mr. Robin confirmed that CGI maintains the financial data shown in Exhibits 5, 10, and 11 in its electronic financial accounting and reporting systems in the ordinary course of business. (MSD, Robin Declaration ¶¶ 33, 38-39.). Since Nortek waived its objections to the Robin Declaration during the May 22, 2020 Teleconference, Nortek's restated objections also have been waived.

In sum, even with CGI's lower adjusted figures, from 2013 through the filing of the Complaint, CGI's worldwide expenditures for P&E engineering activities related to the 223 DI Products totaled , which are significant, as Mr. Thomas opined initially, and again. (MSD, Thomas Initial Report, Ex. 5; Submission, SSUMF ¶¶ 135, 146-147; Submission, Thomas Supp. Decl. ¶¶ 42-43, Alternate Exhibit 5.). Additionally, CGI's domestic expenditures are also significant.

**4. Investment in Domestic Plant and Equipment for Technical Service and Support**

In its Submission, CGI used the same explanation it used in its MSD for how it keeps its financial information with respect to its domestic property and equipment ("P&E") for technical service and support in the ordinary course of business. Nortek did not contest CGI's explanation or its numbers either in Nortek's Opposition to CGI's MSD or in Nortek's Response to CGI's Submission. (MSD, SUMF ¶ 38; *see* n.13.). In the ordinary course of business, CGI tracks its expenditures on technical service and support through its program. (MSD, SUMF ¶ 38.).

CGI's Tucson, Arizona Technical Service Center ("TSC") facility is the . (MSD, SUMF ¶ 39.). The TSC facility also . (*Id.*). Because of CGI's technical service and support for the GDO DI Products is carried out at the TSC center in the United States, there are that are attributable to CGI's GDO DI Products. (Submission, Thomas Supp. Decl. at ¶ 40.).

To identify plant and equipment investments that are associated with the TSC facility, Mr. Thomas analyzed different categories of CGI expenditures that CGI tracks in the ordinary

course of business. Mr. Thomas also consulted with CGI personnel. (MSD, SUMF ¶¶ 79, 92; Thomas Initial Report ¶¶ 57-58, Ex. 11.). Using data from CGI's [redacted] database, and in consultation with CGI personnel, Mr. Thomas categorized the TSC expenditures incurred in the United States under the categories for P&E, labor and capital, or other. (MSD, SUMF ¶¶ 79, 92, 104, 114; Thomas Initial Report ¶¶ 57-58, Ex. 11.). Based on this analysis, Mr. Thomas calculated that from 2013 through the filing of the Complaint, CGI invested approximately [redacted] in P&E at the TSC facility. (MSD, SUMF ¶ 92.).

As part of his original MSD analysis Mr. Thomas allocated CGI's total TSC plant and equipment expenditures by removing expenses associated with administrative-type activities. (MSD, SUMF ¶ 93.). Mr. Thomas performed this allocation based on a headcount allocation, using the ratio of non-administrative TSC employees as a percentage of total TSC employees. (*Id.*).

Next, Mr. Thomas allocated domestic P&E expenditures for the TSC facility by business unit, using data from the TSC call logs. To allocate U.S. TSC expenditures down to the [redacted] business unit, Mr. Thomas multiplied the total relevant TSC plant and equipment expenditures by the ratio of [redacted] call hours as a percent of total call hours. (MSD, SUMF ¶¶ 94-95.).

Last, to allocate TSC expenditures down to the DI Products, Mr. Thomas performed a sales-based allocation, using DI Product sales data, as tracked in the ordinary course of business. (MSD, SUMF ¶¶ 96-97, 100-101.). Mr. Thomas multiplied the total U.S. TSC plant and equipment expenditures allocated to the [redacted] business unit by the ratio of DI Product sales as a percent of total [redacted] product sales for that business unit. (*Id.*).

This three-step calculation showed that from 2013 through the filing of the Complaint, CGI's domestic plant and equipment TSC investments totaled approximately [redacted] for the

223 DI Products. (MSD, SUMF ¶ 97.).

Nortek did not dispute Mr. Thomas' calculation in either its Opposition to CGI's MSD or its Response to CGI's Submission. Without providing any supporting evidence, Nortek merely speculated in its Opposition that some of the CGI service-related calls may not have related to technical issues. (Opp'n at 23; Resp. to SUMF ¶ 97.). Nortek appears to have abandoned this argument in its Response. (*See generally* Resp. to Submission.).

In sum, from 2013 through the filing of the Complaint, CGI's U.S. P&E investments connected to the technical service and support of the 223 DI Products totaling [redacted] are significant, as Mr. Thomas initially opined. (MSD, Thomas Decl. at 110.).

### 5. Summary of CGI's Domestic Industry Investments in Plant and Equipment

Tables 1 and 2 below summarize CGI's total domestic and foreign plant and equipment investments, respectively, from 2013 through the filing of the Complaint attributable to the 223 DI Products.

CGI's domestic investments in P&E total approximately [redacted] under the original calculation and about [redacted] under the adjusted, Alternative Calculation.

**Table 1: CGI's Domestic Plant & Equipment Investments in the 223 DI Products**

| | Initial Thomas Report | Alternate Calculation |
|---|---|---|
| **Engineering** | [redacted] | |
| **Technical Service Center** | | |
| **Total Domestic Investments** | | |

(Submission at 13 (citing MSD, Thomas Initial Report, Ex. 5; Submission, SSUMF ¶ 135; Submission, Thomas Supp. Decl. ¶42, Alternate Exhibit 5).).

Based upon adjustments, CGI's foreign investments in P&E total approximately [redacted] under the original calculation and approximately [redacted] under Mr. Thomas' Alternative Calculation.

**Table 2: CGI's Foreign Plant & Equipment Investments in the 223 DI Products**

| | Initial Thomas Report | Alternate Calculation |
|---|---|---|
| Engineering<br>Technical Service Center<br>Total Foreign Investments | [redacted] | |

(Submission at 13 (citing Submission, SSUMF ¶¶ 146-147; Submission, Thomas Supp. Decl. ¶43, Alternate Exhibit 5).).

### C. Subsection (B): CGI's Domestic Industry Employment of Labor and Capital Are Significant

#### 1. CGI's Employment of Engineering and Technical Support Personnel

As CGI explained in its MSD and SUMF, CGI performs a variety of engineering activities at its Elmhurst and Oak Brook facilities, including product development, engineering, design, and testing. (MSD, SUMF ¶ 47.). CGI's Engineering Department carries out the referenced activities. (MSD, SUMF ¶ 49.). At the end of 2017, CGI employed [redacted] at its Elmhurst and Oak Brook facilities. (MSD, SUMF ¶¶ 49, 60-61.).

At the TSC facility,[16] CGI employees take calls and work to provide customers with technical support on their CGI products. TSC employees also [redacted]

[16] CGI operates a Technical Support Center ("TSC") in Tucson, Arizona, which provides customer service and technical support. (MSD, SUMF ¶¶ 39-40; *see* n.13.).

. (MSD, SUMF ¶¶ 39-40.). At the end of 2017, CGI employed non-administrative employees at the TSC center. (MSD, SUMF ¶¶ 62-65.).

Nortek did not dispute the substance of these statements in either its Opposition to CGI's MSD or Response to CGI's Submission. (Opp'n, Resp. to SUMF ¶¶ 40, 60-65; *see* n.13 (regarding Opp'n, Resp. to SUMF ¶¶ 39, 47, 49); *see generally* Resp. to Submission.).

**2. Domestic Industry Investments in Labor and Capital for Engineering Activities**

In its Submission, CGI used the same explanation it used in its MSD for how it keeps its financial and engineering information in the ordinary course of business, which Nortek did not contest in its Opposition to CGI's MSD or Response to CGI's Submission. (Submission at 14; MSD, SUMF ¶ 34; Resp. to SUMF ¶ 38; *see* n.13; *see generally* Resp. to Submission.). In the ordinary course of business, CGI tracks its U.S. expenditures for its engineering cost center through the program. (MSD, SUMF ¶ 34.).

CGI uses data from its program to identify its expenditures for labor and capital that are engineering-related. These include employee compensation and related benefits, as well as expenditures for employee training and education, employee travel, recruiting and other similar expenditures. (MSD, SUMF ¶ 79; Thomas Initial Report, ¶ 69; *see* n.13.). For the MSD, Mr. Thomas analyzed the different categories of CGI expenditures as CGI tracks them in the ordinary course of business for the engineering cost center. As he did with CGI's P&E expenditures, Mr. Thomas consulted with CGI personnel to identify CGI's labor and capital investments. (MSD, SUMF ¶¶ 79, 92, 104, 114; Thomas Initial Report, ¶¶ 47-48, 69-70.).

Nortek did not dispute the substance of Mr. Thomas' statements in either its Opposition to CGI's MSD or Response to CGI's Submission. (Opp'n, Resp. to SUMF ¶¶ 92, 114; *see* n.13

(regarding Opp'n, Resp. to SUMF ¶¶ 79, 104); *see also generally* Resp. to Submission.).

As part of his original analysis for the MSD, Mr. Thomas followed a three-step allocation process to allocate domestic labor and capital expenditures for CGI's Engineering Department to the 223 DI Products. First, Mr. Thomas excluded labor and capital engineering expenditures associated with administrative activities, using a headcount allocation. Mr. Thomas multiplied the U.S. labor and capital engineering expenditures by the ratio of non-administrative engineering employees in the U.S. as a percentage of total Engineering Department employees in the United States. (MSD, SUMF ¶¶ 106-113; Thomas Initial Report, ¶ 72, Ex. 5B.).

Second, Mr. Thomas allocated the labor and capital engineering expenditures by business unit. He then multiplied CGI's labor and capital engineering expenditures by the ratio of CGI's total engineering expenditures for the business unit to CGI's total U.S. engineering business expenditures. (MSD, Thomas Initial Report, ¶ 73, Ex. 9; MSD, SUMF ¶¶ 106-108; 110-112.).

Third, in his original MSD-related analysis, Mr. Thomas also allocated CGI's engineering labor and capital-related expenses to CGI's DI Products. Mr. Thomas performed a sales-based allocation using DI Product sales data, as CGI tracks it in the ordinary course of its business. (MSD, Thomas Initial Report, ¶ 74, Ex. 10.). Specifically, in this step, Mr. Thomas multiplied the labor and capital engineering expenses allocable to the DI Products based on the ratio of the DI garage door operator sales to total garage door ***operator*** sales for the business unit. (MSD, Thomas Initial Report, ¶ 74, Ex. 10.).

As discussed above with respect to Section 337(a)(3)(A), in his Supplemental Declaration, Mr. Thomas explained that his original allocation methodology was based on garage door ***operator*** sales ("a sub-business unit-based allocation") for engineering investments

because the [redacted] of [redacted] engineering expenditures are related to the operators and "in-box" accessories (and the "in-box" accessory sales are included under the operator sales line item). (*Id.* at ¶ 16.).

In response to the Remand Order and Order No. 39, Mr. Thomas prepared an Alternative Calculation in which he re-calculated engineering expenditures based on the ratio of sales of CGI's DI garage door operators to ***total*** sales for the [redacted] business unit.[17] (Submission, Thomas Supp. Decl. at ¶¶ 14, 20, 50.).

Using his original allocation methodology, from 2013 through the filing of the Complaint, Mr. Thomas calculated that CGI's domestic labor and capital engineering investments totaled approximately [redacted] in the 223 DI Products. (MSD, SUMF ¶ 109; Thomas Initial Report, ¶ 76, Ex. 5B.). In his Alternative Calculation methodology, for the same time period, Mr. Thomas adjusted the original [redacted] figure to [redacted]. (Submission, SSUMF ¶ 137; Submission, Thomas Supp. Decl. ¶ 50, Alternate Exhibit 5B.).

Mr. Thomas also calculated CGI's foreign labor and capital investments that are attributable to the DI Products. (Submission, Thomas Supp. Decl. ¶ 51.). Mr. Thomas based those calculations on CGI's financial records for its worldwide expenditures for its engineering activities. (*Id.*).

Under his original allocation methodology, Mr. Thomas determined that the amount attributable to foreign labor and capital for the 223 DI Products is approximately [redacted]. (Submission, SSUMF ¶ 146; MSD, Thomas Initial Report, Ex. 15A; Submission, Thomas Supp. Decl. at ¶¶ 51-52, Alternate Exhibit 15A.). Under Mr. Thomas' Alternative Calculation

[17] This is the sales-based allocation Nortek wanted CGI to perform. (Opp'n at 10-11.).

methodology, the amount attributable to foreign labor and capital for CGI's 223 DI Products totaled . (Submission, SSUMF ¶ 147; Submission, Thomas Supp. Decl. at ¶¶ 51-52, Alternate Exhibit 15A.).

In its Opposition and Response, Nortek advanced the same arguments against the significance of CGI's under both Sections 337(a)(3)(A) and (B). Again, Nortek did not offer counter-information or support for its own conclusions. For the reasons discussed in Section IV.B above, Nortek's contentions are unavailing.

In sum, even with the lower adjusted figures, from 2013 through the filing of the Complaint, CGI's worldwide expenditures for engineering labor and capital related to its 223 DI Products totaled , which are significant, as Mr. Thomas opined. (Submission, SSUMF ¶ 141; Submission, Thomas Supp. Decl. ¶ 61; MSD, Thomas Decl. at 114.).

### 3. Domestic Industry Investments in Labor and Capital for Technical Service and Support Activities[18]

In its Submission, CGI presented the same explanation it used in its MSD with respect to how it keeps its U.S. technical service and support expenditures in the ordinary course of business, which Nortek did not contest in its Opposition to CGI's MSD or Response to CGI's Submission. (Submission at 16; MSD, SUMF ¶ 38; Opp'n, Resp. to SUMF ¶ 38; *see* n.13; *see generally* Resp. to Submission.). Like its investments in labor and capital for engineering activities, CGI tracks in the ordinary course of business its U.S. technical service and support expenditures through the program. (MSD, SUMF ¶ 38.).

[18] In its Opposition, Nortek initially argued that CGI's TSC investments should be excluded because they are based, at least in part, on the alleged untimeliness of the Robin Declaration. (Opp'n at 7.). The MSD ID excluded these investments based on Nortek's assertion. (Order No. 38 at 19.). Since Nortek has withdrawn its objection to CGI's use of the Robin Declaration, CGI's TSC investments are analyzed here.

As noted above in Section IV.B, because CGI's TSC facility in Tucson is the only [redacted], and [redacted] of technical service and support for the GDO DI Products is carried out at this facility, CGI [redacted] attributable to those products. (Submission at 16; Submission, Thomas Supp. Decl. at ¶ 59; MSD, SUMF ¶ 39.).

The technical service and support activities for, *inter alia*, the 223 DI Products, include customer service calls, customer and employee training, provision and updating of technical publications, and service and repair services. (MSD, Robin Decl., ¶¶ 16-18.). CGI tracks customer service call data through the [redacted]. (MSD, SUMF ¶¶ 41-43.). [redacted]. (*Id.*). [redacted]. (MSD, SUMF ¶¶ 41-43; Thomas Initial Report, ¶ 79.

As Mr. Thomas explained in his original MSD-related analysis, to calculate domestic labor and capital expenditures at the TSC facility, he first multiplied U.S. labor and capital TSC expenditures by the ratio of non-administrative employees at the TSC as a percentage of total TSC employees. (MSD, Thomas Initial Report, ¶¶ 80-83, Ex. 14.).

Second, to allocate labor and capital TSC expenditures to the [redacted] business unit, Mr. Thomas allocated these expenses based on Chamberlain's call log data. (*Id.*). To allocate domestic TSC expenditures to the [redacted] business unit, he multiplied the total relevant U.S. (*Id.*). TSC labor and capital expenses by the ratio of [redacted] call hours as a percentage of total TSC call hours. (*Id.*).

Third, to allocate labor and capital TSC expenses to the DI Products, Mr. Thomas performed a sales-based allocation. (*Id.*). For the GDO DI Products, he multiplied the total U.S. TSC labor and capital expenditures allocated to the business unit by the GDO DI Product sales as a percentage of total sales. (MSD, SUMF ¶¶ 114-123; Thomas Initial Report, ¶¶ 80-83, Ex. 14.).

As of August 2018, CGI employed approximately in the U.S. at the TSC facility, which Nortek did not dispute. (MSD, SUMF ¶ 62; Opp'n, Resp. to SUMF ¶ 62.). From 2013 to the filing of the Complaint, Mr. Thomas calculated that CGI's domestic labor and capital TSC investments for the 223 DI Products totaled approximately . (MSD, SUMF ¶ 119; Thomas Initial Report, ¶ 85 & Ex. 5B.).

Nortek did not dispute Mr. Thomas' calculation in either its Opposition to CGI's MSD or its Response to CGI's Submission. Rather, in its Opposition, Nortek merely speculated that some of CGI's technical service and support calls may not have related to technical issues. (Opp'n at 23; Resp. to SUMF ¶ 119.). Nortek did not provide evidence to support its speculation in its MSD Opposition. Moreover, Nortek appears to have abandoned its speculation in its Response. (*See generally* Resp. to Submission.).

In sum, from 2013 through the filing of the Complaint, CGI's U.S. labor and capital investments connected to the technical service and support of the 223 DI Products that totaled are significant, as Mr. Thomas initially opined. (MSD, Thomas Decl. at 114.).

**4. Summary of Domestic Industry Investments in Labor and Capital**

Tables 3 and 4 below summarize CGI's total domestic and foreign investments in labor and capital, respectively, from 2013 through the filing of the Complaint, that are attributable to the 223 DI Products.

CGI's domestic investments in labor and capital total approximately [redacted] under the original calculation and approximately [redacted] under Mr. Thomas' Alternative Calculation.

**Table 3: CGI's Domestic Labor and Capital Investments in the 223 DI Products**

| | Initial Thomas Report | Alternate Calculation |
|---|---|---|
| **Engineering** | [redacted] | |
| **Technical Service Center** | | |
| **Total Domestic Investments** | | |

(Submission at 18 (citing MSD, SUMF ¶ 124; MSD, Thomas Initial Report at Ex. 5B; Submission, SSUMF ¶ 141; Submission, Thomas Supp. Decl. ¶ 61).).

CGI's foreign investments in labor and capital total approximately [redacted] under the original calculation and approximately [redacted] under Mr. Thomas' and CGI's Alternative Calculation.

**Table 4: CGI's Foreign Labor and Capital Investments in the 223 DI Products**

| | Initial Thomas Report | Alternate Calculation |
|---|---|---|
| **Engineering** | [redacted] | |
| **Technical Service Center** | | |
| **Total Foreign Investments** | | |

(*Id.* (citing Submission, SSUMF ¶¶ 146-147; Submission, Thomas Supp. Decl. ¶ 62, Alternate Exhibit 5).).

### D. CGI's Domestic Industry Investments Are Qualitatively Significant Under Section 337(a)(3)(A) and (B)

CGI's domestic industry activities are qualitatively significant. CGI's engineering, research and development, and technical service and support are critical to the development, commercialization, and sale of CGI's DI Products in the United States. (MSD, Robin Decl. ¶ 20; MSD, SUMF ¶ 6.). CGI's domestic investments in developing, designing and engineering its DI Products are foundational to those products. (MSD, Robin Decl., ¶¶ 5-6, 8; MSD, SUMF ¶¶ 6-7.). Moreover, as a result of CGI's innovations in development of GDO technology, CGI has received industry awards. (MSD, Robin Decl., ¶¶ 5-6, 8; MSD, SUMF ¶¶ 6-7.).

From 2013 to 2017, CGI's sales of the DI Products have [redacted] in absolute terms, while they also have accounted for an [redacted] of CGI's total sales of GDOs. (MSD, SUMF ¶¶ 68-70; MSD, Thomas Initial Report, ¶¶ 26-28, Exs. 4, 10.). Similarly, CGI carries out its technical service and support activities for the 223 DI Products, including [redacted], int its Tucson Technical Service Center. The identified activities are critical to CGI's commercialization and sale of its 223 DI Products. (MSD, Robin Decl., ¶¶ 16-18, 20.).

Nortek did not contest any of the preceding statements either in its Opposition to CGI's MSD or in its Response to CGI's Submission.

For the foregoing reasons, CGI's DI investments in P&E and labor and capital are qualitatively significant under Sections 337(a)(3)(A) and (B). (*See generally* Opp'n; Resp. to Submission.).

### E. CGI's Domestic Industry Investments Are Quantitavely Significant Under Section 337(a)(3)(A) and (B) Relative to Foreign Expenditures for the 223 DI Products

In quantitative terms, CGI's domestic investments are also significant relative to CGI's foreign expenditures attributable to the 223 DI Products. The comparison of domestic to worldwide expenditures provides a "contextual analysis" that demonstrates significance. *Certain Carburetors and Products Containing Such Carburetors*, Inv. No. 337-TA-1123, Comm'n Op. at 18 (Oct. 11, 2019) (significance can be shown "by comparing a complainant's domestic expenditures to its foreign expenditures.").

Tables 5 and 6 below summarizes CGI's domestic, foreign, and worldwide expenditures attributable to the 223 DI Products for both Mr. Thomas' original and Alternative Calculation, respectively.

**Table 5: Comparison to Total Engineering and Technical Support Center Investments in CGI's DI Products, in Corresponding Activities**

| | DI Product Investments | | | As a % of Total | |
|---|---|---|---|---|---|
| | Domestic | Foreign | Total | Domestic | Foreign |
| Subsection (A) | | | | | |
| Subsection (B) | | | | | |
| Subsection (C) | | | | | |

**Table 6: Alternative Calculations: Comparison to Total Engineering and Technical Support Center Investments in the DI Products, in Corresponding Activities**

| | DI Product Investments | | | As a % of Total | |
|---|---|---|---|---|---|
| | Domestic | Foreign | Total | Domestic | Foreign |
| Subsection (A) | | | | | |
| Subsection (B) | | | | | |
| Subsection (C) | | | | | |

(Submission at 23 (citing MSD, Thomas Initial Report, Ex. 15; Submission, Thomas Supp. Decl. ¶ 75, Alternate Exhibit 15).).

### 1. Subsection (A): Investments in Plant and Equipment

CGI has presented evidence that the of its P&E expenditures related to the 223 DI Products are domestic.

In his Initial Report, Mr. Thomas calculated that CGI's total worldwide P&E expenditures attributed to the GDO DI Products from 2013 to the filing of the Complaint totaled approximately . (MSD, Thomas Initial Report, ¶¶ 111-112, Ex. 5; MSD, SUMF ¶ 126.). Of these total worldwide plant and equipment expenditures, approximately , or of the total, were domestic (incurred in the United States), while approximately , or of the total, were foreign (incurred outside the United States). (MSD, Thomas Initial Report, ¶ 108, Ex. 15; MSD, SUMF ¶ 126; Submission, Thomas Supp. Decl. ¶¶ 72, 75.

In his Alternative Calculation, using revised allocation ratios, Mr. Thomas calculated that CGI's worldwide investments in plant and equipment attributed to the GDO DI Products from 2013 to the filing of the Complaint totaled approximately . (Submission, Thomas Supp. Decl. ¶¶ 72, 75, Alternate Exhibit 15.). Of CGI's total worldwide plant and equipment expenditures, approximately , or of the total, were domestic (incurred in the

United States), while approximately [redacted], or only [redacted] of the total, were foreign (incurred outside the United States). (Submission, Thomas Supp. Decl. ¶¶ 72, 75, Alternate Exhibit 15.).

Nortek did not dispute Mr. Thomas' calculations. Rather, Nortek argued that CGI's contextual analysis relating to its Subparagraph (A) and (B) investments is wrong because CGI did not consider the cost of manufacturing the 223 DI Products in Mexico. (Opp'n at 3; Resp. to Submission at 13.). Nortek failed to identify Commission precedent that would have required CGI to include such costs. (Resp. to Submission at 13-17.).

For the reasons discussed above, CGI's DI P&E investments are quantitively significant under Section 337(a)(3)(A) alone and even in comparison with its foreign expenditures for the 223 DI Products.

**2. Subsection (B): Investments in Labor or Capital**

CGI also presented evidence that the [redacted] of CGI's labor and capital expenditures for its engineering and technical support work related to the DI Products also occurs in the United States.

In his Initial Report, Mr. Thomas calculated that Chamberlain's total worldwide labor and capital expenditures attributed to the GDO DI Products from 2013 to the filing of the Complaint totaled approximately [redacted]. (MSD, Thomas Initial Report, ¶¶ 115-116, Ex. 5; MSD, SUMF ¶ 126.). Of CGI's total worldwide labor and capital expenditures, approximately [redacted] of the total, were domestic (incurred in the United States), while approximately [redacted] of the total, were foreign (incurred outside the United States). (MSD, Thomas Initial Report, ¶ 108, Ex. 15; MSD, SUMF ¶ 126; Submission, Thomas Supp. Decl. ¶¶ 72, 75.).

In his Alternative Calculation, and using revised allocation ratios, Mr. Thomas calculated that CGI's worldwide investments in labor and capital attributed to its GDO DI Products from 2013 to the filing of the Complaint totaled approximately . (Submission, Thomas Supp. Decl. ¶¶ 73, 75, Alternate Exhibit 15.). Of CGI's total worldwide labor and capital expenditures, approximately of the total, were domestic (incurred in the United States), while approximately , or only of the total, were foreign (incurred outside the United States). (Submission, Thomas Supp. Decl. ¶¶ 73, 75, Alternate Exhibit 15.).

Again, Nortek did not contest Mr. Thomas' calculations. Instead, Nortek made the same general objection as it did above, that is that CGI should have included its costs of manufacturing the 223 DI products in Mexico. (Opp'n at 3; Resp. to Submission at 13.). Nortek failed to identify Commission precedent that would have required CGI to include such costs in its allocations. (Resp. to Submission at 13-17.).

For the reasons discussed above, CGI's DI investments in labor and capital are quantitively significant under Section 337(a)(3)(B) both alone and in comparison with its foreign expenditures for the 223 DI Products. As a percentage of CGI's worldwide labor and capital investments, CGI's domestic investments in its 223 DI Products also are significant.

## V. CONCLUSION

This Remand Initial Determination on Violation of Section 337 of the Tariff Act of 1930 is certified to the Commission. All orders and documents, filed with the Secretary, including the exhibit lists enumerating the exhibits received into evidence in this Investigation, that are part of the record, as defined in 19 C.F.R. § 210.38(a), are not certified, since they are already in the Commission's possession in accordance with Commission Rules. *See* 19 C.F.R. § 210.38(a). In

accordance with 19 C.F.R. § 210.39(c), all material found to be confidential under 19 C.F.R. § 210.5 is to be given *in camera* treatment.

After the Parties have provided proposed redactions of confidential business information ("CBI") that have been evaluated and accepted, the Secretary shall serve a public version of this ID upon all parties of record. The Secretary shall serve a confidential version upon counsel who are signatories to the Protective Order (Order No. 1) issued in this Investigation.

Pursuant to 19 C.F.R. § 210.42(h), this Remand Initial Determination shall become the determination of the Commission unless a party files a petition for review pursuant to 19 C.F.R. § 210.43(a) or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion a review of the Initial Determination or certain issues therein.

Within seven (7) business days of the date of this document, each party shall submit to the Office of the Administrative Law Judges through McNamara337@usitc.gov a statement whether or not it seeks to have any confidential portion of this document (including Charts A and B) redacted from the public version.[19] That is the courtesy copy pursuant to Ground Rule 1.3.2. Any party seeking redactions to the public version must submit to this office two (2) copies of a proposed public version of this document pursuant to Ground Rule 1.10 with yellow highlighting clearly indicating any portion asserted to contain confidential business information.

The Parties' submissions concerning the public version of this document need not be

[19] Parties that do not seek to have any portion of this Order redacted are still required to submit a statement to this effect.

filed with the Commission Secretary.

**SO ORDERED.**

MaryJoan McNamara
Administrative Law Judge

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **INITIAL DETERMINATION** has been served upon the following parties as indicated, on August 6, 2020.

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

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**On Behalf of Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems LLC. f/k/a Gates That Open, LLC:**

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☒ Other: Email Notification of Availability for Download

**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

| **In the Matter of** | |
|---|---|
| **CERTAIN MOVABLE BARRIER OPERATION SYSTEMS AND COMPONENTS THEREOF** | Investigation No. 337-TA-1118 |

# NOTICE OF A COMMISSION FINAL DETERMINATION FINDING NO VIOLATION OF SECTION 337 AS TO TWO PATENTS, REMANDING FOR FURTHER PROCEEDINGS AS TO ONE PATENT, AND DENYING COMPLAINANT'S REQUEST TO REMAND AN ORDER AWARDING MONETARY SANCTIONS; REQUEST FOR WRITTEN SUBMISSIONS

**AGENCY:** U.S. International Trade Commission.

**ACTION:** Notice.

**SUMMARY:** Notice is hereby given that the U.S. International Trade Commission (the "Commission") has determined to: (1) adopt the findings of the final initial determination ("ID") in part and find no violation of Section 337 as to U.S. Patent Nos. 8,587,404 ("the '404 patent") and 6,741,052 ("the '052 patent"); (2) vacate Order No. 38 granting summary determination that the economic prong of the domestic industry requirement has been satisfied and remand the economic prong issue to the presiding administrative law judge ("ALJ") for further proceedings with respect to U.S. Patent No. 7,755,223 ("the '223 patent"); (3) deny complainant's request to remand Order No. 37 awarding respondents monetary sanctions; and (4) direct the parties to supplement their previous submissions on remedy and bonding with respect to the '223 patent, should the Commission determine there is a violation of Section 337 with respect to that patent.

**FOR FURTHER INFORMATION CONTACT:** Carl P. Bretscher, Office of the General Counsel, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, telephone (202) 205-2382. Copies of non-confidential documents filed in connection with this investigation may be viewed on the Commission's electronic docket system ("EDIS") at https://edis.usitc.gov. For help accessing EDIS, please email EDIS3Help@usitc.gov. General information concerning the Commission may also be obtained by accessing its Internet server at https://www.usitc.gov. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal, telephone (202) 205-1810.

**SUPPLEMENTARY INFORMATION:** On June 11, 2018, the Commission instituted the present investigation based on a complaint and supplement thereto filed by The Chamberlain Group, Inc. ("CGI") of Oak Brook, Illinois. 83 FR 27020-21 (June 11, 2018). The complaint, as supplemented, alleges a violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. 1337 ("Section 337"), in the importation, sale for importation, or sale in the United States after importation of certain movable barrier operator systems that purportedly infringe one or more of the asserted claims of the '404 patent, '223 patent, and '052 patent. *Id*. The Commission's notice of investigation named Nortek Security & Control, LLC of Carlsbad, CA;

Nortek, Inc. of Providence, RI; and GTO Access Systems, LLC of Tallahassee, FL (collectively, "Nortek") as respondents. 83 FR at 270721. The Office of Unfair Import Investigations was not named as a party to this investigation. *See id.*

The Commission partially terminated the investigation with respect to certain patent claims withdrawn by CGI. *See* Order No. 16 (Feb. 5, 2019), *not rev'd*, Comm'n Notice (March 6, 2019); Order No. 27 (June 7, 2019), *not rev'd*, Comm'n Notice (June 27, 2019); Order No. 31 (July 30, 2019), *not rev'd*, Comm'n Notice (Aug. 19, 2019); Order No. 32 (Sept. 27, 2019), *not rev'd*, Comm'n Notice (Oct. 17, 2019). The only asserted claims still at issue are claim 11 of the '404 patent, claims 1 and 21 of the '223 patent, and claim 1 of the '052 patent.

On June 5, 2019, the presiding administrative law judge ("ALJ") issued a *Markman* order (Order No. 25) construing the claim terms in dispute.

On December 12, 2018, CGI filed a motion for summary determination, pursuant to 19 CFR 210.18(a), that it has satisfied the economic prong of the domestic industry requirement. Nortek filed a response opposing the motion on February 11, 2019. The ALJ held a teleconference with the parties on May 31, 2019. On June 6, 2019, the ALJ issued a notice advising the parties that the motion would be granted, and a formal written order would be issued later. Order No. 26 (June 6, 2019).

The ALJ held an evidentiary hearing on June 10-14, 2019.

On November 20, 2019, the ALJ issued Order No. 37 making a "preliminary monetary sanctions award" to Nortek to compensate for travel and deposition-related expenses, court recording fees, and attorney preparation time resulting from CGI's late production of documents.

On November 25, 2019, the ALJ issued the two subject IDs. The first ID (Order No. 38) grants CGI's motion for summary determination that CGI has satisfied the economic prong of the domestic industry requirement, pursuant to 19 CFR 210.42(c). The second is the final ID, which finds no violation of Section 337 because: (i) Nortek has not infringed asserted claim 11 of the '404 patent; (ii) Nortek has not infringed asserted claims 1 or 21 of the '223 patent and CGI does not satisfy the technical prong of the domestic industry requirement with respect to that patent; and (iii) although certain accused products satisfy asserted claim 1 of the '052 patent, that claim is invalid. ID at 1, 286-87. The final ID contains the recommended determination ("RD") on remedy and bonding recommending that, should the Commission reverse these findings and determine there is a violation of Section 337, the Commission issue a limited exclusion order and cease and desist orders against Nortek and impose a bond of 100 percent of the entered value of covered articles during the period of Presidential review. *Id.* at 277-86.

On December 4, 2019, Nortek filed a petition for review and CGI filed a contingent petition for review of Order No. 38 granting summary determination that the economic prong has been satisfied. On December 9, 2019, CGI filed a petition for review of the final ID, while Nortek filed a contingent petition for review of the final ID.

On December 16, 2019, the Commission issued a notice of its determination to extend the deadline for determining whether to review Order No. 38 to coincide with the deadline for determining whether to review the final ID. Comm'n Notice (Dec. 16, 2019).

On December 18, 2019, the Commission issued a notice soliciting comments on the public interest from the public. 84 FR 70998-99 (Dec. 26, 2019). The Commission received no responses from the public. Also, no party filed a submission on the public interest, pursuant to 19 CFR 210.50(a)(4).

On February 19, 2020, the Commission issued a notice of its determination to review Order No. 38 and the final ID in part. 85 FR 10723-26 (Feb. 25, 2020). The Commission asked the parties for further briefing on certain violation issues and on remedy, the public interest, and bonding. *Id.* The parties submitted their initial briefs in response to the Commission's notice on March 4, 2020, and their reply briefs on March 11, 2020.

On March 27, 2020, CGI filed a "request" to remand Order No. 37, the "preliminary monetary sanctions award," to the ALJ for a final ruling. Nortek filed its opposition to CGI's request on April 1, 2020.

On April 20, 2020, the Commission extended the target date for completion of this investigation to May 18, 2020.

Having reviewed the record in this investigation, including the final ID, Order Nos. 37 and 38, and the parties' submissions, the Commission has made the following determinations:

(1) The Commission has determined to adopt the ID's findings with respect to the '404 patent that: (a) Nortek does not infringe claim 11 of the '404 patent; (b) CGI satisfies the technical prong of the domestic industry requirement with respect to that patent; and (c) there is no violation of Section 337 with respect to the '404 patent. The Commission takes no position on whether claim 11 of the '404 patent is invalid as abstract under 35 U.S.C. 101.

(2) The Commission has determined to adopt the ID's findings with respect to the '052 patent that: (a) claim 1 is directly and indirectly infringed but only with respect to Nortek's original gate operator products (Commissioner Schmidtlein does not join the majority's finding that Nortek infringes claim 1 of the '052 patent, but instead she takes no position on that question); (b) CGI satisfies the technical prong of the domestic industry requirement with respect to claim 1; (c) claim 1 is invalid as obvious under 35 U.S.C. 103; and (d) there is no violation of Section 337 with respect to the '052 patent.

(3) The Commission has determined to vacate Order No. 38, which grants summary determination that CGI has satisfied the economic prong of the domestic industry requirement, and to remand the economic prong issue to the presiding ALJ for further proceedings with respect to the '223 patent.

(4) The Commission has determined to deny CGI's untimely request to remand Order No. 37 for a final ruling on its "preliminary monetary sanctions award." The Commission has determined to adopt Order No. 37 as a final order.

(5) The Commission again directs CGI to identify and explain, from the record, articles that it contends are "components of" the subject products, and thus

potentially covered by the proposed remedial orders, if imported separately from the subject products. *See* 85 FR at 10725. Failure to provide this information may result in waiver of any remedy directed to "components of" the subject products, in the event any violation may be found. The Commission further directs the parties to revise their previous submissions, if needed, regarding HTSUS subheadings under which the subject products are imported, bond rates, and domestic inventory and/or domestic operations, in the event the Commission were to find a violation only with respect to the '223 patent. The parties are directed to brief only these issues, as may be needed, and not to brief any other issues relating to remedy or violation. The parties' initial briefs are due 10 days after issuance of the Remand Initial Determination ("RID") concerning the economic prong issue, pursuant to Item (3), above. The parties' response briefs are due 5 days thereafter.

The reviewed issues with respect to the '223 patent remain under review pending the RID on the economic prong of the domestic industry requirement.

The authority for the Commission's determination is contained in Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in part 210 of the Commission's Rules of Practice and Procedure (19 CFR part 210).

Persons filing written submissions must file the original documents electronically on or before the deadlines stated above. The Commission's paper filing requirements in 19 CFR 210.4(f) are currently waived. 85 FR 15798 (March 19, 2020).

By order of the Commission.

Lisa R. Barton
Secretary to the Commission

Issued: April 22, 2020

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served upon the following parties as indicated, on April 22, 2020.

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

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☒ Other: Email Notification of Availability for Download

**On Behalf of Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems LLC. f/k/a Gates That Open, LLC:**

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**UNITED STATES INTERNATIONAL TRADE COMMISSION**
**Washington, D.C.**

| **In the Matter of** | |
|---|---|
| **CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Investigation No. 337-TA-1118** |

**NOTICE OF A COMMISSION DETERMINATION TO REVIEW A FINAL INITIAL DETERMINATION IN PART FINDING NO VIOLATION OF SECTION 337 AND ORDER NO. 38 GRANTING SUMMARY DETERMINATION THAT THE ECONOMIC PRONG HAS BEEN SATISFIED; REQUEST FOR WRITTEN SUBMISSIONS ON THE ISSUES UNDER REVIEW AND ON REMEDY, PUBLIC INTEREST, AND BONDING**

**AGENCY:** U.S. International Trade Commission.

**ACTION:** Notice.

**SUMMARY:** Notice is hereby given that the U.S. International Trade Commission (the "Commission") has determined to review in part the final Initial Determination ("ID") issued in this case as well as Order No. 38 granting summary determination that the economic prong of the domestic industry requirement has been satisfied. The Commission requests briefing from the parties on the issues under review. The Commission also requests written submissions from the parties, interested government agencies, and interested persons on the issues of remedy, the public interest, and bonding.

**FOR FURTHER INFORMATION CONTACT:** Carl P. Bretscher, Office of the General Counsel, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, telephone (202) 205-2382. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (*https://www.usitc.gov*). The public record for this investigation may be viewed on the Commission's Electronic Docket Information System ("EDIS") (*https://edis.usitc.gov*). Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal, telephone (202) 205-1810.

**SUPPLEMENTARY INFORMATION:** On June 11, 2018, the Commission instituted the present investigation based on a complaint and supplement thereto filed by The Chamberlain Group, Inc. ("Chamberlain") of Oak Brook, Illinois. 83 FR 27020-21 (June 11, 2018). The complaint, as supplemented, alleges a violation of 19 U.S.C. 1337, as amended ("Section 337"), in the importation, sale for importation, or sale in the United States after importation of certain movable barrier operator systems that purportedly infringe one or more of the asserted claims of Chamberlain's U.S. Patent Nos. 8,587,404 ("the '404 patent"); 7,755,223 ("the '223 patent"); and 6,741,052 ("the '052 patent"). *Id.* The Commission has partially terminated the investigation with respect to certain patent claims withdrawn by Chamberlain. *See* Order No. 16 (Feb. 5, 2019), *not rev'd*, Comm'n Notice (March 6, 2019); Order No. 27 (June 7, 2019), *not rev'd*, Comm'n Notice (June 27, 2019); Order No. 31 (July 30, 2019), *not rev'd*, Comm'n Notice (Aug. 19, 2019); Order No. 32 (Sept. 27, 2019), *not rev'd*, Comm'n Notice (Oct. 17, 2019). The only asserted claims still at issue are claim 11 of the '404 patent, claims 1 and 21 of the '223 patent, and claim 1 of the '052 patent.

The Commission's notice of investigation named Nortek Security & Control, LLC of Carlsbad, CA; Nortek, Inc. of Providence, RI; and GTO Access Systems, LLC of Tallahassee, FL (collectively, "Nortek") as respondents. 83 FR at 270721. The Office of Unfair Import Investigations was not named as a party to this investigation. *See id.*

The parties filed their *Markman* briefs on November 13, 2018, and a revised claim construction chart on February 8, 2019. On June 5, 2019, the presiding administrative law judge ("ALJ") issued a *Markman* order (Order No. 25) construing the claim terms in dispute.

On December 12, 2018, Chamberlain filed a motion for summary determination, pursuant to 19 CFR 210.18(a), that it has satisfied the economic prong of the domestic industry requirement. Nortek filed a response opposing the motion on February 11, 2019. The ALJ held a teleconference with the parties on May 31, 2019. On June 6, 2019, the ALJ issued a notice advising the parties that the motion would be granted and a formal written order would be issued later. Order No. 26 (June 6, 2019).

The ALJ held a prehearing conference and evidentiary hearing on the issues in dispute on June 10-14, 2019. The parties filed their initial post-hearing briefs on July 11, 2019, and their reply briefs on August 16, 2019. On October 11, 2019, the ALJ issued Order No. 35, which extended the target date for completion of this investigation by 27 business days to March 25, 2020, and the due date for issuance of the final ID to November 25, 2019. Order No. 35 (Oct. 1, 2019), *not rev'd*, Comm'n Notice (Nov. 5, 2019).

On November 25, 2019, the ALJ issued two IDs. The first (Order No. 38) grants a motion for summary determination that the economic prong of the domestic industry requirement has been satisfied, pursuant to 19 CFR 210.42(c). The second is the final Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond. The final ID finds no violation of Section 337 because the asserted claims of the Chamberlain patents are either invalid or not infringed, and, in the case of the '223 patent, the technical prong of the domestic industry requirement has not been met. ID at 1, 286-87. Should the Commission reverse these findings and determine there is a violation of Section 337, the RD recommends issuing a limited exclusion order and cease and desist orders and imposing a bond in the amount of 100 percent during the period of Presidential review. RD at 277-86.

On December 4, 2019, Nortek filed a petition for review and Chamberlain filed a contingent petition for review of Order No. 38 granting summary determination that the economic prong has been satisfied. On December 9, 2019, Chamberlain filed a petition for review of the final ID, while Nortek filed a contingent petition for review of the final ID. On December 16, 2019, the Commission issued a notice of its determination to extend the deadline for determining whether to review Order No. 38 to January 24, 2019, to coincide with the deadline for determining whether to review the final ID. Comm'n Notice (Dec. 16, 2019).

On December 18, 2019, the Commission issued a notice soliciting comments on the public interest from the public. 84 Fed. Reg. 70998-99 (Dec. 26, 2019). No responses were received. Similarly, no party filed a submission, pursuant to 19 CFR 210.50(a)(4).

On January 23, 2020, the Commission extended the deadline for determining whether to review the final ID and Order No. 38 to February 14, 2020. Comm'n Notice (Jan. 23, 2020). The Commission also extended the target date to April 20, 2020. *Id.* On February 14, 2020, the Commission extended the deadline for determining whether to review the final ID and Order No. 38 to February 19, 2020. Comm'n Notice (Feb. 14, 2020). The Commission left the April 20, 2020, target date unchanged. *Id.*

Having reviewed the record in this investigation, including the final ID, Order No. 38, Order No. 25 (*Markman* order), and the parties' petitions and responses thereto, the Commission has determined to review Order No. 38 and the final ID in part, as follows.

With regard to the '404 patent, the Commission has determined to review the ID's claim constructions and application of those constructions, infringement and technical prong findings, and patent-eligibility findings.

With regard to the '223 patent, the Commission has determined to review the ID's finding of no infringement, particularly with respect to the application of the term "operates" in this context. The Commission has similarly determined to review the ID's finding that the asserted domestic industry products do not practice the '223 patent claims.

With regard to the '052 patent, the Commission has determined to review the ID's findings with respect to direct infringement, indirect infringement, technical prong, and obviousness.

The Commission has further determined to review Order No. 38 granting summary determination that the economic prong has been satisfied in this investigation.

The Commission has determined not to review the remaining findings in the ID.

The parties are asked to provide additional briefing on the following issues regarding the '223 and '052 patents. For each argument presented, the parties' submissions should include whether and how that argument was presented and preserved in the proceedings before the ALJ, in conformity with the ALJ's Ground Rules (Order No. 2), with citations to the record:

A. With regard to the '404 patent, please discuss whether the ID correctly found that claim 11 is not directed to an abstract idea and that it lacks an inventive concept. Does the claimed system use off-the-shelf technology or a specific implementation of a communication scheme? Please also discuss *SIPCO, LLC v. Emerson Elec. Co.*, 939 F.3d 1301, 1312 (Fed. Cir. 2019) and *Certain Road Construction Machines and Components Thereof*, Inv. No. 337-TA-1088, Comm'n Op. (June 27, 2019).

B. With regard to claims 1 and 21 of the '223 patent, please explain how a person skilled in the art would apply the plain and ordinary meaning of the term "operates" in the context of this patent and products at issue, and whether in this context "the obstacle detector operates using a second energy usage . . ." if the detector can be awoken to perform a function in the higher energy "first mode of energy usage."

C. With regard to indirect infringement, please explain whether there is a preponderance of the evidence that Nortek induces indirect infringement of the '052 patent, with particular attention to evidence showing the relevant products or components that Nortek imports into the United States (*e.g.*, gate operators, garage door operators, or controllers); whether or to what extent those imported products or components are assembled into final accused products; where final assembly of the accused products occurs (inside or outside the United States); which party or parties (*e.g.*, Nortek, its customers, etc.) perform such final assembly; and any other matters the parties deem relevant to review of indirect infringement.

D. With regard to the '052 patent, please explain whether the evidence supports finding a motivation to use a potentiometer or other means to manually adjust force thresholds that

were previously automatically determined, or whether the prior art teaches away from such a combination, paying particular attention to the Hormann reference (U.S. Patent No. 4,625,291), the Schindler reference (U.S. Patent No. 4,638,433), technology and background of potentiometers, and any other relevant evidence that was timely raised in this investigation.

E. With regard to Order No. 38, explain whether there is a preponderance of evidence that Chamberlain has satisfied the economic prong requirement for the '404 patent, '223 patent or '052 patent – each patent standing alone – as a matter of law. In answering this question be sure to address the contextual analysis required by Commission precedent. *See, e.g.*, *Certain Carburetors and Products Containing Such Carburetors*, Inv. No. 337-TA-1123, Comm'n Op. at 17-19 (Oct. 28, 2019).

The parties are requested to brief only the discrete issues identified above, with reference to the applicable law and evidentiary record. The parties are not to brief any other issues on review, which have already been adequately presented in the parties' previous filings.

In connection with the final disposition of this investigation, the Commission may issue: (1) an exclusion order that could result in the exclusion of the subject articles from entry into the United States, and/or (2) a cease-and-desist order that could result in the respondent being required to cease and desist from engaging in unfair acts in the importation and sale of such articles. Accordingly, the Commission is interested in receiving written submissions that address the form of remedy, if any, that should be ordered. If a party seeks exclusion of an article from entry into the United States for purposes other than entry for consumption, the party should so indicate and provide information establishing that activities involving other types of entry either are adversely affecting it or likely to do so. For background, *see Certain Devices for Connecting Computers via Telephone Lines*, Inv. No. 337-TA-360, USITC Pub. No. 2843, Comm'n Op. at 7-10 (December 1994). In addition, if a party seeks issuance of any cease and desist orders, the written submissions should address that request in the context of recent Commission opinions, including those in *Certain Arrowheads with Deploying Blades and Components Thereof and Packaging Therefor*, Inv. No. 337-TA-977, Comm'n Op. (Apr. 28, 2017) and *Certain Electric Skin Care Devices, Brushes and Chargers Therefor, and Kits Containing the Same*, Inv. No. 337-TA-959, Comm'n Op. (Feb. 13, 2017). Specifically, if Complainant seeks a cease and desist order against a respondent, the written submissions should respond to the following requests:

1. Please identify with citations to the record any information regarding commercially significant inventory in the United States as to each respondent against whom a cease and desist order is sought. If Complainant also relies on other significant domestic operations that could undercut the remedy provided by an exclusion order, please identify with citations to the record such information as to each respondent against whom a cease and desist order is sought.

2. In relation to the infringing products, please identify any information in the record, including allegations in the pleadings, that addresses the existence of any domestic inventory, any domestic operations, or any sales-related activity directed at the United States for each respondent against whom a cease and desist order is sought.

3. Please discuss any other basis upon which the Commission could enter a cease and desist order.

The statute requires the Commission to consider the effects of any remedy upon the public interest. The public interest factors the Commission will consider include the effect that an exclusion

order and/or cease-and-desist order would have on: (1) the public health and welfare; (2) competitive conditions in the U.S. economy; (3) U.S. production of articles that are like or directly competitive with those that are subject to investigation; and (4) U.S. consumers. The Commission is therefore interested in receiving written submissions that address the aforementioned public interest factors in the context of this investigation.

If the Commission orders some form of remedy, the U.S. Trade Representative, as delegated by the President, has 60 days to approve, disapprove, or take no action on the Commission's determination. *See* Presidential Memorandum of July 21, 2005. 70 FR 43251 (July 26, 2005). During this period, the subject articles would be entitled to enter the United States under bond, in an amount determined by the Commission and prescribed by the Secretary of the Treasury. The Commission is therefore interested in receiving submissions concerning the amount of the bond that should be imposed if a remedy is ordered.

**WRITTEN SUBMISSIONS:** The parties to this investigation are requested to file written submissions on the issues identified in this Notice. In addition, parties to the investigation, interested government agencies, and any other interested parties are encouraged to file written submissions on the issues of remedy, the public interest, and bonding. Such initial submissions should include views on the recommended determination by the ALJ on the issues of remedy and bonding. Complainant is requested to identify the form of remedy sought and to submit proposed remedial orders for the Commission's consideration in its initial written submission. Complainant is also requested to state the date that the patents expire and the HTSUS numbers under which the accused products are imported. Complainant is further requested to supply the names of known importers of the Respondents' products at issue in this investigation. Complainant is additionally requested to identify and explain, from the record, articles that are "components of" the subject products, and thus covered by the proposed remedial orders, if imported separately from the subject products

The parties' written submissions and proposed remedial orders must be filed no later than the close of business on **March 4, 2020**. Reply submissions must be filed no later than the close of business on **March 11, 2020**. Opening submissions are limited to 40 pages. Reply submissions are limited to 30 pages. Third-party submissions should be filed no later than the close of business on **March 4, 2020**, and may not exceed 10 pages, not including any attachments. No further submissions on any of these issues will be permitted unless otherwise ordered by the Commission.

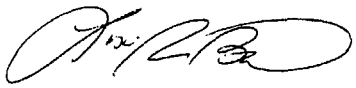
Persons filing written submissions must file the original document electronically on or before the deadline stated above and submit eight (8) true paper copies to the Office of the Secretary by noon the next day pursuant to section 210.4(f) of the Commission's Rules of Practice and Procedure (19 CFR 210.4(f)). Submissions should refer to the investigation number ("Inv. No. 337-TA-1118") in a prominent place on the cover page and/or first page. (*See Handbook for Electronic Filing Procedures, https://www.usitc.gov/documents/ handbook_on_filing_procedures.pdf.*). Persons with questions regarding filing should contact the Secretary (202-205-2000).

Any person desiring to submit a document to the Commission in confidence must request confidential treatment. All such requests should be directed to the Secretary to the Commission and must include a full statement of the reasons why the Commission should grant such treatment. *See* 19 CFR 201.6. Documents for which confidential treatment by the Commission is properly sought will be treated accordingly. All information, including confidential business information and documents for which confidential treatment is properly sought, submitted to the Commission for purposes of this Investigation may be disclosed to and used: (i) By the Commission, its employees and Offices, and contract personnel (a) for developing or maintaining the records of this or a related proceeding, or (b) in internal investigations, audits, reviews, and evaluations relating to the programs, personnel, and operations of the Commission including under 5 U.S.C. Appendix 3; or (ii) by U.S. government employees and contract

personnel, solely for cybersecurity purposes. All contract personnel will sign appropriate nondisclosure agreements. All non-confidential written submissions will be available for public inspection at the Office of the Secretary and on EDIS.

The authority for the Commission's determination is contained in Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in part 210 of the Commission's Rules of Practice and Procedure (19 CFR part 210).

By order of the Commission.



Lisa R. Barton
Secretary to the Commission

Issued: February 19, 2020

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served upon the following parties as indicated, on February 19, 2020.

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

David C. Marcus, Esq.
**WILMER CUTLER PICKERING HALE AND DORR LLP**
350 South Grand Avenue, Suite 2100
Los Angeles, CA 90071

☐ Via Hand Delivery
☐ Via Express Delivery
☒ Via First Class Mail
☐ Other:_____

**On Behalf of Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems LLC. f/k/a Gates That Open, LLC:**

Matthew C. Bernstein, Esq.
**PERKINS COIE LLP**
11452 El Camino Real, Suite 300
San Diego, CA 92130

☐ Via Hand Delivery
☐ Via Express Delivery
☒ Via First Class Mail
☐ Other:_____

*Public Version*

**UNITED STATES INTERNATIONAL TRADE COMMISSION**

**Washington, D.C.**

| | |
|---|---|
| **In the Matter of**<br><br>**CERTAIN MOVABLE BARRIER OPERATION SYSTEMS AND COMPONENTS THEREOF** | **Inv. No. 337-TA-1118** |

# INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BOND

**Administrative Law Judge MaryJoan McNamara**

(November 25, 2019)

**Appearances:**

*For the Complainant The Chamberlain Group, Inc.:*

David C. Marcus, Esq.; and James M. Dowd, Esq. of Wilmer Cutler Pickering Hale and Dorr LLP, Los Angeles, CA.

Michael D. Esch, Esq.; and Gregory H. Lantier, Esq. of Wilmer Cutler Pickering Hale and Dorr LLP, Washington, DC.

*For the Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems, LLC f/k/a/ Gates That Open, LLC:*

Matthew C. Bernstein, Esq.; Kevin J. Patariu, Esq.; Joseph P. Reid, Esq.; and Evan S. Day, Esq. of Perkins Coie LLP, San Diego. CA.

James B. Coughlan, Esq. of Perkins Coie LLP, Washington, DC.

## SELECTED SUMMARY FINDINGS

Pursuant to the Notice of Investigation, 83 Fed. Reg. 27020, dated June 11, 2018, this is the Initial Determination ("ID") of the Investigation in the Matter of Certain Movable Barrier Operator Systems and Components Thereof, United States International Trade Commission Investigation No. 337-TA-1118. *See* 19 C.F.R. § 210.42(a).

It is a finding of this ID that Complainant The Chamberlain Group, Inc. ("Complainant" or "CGI") has not proven by a preponderance of evidence that Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems, LLC f/k/a/ Gates That Open, LLC (collectively, "Respondents" or "Nortek") have violated subsection (b) of Section 337 of the Tariff Act of 1930, in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain movable barrier operator systems and components thereof.

It is a finding of this ID that Nortek has not infringed asserted claim 11 of U.S. Patent No. 8,587,404 ("the '404 patent"), and asserted claims 1 and 21 of U.S. Patent No. 7,755,223 ("the '223 patent"). It is also finding of this ID that the asserted claims of the '404 and '223 patents are valid.

It is a finding of this ID that Nortek has infringed asserted claim 1 of U.S. Patent No. 6,741,052 ("the '052 patent"). It is also a finding of this ID that the asserted claim of the '052 patent is invalid.

It is a finding of this ID that one or more of CGI's domestic industry products have satisfied the technical industry prong of the domestic industry requirement for the '404 and '052 patents. It is also a finding of this ID that none of CGI's domestic industry products have

satisfied the technical industry prong of the domestic industry requirement for the '223 patent.[1]

[1] CGI has satisfied the economic prong of the domestic industry requirement under Section 337(a)(3)(B). (*See* Initial Determination, Doc. ID No. 695438 (Nov. 25, 2019).).

## TABLE OF CONTENTS

## ABBREVIATIONS

The following shorthand references to the parties, related U.S. agencies, and related proceedings are used in this Initial Determination:

| | |
|---|---|
| **Complainant or CGI** | Complainant The Chamberlain Group, Inc. |
| **Respondents or Nortek** | Respondents Nortek, Inc., Nortek Security & Control, LLC f/k/a Linear, LLC, and GTO Access Systems, LLC f/k/a/ Gates That Open, LLC, collectively |
| **CBP** | U.S. Customs and Border Protection |
| **PTO** | U.S. Patent and Trademark Office |

The following abbreviations for pleadings, exhibits, briefs, transcripts, and Orders are used in this Initial Determination:

| | |
|---|---|
| **Compl.** | Complaint |
| **Resp.** | Response of Respondents to the Notice of Investigation and Complaint Under Section 337 of the Tariff Act of 1930, as Amended |
| **CX** | Complainant's exhibit |
| **CDX** | Complainant's demonstrative exhibit |
| **CPX** | Complainant's physical exhibit |
| **CPBr.** | Complainant's Pre-Hearing Brief |
| **CBr.** | Complainant's Initial Post-Hearing Brief |
| **CRBr.** | Complainant's Post-Hearing Reply Brief |
| **CPSt.** | Complainant's Pre-Hearing Statement |
| **JX** | Joint exhibit |

| | |
|---|---|
| **RX** | Respondents' exhibit |
| **RDX** | Respondents' demonstrative exhibit |
| **RPX** | Respondents' physical exhibit |
| **RPBr.** | Respondents' Pre-Hearing Brief |
| **RBr.** | Respondents' Initial Post-Hearing Brief |
| **RRBr.** | Respondents' Post-Hearing Reply Brief |
| **RPSt.** | Respondents' Pre-Hearing Statement |
| **Tr.** | Evidentiary hearing transcript |
| **Dep. Tr.** | Deposition transcript |
| **COMBr.** | Complainant's Opening *Markman* Brief |
| **ROMBr.** | Respondents' Opening *Markman* Brief |
| **Joint CC Chart** | Second Revised Joint Claim Construction List (Doc. ID No. 677206 (May 29, 2019)) |
| ***Markman* Order** | Order No. 25 (June 5, 2019) |

The following shorthand references to certain products and patents at issue are used in this Initial Determination:

| | |
|---|---|
| **GDOs** | Garage Door Operators |
| **'404 patent** | U.S. Patent No. 8,587,404 |
| **'223 patent** | U.S. Patent No. 7,755,223 |
| **'052 patent** | U.S. Patent No. 6,741,052 |
| **Asserted Patents** | '404, '223, and '052 patents, collectively |
| **404 Accused** | LDCO850, LDCO852, Amarr840, Amarr860, MM9434K, MM9545M, MM9333H; LDCO850A, LDCO852A, Amarr840A, |

| | |
|---|---|
| **Products** | Amarr860A, MM9434KA, MM9545MA, MM9333HA; Smart DC Megacode Oper 1 Led Light; AFS LDCO850 PVT; DGD LDCO850; 8428.90.0290; DGD LDCO852; Smart DC LDCO852 No Batt; Ent840 1 Led GDO; Ent860 3 Led GDO; and PDS Ultra 900, collectively |
| **223 Accused Products** | LDCO850, LDCO852, LDCO800, Amarr840, Amarr860, MM9434K, MM9545M, MM9333H; LDCO850A, LDCO852A, LDCO800A, Amarr840A, Amarr860A, MM9434KA, MM9545MA, MM9333HA; Smart DC Megacode Oper 1 Led Light; AFS LDCO850 PVT; DGD LDCO850; 8428.90.0290; DGD LDCO852; Smart DC LDCO852 No Batt; Ent840 1 Led GDO; Ent860 3 Led GDO, PDS Ultra 900; 800N, Megacode, DC Operator; 800N, Mega, DC Oper, Pvt, Lbl; 800N, Mega, DC Oper, Pvt Lbl; 800N, MEGA, DC OPER "ASSA ABLOY"; 800N, Megacode, DC Operator, Pvt; GD DEPOT LDCO; and DGD Private Label DC Opener, collectively |
| **052 Accused Products** | LDCO850, LDCO852, LDCO800, Amarr840, Amarr860, MM9545M, MM9434K, MM9333H; LDCO850A, LDCO852A, LDCO800A, Amarr840A, Amarr860A, MM9434KA, MM9545MA, MM9333HA; Smart DC Megacode Oper 1 Led Light; AFS LDCO850 PVT; DGD LDCO850; 8428.90.0290; DGD LDCO852; Smart DC LDCO852 No Batt; Ent840 1 Led GDO; Ent860 3 Led GDO; PDS Ultra 900; 800N, Megacode, DC Operator; 800N, Mega, DC Oper, Pvt, Lbl; 800N, Mega, DC Oper, Pvt Lbl; 800N, MEGA, DC OPER "ASSA ABLOY"; 800N, Megacode, DC Operator, Pvt; GD DEPOT LDCO; DGD Private Label DC Opener; BGU, BGU-D, BGUS, BGUS-D, SG, SG-D, VS-GSLG, GSLG-A, HSLG, SLR, SLC, SLD, SWG, SWR, SWC, SWD, TYM-VS2, TYM 1000, TYM 2000; BGUA, BGU-DA, BGUSA, BGUS-DA, SGA, SG-DA, VS-GSLGA, GLSG-AA, HSLGA, SLRA, SLCA, SLDA, SWGA, SWRA, SWCA, SWDA, TYM-VS2A, TYM-1000A, TYM-2000A; MM371W, MM372W, MM571W, MM572W, and TS571W, collectively |
| **Accused Products** | Accused 404 Products, Accused 223 Products, and Accused 052 Products, collectively |
| **404 DI Products** | 8155W, 8160W, 8160WRGD, 8164W, 8164WAC, 8165W, 8165WRGD, 8355W-267, 8355WRGD, 8360W, 8360WL, 8365W-267, 8365WRGD-267, 8550W, 8550W-267, 8550WL, 8550WL-267, 8550WLRGD, 8550WRGD, 8557W, 8587W, 8587WL, 8587WRGD, B550, B552, B750, B970, B970PLT6, B980, C450, C455, C870, HD750WF, HD950WF, LW9000WF, WD1000WF, WLED-267, 8160, 3043, 54915, 54918, 54920, 54930, 54931, |

| | |
|---|---|
| | 54985, 54990, 55918, 57915, 57918, 8065, 8075, 8155, 8155RGD, 8160RGD, 8165, 8165RGD, 8350, 8355-267, 8355RGD, 8360, 8365-267, 8365RGD-267, 8550, 8550-267, 8557, 8557-267, 8587, 8587RGD, B500, B503, B510, B730, C203, C205, C400, C410, HD210, HD420EV, HD420EVP, HD520EV, HD520EVG, HD520EVP, HD630EVP, HD920EV, HD930EV, HD930EVP, LW2200, LW3000EV, LW3500EV, LW3500EVPLT6, LW5000EV, M885, M8856, PD510, PD512, PD612EV, PD752KEV, PD762EV, WD832KEV, WD832KEVG, WD850KEVG, WD962EV, WD962KEV, WD962KPEV, and WD962MLEV, collectively |
| **223 DI Products** | 8155W, 8160W, 8160WRGD, 8164W, 8164WAC, 8165W, 8165WRGD, 8355W-267, 8355WRGD, 8360W, 8360WL, 8365W-267, 8365WRGD-267, 8550W, 8550W-267, 8550WL, 8550WL-267, 8550WLRGD, 8550WRGD, 8557W, 8587W, 8587WL, 8587WRGD, B550, B552, B750, B970, B970PLT6, B980, C450, C455, C870, HD750WF, HD950WF, LW9000WF, WD1000WF, WLED-267, 8160, 3043, 54915, 54918, 54920, 54930, 54931, 54985, 54990, 55918, 57915, 57918, 8065, 8075, 8155, 8155RGD, 8160RGD, 8165, 8165RGD, 8350, 8355-267, 8355RGD, 8360, 8365-267, 8365RGD-267, 8550, 8550-267, 8557, 8557-267, 8587, 8587RGD, B500, B503, B510, B730, C203, C205, C400, C410, HD210, HD420EV, HD420EVP, HD520EV, HD520EVG, HD520EVP, HD630EVP, HD920EV, HD930EV, HD930EVP, LW2200, LW3000EV, LW3500EV, LW3500EVPLT6, LW5000EV, M885, M8856, PD510, PD512, PD612EV, PD752KEV, PD762EV, WD832KEV, WD832KEVG, WD850KEVG, WD962EV, WD962KEV, WD962KPEV, and WD962MLEV, collectively |
| **052 DI Products** | CSL24U, CSL24UL, CSL24VDC, CSW200101U, CSW200101UL, CSW200501U, CSW200501UL, CSW24U, CSW24UL, CSW24VDC, HCTDCUL, LA4001PKGDC, LA400DC, LA400DCS, LA400PKGU, LA400PKGUL, LA4121PKGDC, LA412DC, LA412DCS, LA412PKGU, LA412PKGUL, LA5001PKGDC, LA500DC, LA500DCS, LA500PKGU, LA500PKGUL, RSL12U, RSL12UL, RSL12VDC, RSW12U, RSW12UL, RSW12VDC, SL3000101U, SL3000101UL, SL3000501U, SL3000501UL, SL585101U, SL585103U, SL585105U, SL585151U, SL585501U, SL585503U, SL595101U, SL595101UL, SL595103U, SL595103UL, SL595105U, SL595105UL, SL595151U, SL595151UL, SL595203U, SL595203UL (CX-0520); SL595205U, and SL595205UL, collectively |

| | |
|---|---|
| **DI Products** | 404 DI Products, 223 DI Products, and 052 DI Products, collectively |

# I. INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BOND

This investigation involves movable barrier operator systems for residential and commercial applications such as residential garage door operators, commercial door operators, gate access solutions, home connectivity products, and related accessories.

## A. Summary of Findings

A summary of this decision's finding is summarized below.

**Table No. 1: Summary of Findings**

| Product | Patent | Claims | Determination |
|---|---|---|---|
| 404 Accused Products | '404 patent | 11 | *No violation (claim 11)*: Claim 11 is valid but not infringed by the 404 Accused Products. |
| 223 Accused Products | '223 patent | 1, 21 | *No violation (claims 1 and 21)*: Claims 1 and 21 are valid but not infringed by the 223 Accused Products. |
| 052 Accused Products | '052 patent | 1 | *No violation (claim 1)*: Claim 1 is infringed by the 052 Accused Products but is invalid. |
| 404 DI Products | '404 patent | 11 | *Satisfied.* |
| 223 DI Products | '223 patent | 1 | *Not satisfied.* |
| 052 DI Products | '052 patent | 1 | *Satisfied.* |

## II. BACKGROUND

### A. Institution and Selected Procedural History

On May 4, 2018, The Chamberlain Group, Inc. filed a complaint ("Complaint") under Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, in which it alleges infringement of claims 7, 11, 16, 17, and 18 of U.S. Patent No. 8,587,404 ("the '404 patent"); claims 1, 2, 9, 13, 14, 18, 19, 20, 21, and 22 of U.S. Patent No. 7,755,223 ("the '223 patent"); and claims 1, 9-15, 22, and 27 of U.S. Patent No. 6,741,052 ("the '052 patent"). (Doc. ID No. 644384 (Compl.) at ¶ 1.3 (May 4, 2017).).

The Commission instituted this Investigation pursuant to subsection (b) of Section 337 of the Tariff Act of 1930, as amended, on June 11, 2018. 83 Fed. Reg. 27020 (June 11, 2018).

The Notice of Investigation ("NOI") names as complainant: The Chamberlain Group, Inc. of Oak Brook, Illinois ("Complainant" or "CGI"). *Id.* at 27021. The NOI names as respondents: Nortek, Inc. of Providence, Rhode Island; Nortek Security & Control, LLC f/k/a Linear, LLC of Carlsbad, California; and GTO Access Systems, LLC f/k/a/ Gates That Open, LLC of Tallahassee, Florida (collectively, "Respondents" or "Nortek," and with CGI, the "Parties"). *Id.*

On June 27, 2018, Nortek filed a response to the Complaint and NOI ("Response"). (Doc. ID No. 648950 (June 27, 2018).). In its Response, Nortek identified eight (8) affirmative defenses ("Nortek's Affirmative Defenses"): (i) Noninfringement; (ii) Invalidity; (iii) Unenforceability; (iv) Prosecution history estoppel; (v) Public interest; (vi) Lack of domestic industry; (viii) Unclean Hands; and (ix) other defenses. (Resp. at 11-19.).

As the result of a series of Initial Determinations ("ID") granting CGI's partial termination of this Investigation against Nortek, the four (4) claims remaining that are the subject

of this decision are claim 11 of the '404 patent, claims 1 and 21 of the '223 patent, and claim 1 of the '052 patent. (*See* Order Nos. 16 (Feb. 6, 2019), 27 (June 7, 2019), 31 (July 30, 2019), 32 (Sept. 27, 2019); Doc. ID Nos. 669245 (Mar. 7, 2019), 679617 (June 27, 2019), 685656 (Aug. 19, 2019).).

CGI and Nortek each filed a *Markman* hearing proposal on November 13, 2018 and November 14, 2018, respectively. (Doc. ID Nos. 661751 (Nov. 13, 2018), 661763 (Nov. 14, 2018).). The Parties agreed that given the straightforward nature of the technology in this Investigation, a *Markman* hearing was not necessary. (Doc. ID Nos. 661751 (Nov. 13, 2018), 661763 (Nov. 14, 2018).). Thus, a *Markman* hearing was not held. On June 5, 2019, a *Markman* Order issued construing the claim terms in dispute.[2] (Order No. 25 ("*Markman* Order") (June 5, 2019).).

CGI filed two (2) motions *in limine* ("MILs"), and two (2) high priority objections ("HPOs"). (Motion Docket Nos. 1118-030 (Apr. 19, 2019), 1118-031 (Apr. 19, 2019); Doc. ID No. 673611 (Apr. 19, 2019).). Nortek filed four (4) MILs. (Motion Docket Nos. 1118-025 (Apr. 19, 2019), 1118-026 (Apr. 19, 2019), 1118-027 (Apr. 19, 2019), 1118-028 (Apr. 19, 2019).).

CGI's and Nortek's MILs and HPOs, and the rulings on these motions, are summarized in Table Nos. 2 and 3 below.

**Table No. 2: CGI's MILs and HPOs**

| MIL/HPO No. | Issue | Ruling |
|---|---|---|
| MIL No. 1 (Motion Docket No. | MIL to exclude hearsay and other evidence unrelated to this Investigation that, under | Denied in part. (Order No. 26 (June 5, 2019) (denying without prejudice part seeking to strike facts on Nortek's |

[2] The Parties did not agree on the construction of any claim terms. (*See, e.g.*, Doc. ID No. 677206 (May 29, 2019).).

| MIL/HPO No. | Issue | Ruling |
|---|---|---|
| 1118-031) | FRE 403, creates unfair prejudice and confuses the issues | unclean hands defense).).<br>Denied. (Doc. ID No. 677777 (June 5, 2019)). |
| MIL No. 2[3]<br>(Motion Docket No. 1118-030) | MIL to preclude Nortek from relying on "Osco System" as prior art | Granted in part, Denied in part. (Doc. ID No. 677777 (June 5, 2019).) "First of all, with respect to complainant's motion in *limine* number, two where respondent did not link a particular source code to a particular 052 sale that incurred before the 052 patent issued, I am granting complainant's motion in *limine* as to that part." (*Id.* at 18:16-21.).<br>"For the moment, I'm going to deny without prejudice the first part of complainant's motion in *limine* number two, but I'm going to come back around on this because I'm going to give both parties a chance to cure some pretty egregious documents." (*Id.* at 19:11-16.). |
| HPO No. 1<br>(Doc. ID No. 673611) | Inadmissible affidavits of third parties containing hearsay and expert opinions | Granted. (Doc. ID No. 677777 (June 5, 2019).). "So I am inclined to strike at this point Ms. McNicholas' and Mr. Hawk's and Mr. Musso's affidavits for everything other than the fact that they authenticated documents." (*Id.* at 26:1-4.). |
| HPO No. 2<br>(Doc. ID No. 673611) | Inadmissible testimony by Respondents' customers | Granted. (Doc. ID No. 677777 (June 5, 2019).). "I think with respect to the second part of hypothetical number two, again, I am inclined to strike them." (*Id.* at 28:11-13.). |

[3] *See also* Doc. ID No. 677966 (Correspondence regarding Complainant's MIL No. 2) (June 6, 2019).

**Table No. 3: Nortek's MILs**

| MIL No. | Issue | Ruling |
|---|---|---|
| MIL No. 1<br>(Motion Docket No. 1118-025) | MIL to prevent Complainant from presenting evidence of infringement or domestic industry based on the doctrine of equivalents | Denied without prejudice. (Doc. ID No. 677777 at 37:7-9 (June 5, 2019).). |
| MIL No. 2[4]<br>(Motion Docket No. 1118-026) | MIL to preclude Complainant from advancing improper expert opinions and contentions | Denied. (Doc. ID No. 677777 (June 5, 2019).).<br>"First of all, with respect to Doctor Subramanian's representative product analysis, I'm going to give you a chance to cure again....Because we're not going to admit lists and lists of the supposedly representative products on either side where there's been no explicit testimony tying them to contentions. They will be stricken. So I'm giving you an opportunity to cure." (*Id.* at 39:10-40:3.).<br>Dr. Subramanian's claim construction was stricken. "I'm granting that part of respondent's motion." (*Id.* at 40:19-20.).<br>The second part of the motion in *limine* was denied without prejudice." (*Id.* at 43:20-44:1.). |
| MIL No. 3[5]<br>(Motion Docket No. 1118-027) | MIL to preserve the status quo regarding information shielded from discovery by privilege | Denied without prejudice. (Doc. ID No. 677777 at 45:10-11 (June 5, 2019).). |
| MIL No. 4<br>(Motion Docket No. 1118-028) | MIL to preclude the admission of testimony and/or evidence regarding unasserted patents, rail | Denied without prejudice. (Doc. ID No. 677777 (June 5, 2019).).<br>"The rail design is not stricken. But |

[4] *See also* Doc. ID No. 675260 (Letter regarding MIL Nos. 2 and 3) (May 7, 2019).

[5] *See also* Doc. ID No. 675260 (Letter regarding MIL Nos. 2 and 3) (May 7, 2019).

| MIL No. | Issue | Ruling |
|---|---|---|
| | design, and the Chicago litigation | ....denied without prejudice." (*Id.* at 50:10-17.).<br>With respect to Unclean Hands defense, Nortek was permitted to proceed conditioned a submission of supporting authority. (*Id.* at 53:2-17.).<br>MR. CHOY: "Your Honor, Mr. Chiaravalloti was asked about a number of documents that show Nortek performing teardowns to study Chamberlain's products with patented features and documents that showed Nortek tracking Chamberlain's patents and prior litigations."<br>JUDGE McNAMARA: "Okay. I will allow that in for those purposes, but you're going to have to make the link. [T] hat part of respondent's motion is denied without prejudice...." (*Id.* at 54:7-55:1.). |

The evidentiary hearing ("Hearing") was held on June 10-13, 23, 2019. (*See* Doc. ID Nos. 678215 (June 11, 2019), 678214 (June 11, 2019), 678371 (June 12, 2019), 678372 (June 12, 2019), 678567 (June 13, 2019), 678569 (June 13, 2019), 680513 (July 9, 2019), 680514 (July 9, 2019); Order No. 17 at App. A (Feb. 7, 2019).).

During the Hearing, Nortek filed two (2) motions to strike ("MTSs") evidence presented during the Hearing. Nortek's MTSs, and rulings on these motions, are summarized in Table No. 4 below.

**Table No. 4: Nortek's MTSs**

| Motion | Issue | Ruling |
|---|---|---|
| Motion Docket No. | Nortek's MTS certain of Dr. | Denied. (Order No. 34 (Sept. 30, |

| Motion | Issue | Ruling |
|---|---|---|
| 1118-037 | Vivek Subramanian's hearing testimony | 2019).). |
| Motion Docket No. 1118-038 | Nortek's MTS certain of Mr. James Fitzgibbon's hearing testimony | Denied. (Order No. 34 (Sept. 30, 2019).). |

## B. The Parties

### 1. Complainant The Chamberlain Group, Inc.

The Chamberlain Group, Inc. ("CGI") is a corporation organized under the laws of the State of Connecticut, with its principal place of business in Oak Brook, Illinois. (*See, e.g.*, Compl. at ¶ 2.1.).

CGI described itself as follows:

> CGI was founded in 1906 and offers innovative movable barrier operator systems including residential garage door operators, commercial door operators, gate access solutions, home connectivity products, and related accessories. CGI is a global leader in designing and delivering innovative movable barrier operator systems for both residential and commercial applications, with products grounded in safety, security, connectivity, and reliability.
>
> * * *
>
> CGI has developed a substantial United States market for its innovative garage door operators and associated products. . . . CGI employs hundreds of people in the United States who are dedicated to the design, research, development, customization, service, repair, and technical support of its garage door operators, commercial door operators, gate access solutions, home connectivity products, and related accessories for United States customers.

(*Id.* at ¶¶ 2.2, 2.4.).

> In 1979, Chamberlain introduced the first infrared sensors for residential GDOs, allowing them to detect persons who might be under a garage door as it is closing and in harm's way. Chamberlain was the first in the industry to use a light delay timer, computer circuitry, and digital radio control.
>
> * * *

> Chamberlain develops, manufactures, and sells products and accessories under the LiftMaster®, Chamberlain®, and other brands.

(CPBr. at 5.).

### 2. Respondents Nortek Security & Control, LLC f/k/a Linear, LLC, Nortek, Inc., and GTO Access Systems, LLC f/k/a/ Gates That Open, LLC

Nortek Security & Control, LLC f/k/a Linear, LLC ("NSC") is a California limited liability company with its principal place of business in Carlsbad, California. (Resp. at ¶ 3.1.). NSC manufactures garage door operators under the Linear brand and certain garage door operators under the Amarr brand. (*Id.* at ¶ 3.2.). Linear is a registered trademark of NSC. (*Id.*). NSC markets Linear products on websites copyrighted by NSC. (*Id.*).

Nortek, Inc. ("NI") is a Delaware corporation with its principal place of business in Atlanta, Georgia. (*Id.* at ¶ 3.4.). NSC is a wholly-owned subsidiary of NI. (*Id.*).

GTO Access Systems, LLC f/k/a Gates That Open, LLC, is a Florida limited liability company having a principal office in Tallahassee, Florida. (*Id.* at ¶ 3.6.). NSC is its managing member. (*Id.*).

Nortek described itself as follows:

> Respondents . . . trace their lineage in the garage door industry back to 1961, when then-Linear Corporation was founded in Los Angeles. Although Linear was a retail operation that sold and installed automatic garage door openers, its founders had a larger vision and expended the company into electronics manufacturing. Throughout the 1960s and 1970s, Linear developed a series of proprietary wireless controls that allowed the company to establish a significant position in the home security industry.
>
> * * *
>
> Linear stock went public in 1983 and the company moved its headquarters to Carlsbad, California, in 1984, where it is still located today. Over the past quarter century, Linear has continued growing and innovating, winning numerous awards for its garage door and security innovations. Linear was acquired by Nortek Incorporated in 1987 and went on to acquire numerous other access control

> companies, including one whose products bear on validity here, the Operator Specialty Company, Inc. ("OSCO").
>
> Today, of the named Respondents, Nortek Security & Control LLC is the operative entity, while Nortek Inc. exists merely as a holding company. GTO Access Systems LLC was acquired in 2005 and folded into Nortek Security & Control.

(RPBr. at 5.).

## III. JURISDICTION, IMPORTATION, AND STANDING

### A. The Commission Has Jurisdiction

To have the authority to decide a case, a court or agency must have both subject matter jurisdiction and jurisdiction over either the parties or the property involved. *See Certain Steel Rod Treating Apparatus and Components Thereof*, Inv. No. 337-TA-97, Comm'n Opinion, 215 U.S.P.Q. 229, 231 (U.S.I.T.C. 1981). For the reasons discussed below, the facts support a finding that the Commission has jurisdiction over this Investigation.

#### 1. Subject Matter Jurisdiction

The Commission has subject matter jurisdiction over this Investigation because Complainants alleged that Respondents have violated 19 U.S.C. §1337(a)(1)(B). *See Amgen v. U. S. Int'l Trade Comm'n*, 902 F.2d 1532, 1536 (Fed. Cir. 1990). Nortek did not contest that the Commission has subject matter jurisdiction. (*See, e.g.*, RPBr. at 9; RBr. at 4-5.).

#### 2. Personal Jurisdiction

Nortek did not dispute that the Commission has personal jurisdiction over Respondents. (*See, e.g.*, RPBr. at 9; RBr. at 4-5.). Moreover, Nortek has appeared and responded to the Complaint and NOI. Nortek has fully participated in this Investigation, which has included participating in discovery and the Hearing, and by filing motions. Thus, the Commission has personal jurisdiction over Nortek. *See, e.g.*, *Certain Microfluidic Devices* ("*Microfluidic Devices*"), Inv. No. 337-TA-1068, Initial Determination, 2018 WL 5279172, at *16 (Sept. 20,

2018); *Certain Windshield Wiper Devices and Components Thereof* ("*Wiper Devices*"), Inv. No. 337-TA-881, Initial Determination at 5 (May 8, 2014) (unreviewed in relevant-part) (Doc. ID No. 534255).

### 3. *In Rem* Jurisdiction

Section 337(a)(1)(B) applies to the "[t]he importation into the United States, the sale for importation, or the sale within the United States after importation" of articles that infringe a valid and enforceable United States patent." 19 U.S.C. § 1337(a)(1)(B). A single instance of importation is sufficient to satisfy the importation requirement of Section 337. *Certain Optical Disc Drives, Components Thereof, and Prods. Containing the Same*, Inv. No. 337-TA-897, Order No. 101 at 3 (Sept. 22, 2014) (citations omitted) (EDIS Doc. 543438).

Nortek did not contest that the Commission has *in rem* jurisdiction and that the importation requirement is satisfied. (*See, e.g.*, RPBr. at 9.).[6] Thus, evidence presented in this Investigation establishes that the Commission has *in rem* jurisdiction over the Accused Products. *See, e.g.*, *Wiper Devices*, Inv. No. 337-TA-881, Initial Determination at 5 (*in rem* jurisdiction exists when importation requirement is satisfied).

## B. CGI Has Standing in the Commission

Jurisdiction also requires standing. *See SiRF Technology, Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1326 (Fed. Cir. 2016) (standing to bring an infringement suit is the same under Commission Rules as it would be in a Federal District Court case); *Certain Optical Disc Drives, Components Thereof and Prods. Containing Same*, Inv. No. 337-TA897, Opinion Remanding the Investigation at 4 (Jan. 7, 2015). Commission Rule 210.12 requires that intellectual-property

[6] For the first time in its Reply Post-Hearing Brief, Nortek raised some argument with respect to the importation of the APeX Gate Operators and APeX controllers. (RRBr. at 6-7.). These arguments are deemed abandoned or withdrawn under Ground Rule 7.2.

based complaints filed by a private complainant "include a showing that at least one complainant is the exclusive license of the subject intellectual property." 19 C.F.R. § 210.12(a)(7).

CGI has standing to bring suit for infringement under Section 337 because CGI owns by assignment the full right, title and interest in the Asserted Patents. (*See* Compl. at Exs. 4 (assignment of the '404 patent to CGI), 5 (assignment of the '223 patent to CGI), 6 (assignment of the '052 patent to CGI).).

## IV. THE ASSERTED PATENTS

### A. Overview of the Technology

The inventions claimed in the Asserted Patents generally relate to improvements in the convenience, safety, and energy efficiency of movable barrier operators, such as garage doors and gate operators. (CPBr. at 5.).

### B. Overview of U.S. Patent No. 8,587,404

The '404 patent, titled "Movable Barrier Operator and Transmitter with Imminent Barrier Moving Notification," was filed on March 24, 2009, as U.S. Patent Application Serial No. 12/409,584 ("the '584 application"). (JX-0005 at (21), (22), (54).). The '584 application issued as the '404 patent on November 19, 2013, and names Edward T. Laird as the inventor.[7] (*Id.* at (10), (45), (75).).

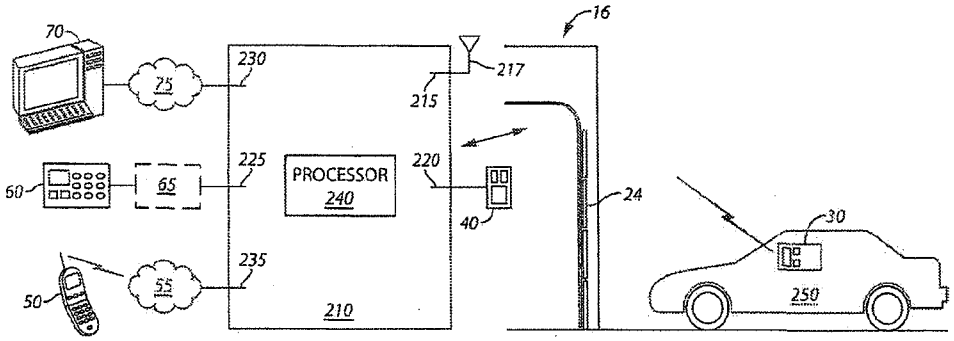
The '404 patent teaches how to eliminate notifications that annoy users while maintaining the safety benefits that imminent motion notifications provide. (CPBr. at 6.). The '404 patent claims a movable barrier operator system ("MBOs") configured to differentiate between communications received from what it calls "remote" sources (such as the internet) and those

[7] When he gave his deposition testimony on November 13, 2018, it appears that Mr. Edward T. Laird was CGI's Director of Intellectual Property. (RBr. at 28; *see also* JX-0023C (Laird Dep. Tr. (Nov. 13, 2018)) at 80:23-25.). Mr. Laird did not testify during the Hearing.

received from "local" sources (such as a wall control), and to use that information to determine whether an imminent motion notification is required when closing the barrier. (JX-0005 at 1:55-4:53, 2:59-65, 8:45-10:56.).

One of the embodiments disclosed in the '404 patent is shown below in Figure 1, which is Figure 2 of the '404 patent.

**Figure 1: Figure 2 of the '404 Patent**




(JX-0005 at Fig. 2.).

The specification of the '404 patent discloses that:

> [T]he movable barrier operator 210 includes a communication connection comprising at least of the group consisting of a direct wireless connection 215 to a transmitter, a local wire connection 220, a system wired connection 225, a network connection 230, and a wireless communication system connection 235. Other communication connections may be possible including any of the known methods of communicating with transmitters to send/receive information at the movable barrier operator 210 to affect control of the operator 210 such as to trigger movement of the movable barrier 24.
>
> The movable barrier operator 210 also includes a processor 240 configured to receive a command from the communication connection. The processor 240 is also configured to move the movable barrier 24 in combination with operating a moving-barrier imminent motion notification in response to receipt of a command from one of the system wired connection 225, the network connection 230 and the wireless communication system connection 235. The processor 240 is also configured to move the movable barrier 24 without operating the moving-barrier imminent motion notification in response to receiving the command from the direct wireless connection 215 to the transmitter and from the local wired connection 220.

> So configured, the movable barrier operator 210 determines from the type of connection over which the communication was received whether to operate the moving-barrier imminent motion notification in combination with moving the movable barrier 24. For instance, communications received from a direct wireless transmitter, for example, a wireless transmitter 30 located in a car 250 communicating directly to the movable barrier operator 210 via its antenna 217 and/or a transceiver (not shown), or from a direct wired connection 220 via a wall mounted wire transmitter 40 located in the garage 16, indicate that the user is likely in visual contact with the movable barrier 24. Therefore, the movable barrier operator 210 operates the movable barrier 24 between the open or closed position without operating the moving-barrier imminent motion notification to reduce user annoyance. When the movable barrier operator 210, however, receives communications over one of the other communication connections, for example, from a computer 70, a security system interface 60, or from a mobile communication device 50, it is likely (or at least more likely) that the user is not in visual contact with the movable barrier 24 when providing that command. Therefore, in those circumstances, the movable barrier operator 210 operates the moving-barrier imminent motion notification in combination with moving the movable barrier 24 to alert any people that may be in the vicinity as to the closing of the door 24.

(*Id.* at 8:47-9:29.).

### C. Overview of U.S. Patent No. 7,755,223

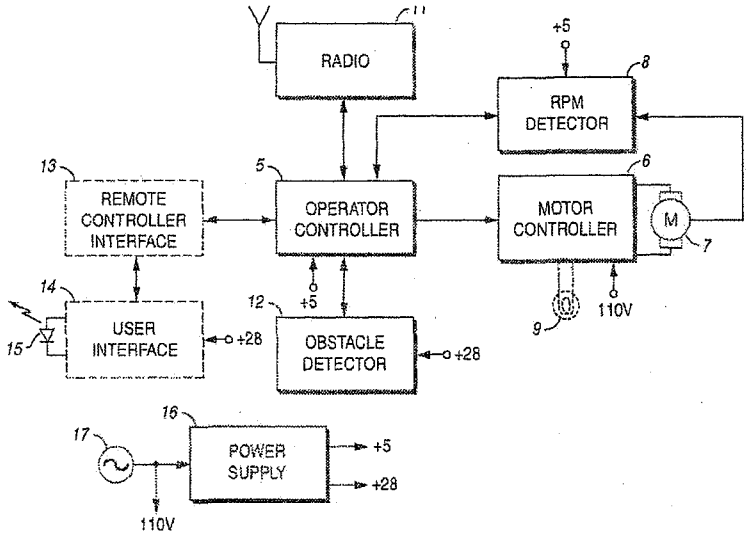
The '223 patent, titled "Movable Barrier Operator with Energy Management Control and Corresponding Method," was filed on August 23, 2002, as U.S. Patent Application Serial No. 10/227,182 ("the '182 application"). (JX-0001 at (21), (22), (54).). The '182 application issued as the '223 patent on July 13, 2010, and names James J. Fitzgibbon as the inventor. (*Id.* at (10), (45), (75).).

The '223 patent generally relates to a movable barrier operator system wherein one or more components of the system is configured to operate selectively in one of two or more operational modes having different energy usages. (*Id.* at Abstract.). The invention claimed in the '223 patent helps reduce energy consumption by providing full power to features like the obstacle detector when they are needed but switching them into a lower power standby mode

when they are not. (*Id.* at 2:62-67, 6:38-42, 10:31-41.).

Shown below in Figure 2 is a block diagram of a movable barrier operator as configured in accordance with an embodiment of the invention.

**Figure 2: Figure 1 of the '223 Patent**




(*Id.* at Fig. 1.).

The specification of the '223 patent discloses that:

> [A] movable barrier operator system can include, for example, an operator controller 5 that serves to interact with a variety of other components of the operator system. Such controllers 5 are well known in the art and usually comprise a programmable platform (such as a microprocessor, microcontroller, programmable gate array, or the like) that is readily amenable to such alterations as are suggested below in these various embodiments. The operator controller 5 couples to a motor controller 6 that in turn couples to a motor 7. So configured, the operator controller 5 controls the motor controller 6 and the motor controller 6 in turn converts such control information into specific drive signals for the motor 7 to thereby cause the motor to function in a specifically desired fashion. (The motor 7 will usually be coupled to a movable barrier through any of a variety of well understood drive mechanisms. . . .)
>
> * * *
>
> In a preferred embodiment, an RPM detector 8 provides information regarding the mechanical output of the motor 7 to the operator controller 5. In a preferred

> embodiment the RPM detector 8 will include one or more optical sensors and a light source wherein one moves with respect to the other as a given output member (such as an output drive shaft) rotates. The resultant signals will be synchronized to the rotation of the motor 7 and hence provide the desired RPM information. There are other ways, however, to provide such information and this particular embodiment should be viewed as being illustrative rather than limiting.
>
> A radio 11 (typically comprising a receiver though two-way capability can be provided as appropriate to suit the needs of a given situation) serves to receive wireless remote control signals and to provide such received signals to the operator controller 5.
>
> An obstacle detector 12 of choice couples to the operator controller 5 and serves primarily to detect when an obstacle lies in the path of the moving barrier. The operator controller 5 uses such information to control the movable barrier accordingly (for example, to cause a closing moving barrier to stop or reverse direction upon detecting an obstacle in order to avoid injuring the obstacle or the movable barrier itself). A variety of known obstacle detectors exist[.] For purposes of this illustration, the obstacle detector 12 is comprised of a photobeam-based obstacle detector.

(*Id.* at 3:13-65.).

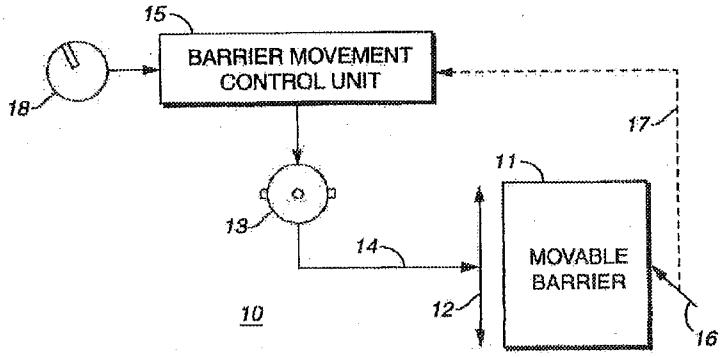
**D. Overview of U.S. Patent No. 6,741,052**

The '052 patent, titled "Post-Automatically Determined User-Modifiable Activity Performance Limit Apparatus and Method," was filed on April 11, 2002, as U.S. Patent Application Serial No. 10/120,756 ("the '756 application"). (JX-0003 at (21), (22), (54).). The '756 application issued as the '052 patent on May 25, 2004, and names James J. Fitzgibbon as the inventor. (*Id.* at (10), (45), (75).).

The '052 patent teaches a control system having a learning mode such that performance limits can be automatically determined for subsequent use during normal operating modes. (*Id.* at Abstract.).

Figure 3 below is a block diagram depicting a control unit embodiment in accordance with the claimed invention.

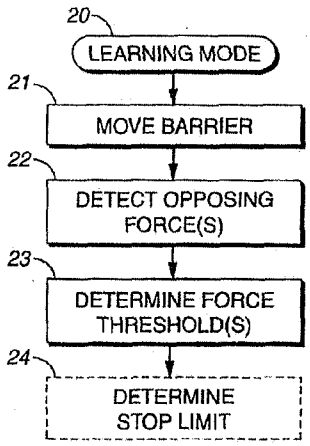
**Figure 3: Figure 1 of the '052 Patent**




(*Id.* at Fig. 1.).

The '052 patent contemplates two modes of operation: a learning mode and an operating mode. The "learning mode" of the control system controls the processes for learning forces according to algorithms disclosed in the specification. (*Id.* at 3:23-25.). In a "learning mode 20, the barrier movement control unit 15 moves 21 the movable barrier 11, typically from a first position to a second position (for example, from a closed position to an open position)." (*Id.* at 3:30-33.). While the movable barrier is being moved, "the barrier movement control unit 15 detects 22 forces that work in opposition to the movement of the movable barrier 11. This force (or these forces) are quantified and the results are then used to determine 23 one or more force thresholds for subsequent use during normal operations." (*Id.* at 3:33-39.).

**Figure 4: Figure 2 of the '223 Patent**




(*Id.* at Fig. 2.).

The '052 patent also discloses an "operating mode 40 for such a barrier movement control unit 15." (*Id.* at 4:23-36.). In operating mode, the force thresholds "as automatically determined during the learning mode 20 are modified 41 by a user directed amount." (*Id.* at 4:26-28.). This modification may occur immediately after such thresholds are initially determined in the learning mode of operation, or at any subsequent time. These modified threshold values may further "be determined once, stored, and used thereafter during the operating mode 40 or calculated anew (using the previously automatically determined values and the present settings of the user interface 18 as briefly mentioned above and as described in more detail below) as needed." (*Id.* at 4:31-36.). In addition, these modified thresholds may be further modified. (*Id.* at 4:37-45.).

## V. THE PRODUCTS AT ISSUE

### A. Nortek's Accused Products

CGI alleged that the Accused 404 Products infringe claim 11 of the '404 patent, the Accused 223 Products infringe claims 1 and 21 of the '223 patent, and the Accused 052 Products

infringe claim 1 of the '052 patent. (CBr. at 3-6.).

**1. Accused 404 Products**

CGI accused Nortek's currently sold GDOs (LDCO850, LDCO852, Amarr840, Amarr860, MM9434K, MM9545M, MM9333H) (collectively, the "404 Original Products"); recently developed "alternative" code products (LDCO850A, LDCO852A, Amarr840A, Amarr860A, MM9434KA, MM9545MA, MM9333HA) (collectively, the "404 Alternative Products"); and the private label counterparts to the accused products (Smart DC Megacode Oper 1 Led Light, AFS LDCO850 PVT, and DGD LDCO850 (private label versions of LDCO850); DGD LDCO852, Smart DC LDCO852 No Batt (private label versions of LDCO852); Ent840 1 Led GDO (private label version of the Amarr840); Ent860 3 Led GDO and PDS Ultra 900 (private label versions of the Amarr860)) (collectively, "404 Private Label Products").[8] (*See* CX-0707C (Nortek Interrog. Resp.) at 105-06 (listing private label products).). All of these products together are referred to herein as the "Accused 404 Products."

**2. Accused 223 Products**

CGI accused Nortek's currently sold GDOs (LDCO850, LDCO852, LDCO800, Amarr840, Amarr860, MM9434K, MM9545M, MM9333H) (collectively, the "223 Original Products"), recently developed "alternative" code products (LDCO850A, LDCO852A, LDCO800A, Amarr840A, Amarr860A, MM9434KA, MM9545MA, MM9333HA) (collectively, the "223 Alternative Products"), and the private label counterparts to the accused products (Smart DC Megacode Oper 1 Led Light, AFS LDCO850 PVT and DGD LDCO850 (private

[8] In its Pre-Hearing Brief, CGI identified the gate operator prototypes (MM371W, MM372W, MM571W, MM572W, TS571W) as infringing the '404 patent. (CBr. at 4 n.3.). CGI notified Nortek on June 6, 2019 that it would no longer be asserting the '404 patent against these products. (*Id.*). The gate operator prototypes remain accused of infringing the '052 patent.

label versions of LDCO850); 8428.90.0290, DGD LDCO852, Smart DC LDCO852 No Batt (private label versions of LDCO852); Ent840 1 Led GDO (private label version of the Amarr840); Ent860 3 Led GDO and PDS Ultra 900 (private label versions of the Amarr860); 800N, Megacode, DC Operator; 800N, Mega, DC Oper, Pvt, Lbl; 800N, Mega, DC Oper, Pvt Lbl; 800N, MEGA, DC OPER "ASSA ABLOY"; 800N, Megacode, DC Operator, Pvt; GD DEPOT LDCO; and DGD Private Label DC Opener (private label versions of the LDCO 800) (collectively, "223 Private Label Products"). (*See* CX-0707C (Nortek Interrog. Resp.) at 105-06 (listing private label products).). All of these products together are referred to herein as the "Accused 223 Products."

**3. Accused 052 Products**

The accused GDO products include Nortek's currently sold GDOs (LDCO850, LDCO852, LDCO800, Amarr840, Amarr860, MM9545M, MM9434K, MM9333H) (collectively, the "052 Original GDO Products"), recently developed "alternative" code GDOs (LDCO850A, LDCO852A, LDCO800A, Amarr840A, Amarr860A, MM9434KA, MM9545MA, MM9333HA) (collectively, the "052 Alternative GDO Products"), and the private label counterparts to the accused products (Smart DC Megacode Oper 1 Led Light, AFS LDCO850 PVT and DGD LDCO850 (private label versions of LDCO850); 8428.90.0290, DGD LDCO852, Smart DC LDCO852 No Batt (private label versions of LDCO852); Ent840 1 Led GDO (private label version of the Amarr840); Ent860 3 Led GDO and PDS Ultra 900 (private label versions of the Amarr860); 800N, Megacode, DC Operator; 800N, Mega, DC Oper, Pvt, Lbl; 800N, Mega, DC Oper, Pvt Lbl; 800N, MEGA, DC OPER "ASSA ABLOY"; 800N, Megacode, DC Operator, Pvt; GD DEPOT LDCO; and DGD Private Label DC Opener (private label versions of the LDCO 800) (collectively, "052 Private Label Products"). (*See* CX-0707C (Nortek Interrog.

Resp.) at 105-06 (listing private label products).). All of these products together are referred to herein as the "Accused 052 GDO Products."

Additionally, CGI accused Nortek's gate operators of infringing the '052 patent. (CBr. at 5-6.). These products include Nortek's gate operators (BGU, BGU-D, BGUS, BGUS-D, SG, SG-D, VS-GSLG, GSLG-A, HSLG, SLR, SLC, SLD, SWG, SWR, SWC, SWD, TYM-VS2, TYM 1000, TYM 2000) (collectively, the "052 Original Gate Operator Products") and recently developed "alternative" gate operator code (BGUA, BGU-DA, BGUSA, BGUS-DA, SGA, SG-DA, VS-GSLGA, GLSG-AA, HSLGA, SLRA, SLCA, SLDA, SWGA, SWRA, SWCA, SWDA, TYM-VS2A, TYM-1000A, TYM-2000A) (collectively, the "052 Alternative Gate Operator Products"). (*Id.*). CGI also accused Nortek's gate operator prototypes (MM371W, MM372W, MM571W, MM572W, TS571W) (collectively, the "052 Products Under Development") of infringing the '052 patent. (*Id.* at 6.). All of these products together are referred to herein as the "Accused 052 Gate Operator Products."

Collectively, the Accused 052 GDO Products and the Accused 052 Gate Operator Products are referred to herein as the "Accused 052 Products."

**B. CGI's DI Products**

CGI asserted that the following Wi-Fi enabled DI Products practice one or more claims of the '404 and '223 patents: 8155W (CX-0502); 8160W (CX-0502); 8160WRGD (CX-0501); 8164W (CX-0502); 8164WAC (CX-0503); 8165W (CX-0502); 8165WRGD (CX-0061); 8355W-267 (CX-0063); 8355WRGD (CX-0064); 8360W (CX-0063); 8360WL (CX-0063); 8365W-267 (CX-0063); 8365WRGD-267 (CX-0067); 8550W (CX-0069); 8550W-267 (CX-0069); 8550WL (CX-0069); 8550WL-267 (CX-0106); 8550WLRGD (CX-0528); 8550WRGD (CX-0071); 8557W (CX-0069); 8587W (CX-0047); 8587WL (CX-0047); 8587WRGD (CX-

0070); B550 (CX-0074); B552 (CX-0074); B750 (CX-0074); B970 (CX-0075); B970PLT6 (CX-0075); B980 (CX-0505); C450 (CX-0079); C455 (CX- 0080); C870 (CX-0082); HD750WF (CX-0090); HD950WF (CX-0091); LW9000WF (CX-0091); WD1000WF (CX-0091); WLED-267 (CX-0069). (*See also* CDX-0003.0006.).

CGI also asserted that the following internet-capable GDOs one or more claims of the '404 and '223 patents: 8160 (CX-0327); 3043 (CX-0051); 54915 (CX-0050); 54918 (CX-0051); 54920 (CX-0052); 54930 (CX-0053); 54931 (CX-0054); 54985 (CX-0055); 54990 (CX-0056); 55918 (CX-0058); 57915 (CX-0132); 57918 (CX-0058); 8065 (CX-0041); 8075 (CX-0041); 8155 (CX-0042); 8155RGD (CX-0059); 8160RGD (CX-0060); 8165 (CX-0041); 8165RGD (CX-0061); 8350 (CX-0305); 8355-267 (CX-0044); 8355RGD (CX-0064); 8360 (CX-0045); 8365-267 (CX-0504); 8365RGD-267 (CX-0067); 8550 (CX-0046); 8550-267 (CX-0046); 8557 (CX-0046); 8557-267 (CX-0046); 8587 (CX-0046); 8587RGD (CX-0072); B500 (CX-0073); B503 (CX-0073); B510 (CX-0073); B730 (CX-0076); C203 (CX-0077); C205 (CX-0078); C400 (CX-0078); C410 (CX-0077); HD210 (CX-0077); HD420EV (CX-0086); HD420EVP (CX-0107); HD520EV (CX-0087); HD520EVG (CX-0108); HD520EVP (CX-0109); HD630EVP (CX-0088); HD920EV (CX-0049); HD930EV (CX-0049); HD930EVP (CX-0049); LW2200 (CX-0085); LW3000EV (CX-0089); LW3500EV (CX-0093); LW3500EVPLT6 (CX-0089); LW5000EV (CX-0049); M885 (CX-0094); M8856 (CX-0094); PD510 (CX-0098); PD512 (CX-0098); PD612EV (CX-0086); PD752KEV (CX-0099); PD762EV (CX-0099); WD832KEV (CX-0101); WD832KEVG (CX-0101); WD850KEVG (CX-0111); WD962EV (CX-0049); WD962KEV (CX-0049); WD962KPEV (CX-0049); WD962MLEV (CX-0049). (*See also* CDX-0003.0006.).

Additionally, CGI contended that the following gate operator products practice one or

more claims of the '052 patent: CSL24U (CX-0083); CSL24UL (CX-0506); CSL24VDC (CX-0507); CSW200101U (CX-0131); CSW200101UL (CX-0508); CSW200501U (CX-0131); CSW200501UL (CX-0508); CSW24U (CX-0509); CSW24UL (CX-0510); CSW24VDC (CX-0511); HCTDCUL (CX-0527); LA4001PKGDC (CX-0521); LA400DC (CX-0127, CX-0128); LA400DCS (CX-0127, CX-0128); LA400PKGU (CX-0127, CX-0128); LA400PKGUL (CX-0512); LA4121PKGDC (CX-0513); LA412DC (CX-0103, CX-0129); LA412DCS (CX-0103, CX-0129); LA412PKGU (CX-0129); LA412PKGUL (CX-0514); LA5001PKGDC (CX-0515); LA500DC (CX-0138, CX-0139); LA500DCS (CX-0138, CX-0139); LA500PKGU (CX-0138); LA500PKGUL (CX-0516); RSL12U (CX-0121); RSL12UL (CX-0517); RSL12VDC (CX-0273); RSW12U (CX-0137); RSW12UL (CX-0518); RSW12VDC (CX-0122, CX-0123); SL3000101U (CX-0130); SL3000101UL (CX-0519); SL3000501U (CX-0130); SL3000501UL (CX-0519); SL585101U (CX-0125); SL585103U (CX-0125); SL585105U (CX-0125); SL585151U (CX-0125); SL585501U (CX-0125); SL585503U (CX-0125); SL595101U (CX-0126); SL595101UL (CX-0520); SL595103U (CX-0126); SL595103UL (CX-0520); SL595105U (CX-0126); SL595105UL (CX-0520); SL595151U (CX-0126); SL595151UL (CX-0520); SL595203U (CX-0126); SL595203UL (CX-0520); SL595205U (CX-0126); SL595205UL (CX-0520). (*See also* CDX-0003.0004.).

## VI. PERSON OF ORDINARY SKILL IN THE ART[9]

### A. Definition of a Person of Ordinary Skill in the Art

The *Markman* Order did "not resolve the person of ordinary skill in the art issue because it [was] not germane to the claim construction requested by the Parties." (*Markman* Order at

[9] The legal standard for the level of ordinary skill in the art can be found in the *Markman* Order. (*See Markman* Order at 9.).

10.). "Neither of the Parties has indicated in any of their filed documents that the person of ordinary skill in the art definition is necessary or dispositive for construction of the disputed claim terms." (*Id.*). Complainant's definition of the level of ordinary skill in the art includes experience working in the movable barrier operator field.[10] Respondents' definition includes experience in a field relating to microcontroller and microcontroller-based control systems.[11] However, Respondents state that the differences in the definition of a person of ordinary skill in the art do not affect their expert's opinion regarding invalidity. (RBr. at 7.).

## VII. U.S. PATENT NO. 8,587,404

### A. Direct Infringement

#### 1. Infringement Overview: CGI Failed to Prove That the 404 Accused Products Satisfy Claim 11 of the '404 Patent

CGI contended that the 404 Original Products, 404 Private Label Products, and 404 Alternative Products satisfied claim 11 of the '404 patent. (CBr. at 3-4.). Claim 11 is the sole asserted claim of the '404 patent. (*Id.* at 2.). Claim 11 requires a "movable barrier operator" with at least one listed type of "communication connection." (JX-0005 ('404 patent), cl. 11.). Claim 11 requires that the "movable barrier operator" contain a "processor" configured to "determine" whether a "command for closing" "was received from" a least one listed local communication connection (i.e., "direct wireless connection to the transmitter" or "the local

[10] Complainant states "a person of ordinary skill in the art pertaining to the '223 patent would have a bachelor's degree in electrical engineering, computer engineering, computer science, or a related field with two or more years of experience working in the movable barrier operator field." (COMBr. at 7.). Complainant states the same definition for the '052 patent and the '404 patent. (*Id.* at 35, 66.).

[11] Respondents state "a person having ordinary skill in the art with respect to the Asserted Patents at the time of the inventions would have had at least a bachelor's degree, either in electrical engineering or computer engineering, with approximately two years' experience in a field relating to microcontroller and microcontroller-based control systems." (ROMBr. at 2.).

wired connection") and at least one listed remote communication connection (i.e., "system wired connection," "network connection," or "wireless communication system connection"). (*Id.*). Claim 11 also requires that the processor be configured to act upon ("in response to") that determination and "to effect" the closure of "the movable barrier" with or without operation of "a moving barrier imminent motion notification." (*Id.*). The Parties did not seek a *Markman* construction of "was received from" or the processor limitations "configured to determine," "in response to determining," or "to effect." (*See, generally*, Joint CC Chart.).

During the Hearing, the Court observed that the primary dispute between the Parties with respect to infringement of the '404 patent was whether the claimed "movable barrier operator" was limited to the head unit of the accused products. (Tr. (McNamara) at 1014:2-17 ("[I]t really comes down to three issues that I am seeing a major dispute on.... [Regarding the '404 patent,] the issue of the [wall station and head unit].").).

In its Post-Hearing Brief, CGI validated this observation and identified a second, related issue in dispute: whether the 404 Accused Products possess a "movable barrier operator" containing a "processor" configured to perform the claimed "determination" with respect to the type of communication connection. (CBr. at 14 ("only disputes are whether (1) the claimed determination occurs within the claimed "movable barrier operator" and (2) the [wall station] Wi-Fi connection is within the claimed "movable barrier operator.").). In other words, whether the 404 Accused Products infringe depends not only upon the scope of "movable barrier operator," but also on whether the "movable barrier operator" contains a "processor" configured to "determine" whether the source of a close command is local versus remote and "to effect" closure with or without notification as claimed.

For the reasons set forth below, CGI has not proven by a preponderance of the evidence

that the 404 Accused Products satisfy claim 11 of the '404 patent.

As an initial matter, CGI attempted to rewrite the *Markman* Order construction of "movable barrier operator" to encompass wall stations found in 404 Accused Products. This attempt was unsuccessful. In the 404 Accused Products, the "movable barrier operator" is limited to head units, and, thus, wall stations, their Wi-Fi connections, and wires running from wall stations to the head units (the presumptive "local wired connection[s]") are not within the "movable barrier operator."

However, in theory, this finding is not fatal to CGI's infringement case, at least not for the 404 Original Products and 404 Private Label Products. Indeed, in the 404 Original Products and 404 Private Label Products, "processor[s]" in the head units appear to satisfy the required "determination" and "effect" elements, notwithstanding the fact that the Wi-Fi receivers in these "movable barrier systems" reside in the wall stations, not the head units. The 404 Alternative Products, by contrast, cannot satisfy claim 11. That is because the identified "processor[s]" are located in the wall stations, outside the "movable barrier operator[s]," and thus do not satisfy the "determination" and "effect" elements of claim 11 literally or under the doctrine of equivalents.[12]

Ultimately, as set forth below, CGI's infringement case with respect to the '404 patent fails for lack of proof. In post-Hearing briefing, consistent with its now-rejected theory that a "movable barrier operator" could include a wall station, CGI identified only "a button on the wall station" as the required "local wired connection" for all of the 404 Accused Products. CGI thus waived pursuant to Ground Rule 10.1 any argument that wires running from the wall station to the head unit in the were the "local wired connection," which would have been the logical

[12] CGI raised infringement under the doctrine of equivalent for only the '404 patent.

mapping, under a proper construction of "movable barrier operator," for the 404 Original Products and 404 Private Label Products.

Moreover, as explained below, CGI also waived any argument that "a button on the wall station" is the required "local wired connection" by raising it for the first time during the Hearing by way of a passing remark made by CGI's technical expert, Dr. Subramanian.[13] Thus, in this Initial Determination, CGI is left without an argument for what constitutes a "local wired connection" in the 404 Accused Products.

Assuming *arguendo* that CGI had not waived its "button" argument, the wall station button would not be a "local wired connection" that resides, at least in part, in a "movable barrier operator" of a 404 Accused Product (i.e., head unit), as required by claim 11.

An accused device literally infringes a patent claim if it contains each limitation recited in the claim exactly. *See, e.g., Litton Sys., Inc. v. Honeywell, Inc.*, 140 F.3d 1449, 1454 (Fed. Cir. 1998). If any claim limitation is absent, there is no literal infringement of that claim as a matter of law. *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000). Where literal infringement is not found, infringement can still be found under the doctrine of equivalents. The Supreme Court has described the essential inquiry of the doctrine of equivalents analysis in terms of whether the accused product or process contains elements

[13] When he first testified on Monday, June 10, 2019, Dr. Vivek Subramanian was a Professor of Electrical Engineering and Computer Sciences at the University of California at Berkeley and a Professor of Mircoengineering at a Swiss university called EPFL, which in French is Ecole Polytechnique Federale de Lausanne. (Tr. (Subramanian) at 271:3-24.). CGI called Dr. Subramanian to "testify regarding the content of his expert reports and declarations, including the technical background and state of the art relevant to the claims of the asserted patents, the interpretation of the asserted claims, infringement of the asserted claims by the accused products, the validity of the asserted patents, the enforceability of the asserted patents, the design and operation of the accused products, the design and operation of the domestic industry products, how Chamberlain's products meet the technical prong of the domestic industry requirement, and the other opinions stated in his reports." (CPSt. at 6-7.).

identical or equivalent to each claimed element of the patented invention. *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 40 (1997).

As explained in detail below, CGI has not proven by a preponderance of the evidence that the 404 Accused Products satisfy claim 11 of the '404 patent literally or under the doctrine of equivalents. *Enercon GmbH v. Int'l Trade Comm'n,* 151 F.3d 1376, 1384 (Fed. Cir. 1998) (in a Section 337 investigation, the complainant bears the burden of proving infringement of the asserted patent claims by a preponderance of the evidence).

### 2. For the Purposes of Assessing CGI's Infringement Allegations, the 404 Accused Products Differ Only in Terms of Software

The evidence supports a finding, both factually and legally, that 404 Original Products and 404 Private Label Products, on the one hand, and 404 Alternative Products, on the other hand, differ only in terms of software. (JX-0014C (Null[14] Dep. Tr. (October 10, 2018)) at 138:3-139:7; Tr. (Subramanian) at 363:6-19; JX-0015C (Null Dep. Tr. (October 30, 2018)) at 171:20-172:3.). In other words, for the purposes of assessing infringement of the claim 11, the 404 Accused Products have identical hardware. CGI offered the LDCO850 as representative of all of the 404 Accused Products.

Nortek made two (2) relevant software changes that set the 404 Alternative Products apart from the 404 Original Products and 404 Private Label Products. As compared to the 404 Original Products and 404 Private Label Products, for the 404 Alternative Products, Nortek:

[redacted]

[14] When he first testified on Wednesday, June 12, 2019, David Null was a Senior Software Engineer at Nortek Security & Control, where he had worked "[a] little over three years." (Tr. (Null) at 792:19-793:10.). Nortek called Mr. Null to "provide testimony about the identity, structure, function, and operation of Respondents' products" and, in particular, to "address the firmware and source code within the accused products." (RPSt. at 3.).

(JX-0015C (Null Dep. Tr. (October 30, 2018)) at 200:20-22 ("Q. You removed any command with the word in it; is that right? A. Yes."), 205:4-10 ("Q. , is that right? A. That is correct."); Tr. (Subramanian) at 362:17-363:5 (describing changes to the '404 Alternative Products).). Mr. Null made the identified software modifications over the course of two (2) days. (JX-0015C (Null Dep. Tr. (October 30, 2018)) at 234:8-24 ("Q. So two full workdays, is that what you're saying? A. Yes, I believe so.").).

### 3. The Claimed "Movable Barrier Operator" Does Not Encompass a Wall Station

Both Parties appeared to agree that, in all the 404 Accused Products (except the Mighty Mule MM9333H and MM9333HA products, as discussed below), the wall station determines whether a received "command for closing" "was received from" a local or remote source based on type of "communication connection." (CBr. at 14; RRBr. at 14-18.). Against this backdrop, CGI attempted to read claim 11 on all of the 404 Accused Products by arguing that "movable barrier operator" was broad enough to encompass a wall station. (CBr. at 13-14.). The downstream effects of this decision on CGI's interpretation of other claim terms are shown below in Chart 1.

**Chart 1: Nortek's Depiction of CGI's "New" Theory that a "Movable Barrier Operator" Can Encompass a Wall Station and the Implications for Other Claims Elements**

| Element | Expert Report (CX-980) | Hearing | Post-Hearing Brief |
|---|---|---|---|
| **"movable barrier operator"** | **Head unit** (¶¶ 130-137) | Head unit **and wall station** (Tr. at 294:5-295:17) | Head unit **and wall station** (pp. 20-21) |
| **"local wired connection"** | **Wire** between head unit and wall station (¶ 143) | **Wire** between head unit and wall station (CDX-4.26, CDX-4.30, Tr. at 305:10-18) | **Button** on wall station (p. 20) |
| **"processor" that performs "determining" steps** | Atmel XMEGA32E5 microprocessor **in head unit** (¶¶ 147-150) | Atmel XMEGA32E5 microprocessor **in head unit** (CDX.28, Tr. at 307:21-308:13) | Head unit Atmel XMEGA32E5 processor (legacy products), **wall station CC3200R1M2 processor** ("A" products) (pp. 22, 25 (FN7), 26) |

(RRBr. at 13.).

CGI is mistaken. CGI's statement is patently false: "as the ALJ correctly ruled, the plain meaning of the term 'movable barrier operator' covers all of the circuitry that operates the movable barrier—whether in the wall station, the head unit, or both." (CBr. at 23.).

While the *Markman* Order rejected Nortek's "attempt to import claim limitations to narrow the scope of 'movable barrier operator'" to a "head unit" (identified as 12 in Fig. 1 of the '404 patent), the *Markman* Order also did not grant *carte blanche* discretion to CGI over the scope of "movable barrier operator." (*Markman* Order, App'x A at 11 ("The only time the specification references a head unit in relation to the movable barrier operator is as a non-limiting 'example.' . . . Nortek's construction takes this exemplary embodiment and makes it a requirement.").).

Instead, the *Markman* Order validated Nortek's concern over conflation of "movable barrier operator" and "movable barrier system," terms that the '404 patent treated as distinct. (*Id.* ("While this might be a valid concern ....").). The *Markman* Order also left open the

possibly that a "movable barrier operator," the thing that physically operates the "movable barrier,"[15] might consist of something other than a garage door opener head unit, such as the "movable barrier operator" of a gate system. (*See* JX-0005 ('404 patent) at 1:55-60 ("pursuant to these various embodiments, a movable barrier system with a moving-barrier imminent motion notification includes a movable barrier and a movable barrier operator connected to control movement of the movable barrier between a first position and a second position."), 12:13-17 ("although the described embodiment included a garage door, various types of movable barrier systems can employ these teachings, for example, swinging gates, rolling gates, rising gates, and the like.").).

Thus, in the infringement analysis that follows, the "movable barrier operator" of claim 11 does not encompass a "wall station" that is found in a 404 Accused Product. Instead, "movable barrier operator" is distinct from a "wall station," as shown below in Figure 5.

[15] Notably, in its infringement analysis, CGI identified a "motor connected to control movement of a movable barrier" within a head unit of each of the 404 Accused Products as the "movable barrier operator," without mentioning the inclusion of a wall station. (CBr. at 19.). Moreover, in a separate patent infringement case that Chamberlain filed, which admittedly did not involve a patent asserted here, a U.S. district court construed "movable barrier operator" as "an operator that controls movement of the movable barrier and may contain additional functionality, comprising." *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 2017 WL 1304559, *7 (N.D. Ill. Apr. 7, 2017). As that Court explained, "movable barrier operator must be capable of operating (i.e., moving) the moveable barrier. And the specification makes clear that even movable barrier operators capable of more than mere barrier movement can nonetheless still move the barrier." *Id.* at *8. Importantly, the Court distinguished the "movable barrier operator" from both "physically associated" and "physically separate" controllers: "the parties agree that a movable barrier operator does not include 'remote components,' such as smart phones. The specification is in accord, contrasting movable barrier operator uses involving physical association with other, physically separate 'remote' control strategies. (*See, e.g.*, '275 patent at 1:25-30 ("In some cases a user may control the movable barrier operator by indicating a selection via one or more control surfaces that are physically associated with the movable barrier operator. In other cases such control can be effected by the transmission of a wireless remote control signal to the movable barrier operator."); *id.* at FIG. 2 (depicting 'remote components' as physically separate from the moveable barrier operator).)" *Id.*

**Figure 5: Figure 1 of the '404 Patent Annotated to Emphasize that, as a Matter of Claim Construction, "Movable Barrier Operator" is Distinct from "Wall Station"**

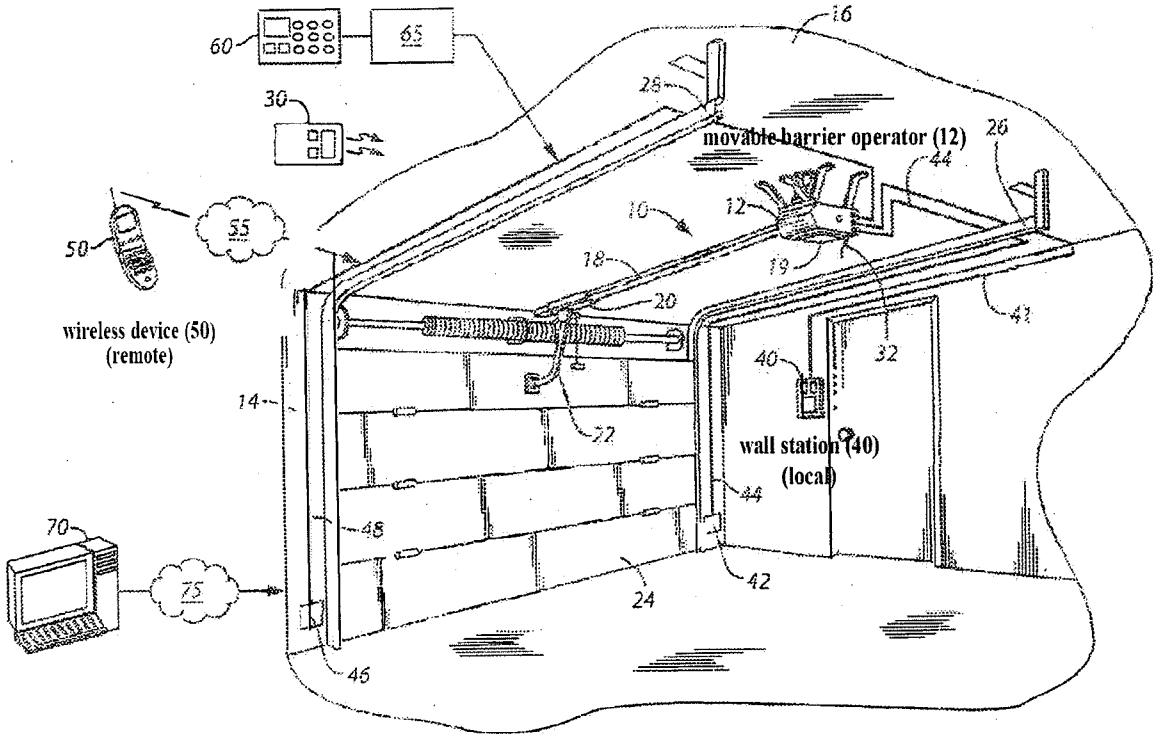



*FIG. 1*

(JX-0005 ('404 patent) at Fig. 1 (annotated by Court to emphasize distinct components).).

This finding renders moot several of Nortek's otherwise valid arguments in response to CGI's purportedly last-minute theory that the "movable barrier operator" could encompass a wall station. For example, Nortek argued that "Chamberlain changes position and argues that the button on the wall station, rather than the wire that it previously identified, is the 'local wired connection.'" (RRBr. at 24.). CGI's "button argument," and Nortek's response to it, make no sense in the context of the claimed processor (which claim 11 situates in the "movable barrier operator") which resides only in the head unit of the Accused Products and not in the wall station.

Likewise, Nortek asserted that "[t]he only processor Chamberlain identified during trial as satisfying element 11(c) … is an Atmel XMEGA325 processor located in the head unit." (*Id.* at 26-27.). CGI's reference in post-hearing briefing to the wall station processor of 404 Accused Products does not make sense under an interpretation that limits the "movable barrier operator" (and its processor) to the head unit of those Products. Additionally, Nortek contended that "the wall station processor only sends commands over the local wired connection" and does not receive commands from the connection, an argument that only makes sense in the context (not presented here) of a "movable barrier operator" encompassing a wall station. (*Id.* at 35.).

Clarifying that the "movable barrier operator" of claim 11 does not encompass a wall station (which is readily discernable from the specification of the '404 patent)[16] significantly narrows the issues in dispute with respect to Nortek's alleged infringement.

Specifically, the infringement analysis below condenses to: (1) whether CGI has proven by a preponderance of the evidence that, within the 404 Accused Products, wires connecting wall stations and head units are "local wired connection[s]" that reside, at least in part, in "movable barrier operator[s]" (i.e., head units), and (2) whether the head unit "processor[s]" are configured to perform above-mentioned "determinations" with respect to the type of communication connection over which a command is received. As set forth in the analysis that follows, CGI has

[16] CGI's purportedly last-minute attempt to enlarge the scope of "movable barrier operator" was baseless and potentially subject to sanction. It appears that CGI had no other purpose than to cause needless expense and/or unnecessary delay in this Investigation by deliberately changing the scope of "movable barrier operator" in contravention of the *Markman* Order. The argument certainly wasted Hearing time and required the Parties and the Court to resolve a specious issue that never should have been raised. *See* 19 C.F.R. § 210.4(c) (identifying as potentially subject to sanction "presenting to the presiding administrative law judge or the Commission (whether by signing, filing, submitting, or later advocating) a pleading, written motion, or other paper … presented for any improper purpose, such as to harass or to cause unnecessary delay or needless increase in the cost of the investigation or related proceeding"). Moreover, by not raising or arguing this issue in its Pre-Hearing Brief, CGI waived this issue under Ground Rule 7.2.

not proven by a preponderance of evidence that any 404 Accused Product satisfies all of claim 11 of the '404 patent, literally or under the doctrine of equivalents.

#### 4. CGI Has Proven That the 404 Accused Products Satisfy the First Two Elements ([p] and [a]) of Claim 11 and Nortek Does Not Dispute This Finding

CGI has divided claim 11 into seven elements ([p] – [f]), as shown below in Figure 6. (CBr. at 18-19.). CGI has proven by a preponderance of the evidence that all of the 404 Accused Products satisfy elements [p] and [a]. (*Id.* at 19.). Nortek did not dispute this finding and thereby waived any such argument pursuant to Ground Rule 10.1. (RRBr. at 22-36.).

**Figure 6: Reproduction of Claim 11 from CGI's Initial Post-Hearing Brief**

Claim 11 recites:

11[p] A movable barrier system with a moving-barrier imminent motion notification, the system comprising:

[a] a movable [barrier] operator connected to control movement of a movable barrier between a first position and a second position;

[b] the movable barrier operator comprising: a communication connection comprising at least one of the group consisting of: a direct wireless connection to a transmitter, a local wired connection, a system wired connection, a network connection, and a wireless communication system connection; and

[c] a processor configured to determine whether a received command for a closing the movable barrier was received from at least one of the system wired connection, the network connection, and the wireless communication system connection;

[d] the processor configured to effect the closing of the movable barrier in

combination with operating a moving barrier imminent motion notification in response to determining that the received command for the closing was received from at least one of the system wired connection, the network connection, and the wireless communication system connection;

[e] the processor configured to determine whether the received command for the closing was received from at least one of the direct wireless connection to the transmitter and the local wired connection;

[f] the processor configured to effect the closing of the movable barrier without operating the moving-barrier imminent motion notification in response to determining that the received command for the closing was received from at least one of the direct wireless connection to the transmitter and the local wired connection.

(CBr. at 18-19.).

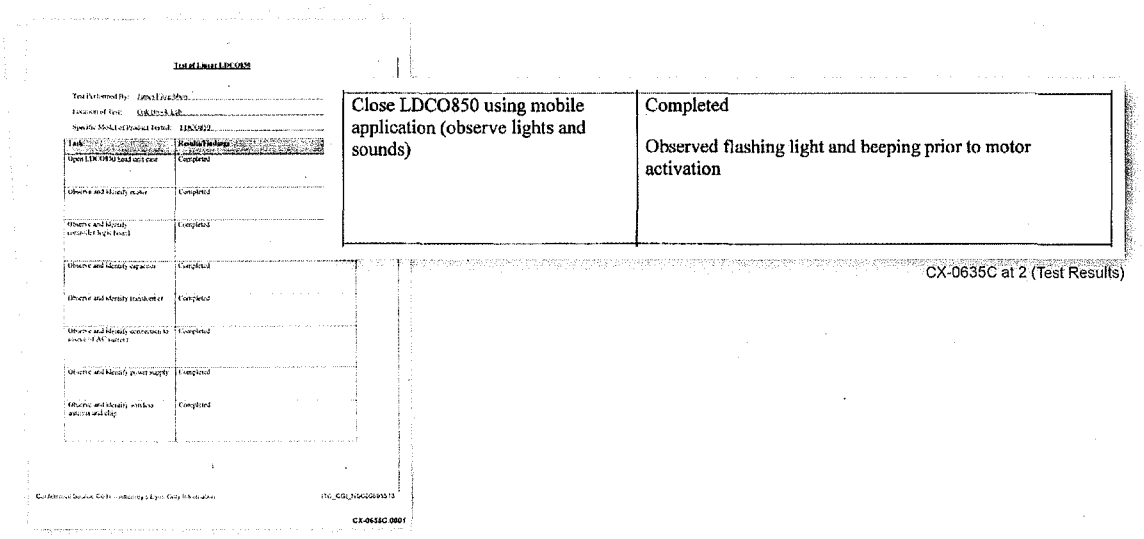
A preponderance of the evidence warrants a finding that nearly all of 404 Accused Products[17] satisfy element [p], the preamble, of claim 11.

As shown below in Figure 7, based on the LDCO850 representative product,[18] each of the 404 Accused Products is a GDO (or garage door opener) system that uses delay, light, and sound alerts as "moving-barrier imminent motion notifications" only when a door is closed via a mobile phone application (i.e., remotely) and not when the door is closed via a wall station (e.g., locally). (Tr. (Subramanian) at 299:2-300:11; JX-0014C (Null Dep. Tr. (October 10, 2018)) at 106:9-107:11, 107:19-108:2.). Nortek did not dispute this finding in its post-hearing briefing and thereby waived any such argument pursuant to Ground Rule 10.1. (RRBr. at 22-36.).

[17] It is unclear from the Parties' briefs whether the Mighty Mule MM9333H and MM9333HA products, which lack Wi-Fi capability, provide "moving-barrier imminent motion notifications." Therefore, CGI has not proven by a preponderance of evidence that they do satisfy claim 11. Additionally, these products do not satisfy claim 11 for other reasons, as set forth below.

[18] Whether the LDCO850 is a suitable representative product is a contested issue addressed below.

**Figure 7: CGI's Depiction of LDCO850 Test Results Showing Use of "Moving-barrier Imminent Motion Notification"**



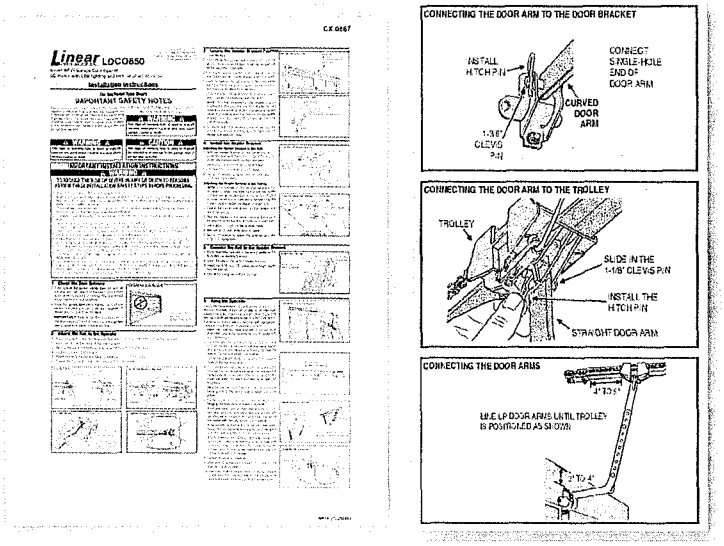
| | |
|---|---|
| Close LDCO850 using mobile application (observe lights and sounds) | Completed<br><br>Observed flashing light and beeping prior to motor activation |

CX-0635C at 2 (Test Results)

(CDX-0004.0020 (introduced during the testimony of Dr. Subramanian).).

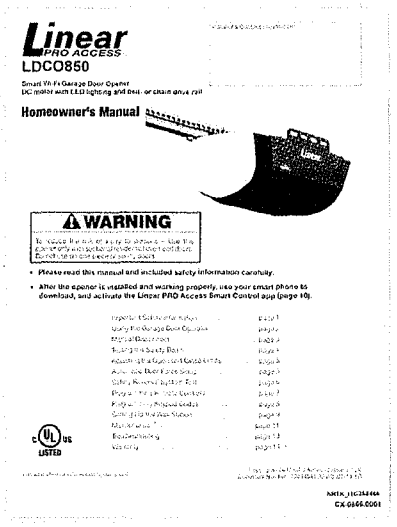
A preponderance of the evidence warrants finding that all 404 Accused Products satisfy element [a] of claim 11. Based on the LDCO850 representative product, as shown below in Figure 8, each of the 404 Accused Products includes a head unit with a motor connected to control movement of a movable barrier between a first position (e.g., "open") and a second position (e.g., "closed"). (Tr. (Subramanian) at 301:8-304:25; JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 171:20-172:3.). Nortek did not dispute this finding in its post-hearing briefing and thereby waived any such argument pursuant to Ground Rule 10.1. (RRBr. at 22-36.).

**Figure 8: CGI's Depiction of a "Movable Barrier Operator" Controlling Movement of a Movable Barrier in the LDCO850**



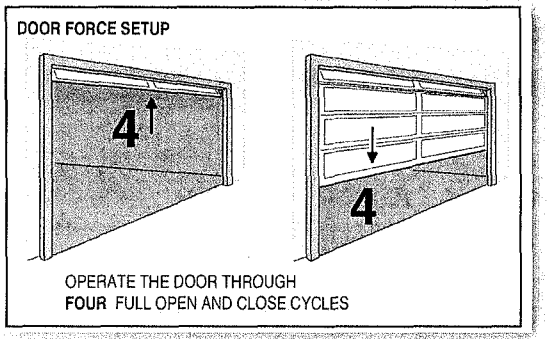

11[a]: "a movable [barrier] operator connected to control movement of a movable barrier between a first position and a second position"

CX-0867 (LDCO850 Installation Instructions) at 2, *see also* CX-788 (LDCO852 Installation Instructions) at 2, CX-0884C (Amarr 860/840 Installation Instructions) at 2, CX-909C (MM9000 Series Manual) at 17, JX-0014C (Null 10/10/18 Dep. Tr. at 138:3-139:7) (private label products), JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products)




11[a]: "a movable [barrier] operator connected to control movement of a movable barrier between a first position and a second position"

"first position" (open) "second position" (closed)




CX-0866.7 (LDCO850 Homeowner's Manual), *see also* CX-0870.7 (LDCO852 Homeowner's Manual), CX-0790C.7 (Amarr 860/840 Homeowner's Manual), CX-909C.26 (MM9000 Series Manual), JX-0014C (Null 10/10/18 Dep. Tr. at 138:3-139:7) (private label products), JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products)

(CDX-0004.0023 (introduced during the testimony of Dr. Subramanian).).

### 5. CGI Has Failed to Prove That the 404 Accused Products Satisfy the Third Element ([b]) of Claim 11

In its Initial Post-Hearing Brief, CGI devoted only two (2) sentences to evidence that the 404 Accused Products practice element [b] of claim 11 of the '404 patent. (CBr. at 19-20.).

Only the first sentence is substantive: "Each of the '404 Accused Products practices claim 11[b] because they each are capable of receiving commands either via a button on the wall station (i.e., a 'local wired connection') or via a Wi-Fi connection to the Linear smartphone application (i.e., a 'wireless communication system connection')." The second sentence, on the other hand, "This element is not disputed," is a blatant misrepresentation of testimony by one of Nortek's technical experts, Dr. Toliyat.[19] Dr. Toliyat testified: "Q. Now, the only limitations here that are even remotely disputed are the movable barrier operator limitations and the determining. Have I got that right? A. Okay." (*See* Tr. (Toliyat) at 1032:2-6.). It is self-evident, in this context, that "Okay" as used by Dr. Toliyat in his response is not necessarily synonymous with "Yes."

Moving on, the exact language of element [b] is critical. Element [b] requires "the *movable barrier operator comprising*: a communication connection comprising *at least one* of the group consisting of: a direct wireless connection to a transmitter, *a local wired connection*, a system wired connection, a network connection, and *a wireless communication system connection*[.]." (JX-0005 ('404 patent), cl. 11 (emphasis added).). In other words, element [b] requires at least one "communication connection" from a set of "local" or "remote" connection types, but each such connection must reside, at least in part, in the "movable barrier operator." (*Id.*). Here, location of the "communication connection" is determinative.

There is no dispute that the 404 Accused Products have "local wired connections" in the form of wires running from their wall stations to their head units (i.e., "moveable barrier

[19] When he testified on Thursday, June 13, 2019, Dr. Hamid Toliyat was a "chair professor at Texas A&M," where he teaches courses in "motor design, motor control, [and] power electronics." (Tr. (Toliyat) at 907:9-13.). Nortek called Dr. Toliyat to testify about "the level of skill in the art at the relevant time period, the reasons Chamberlain has failed to demonstrate the accused products infringe the Asserted Claims, and how Chamberlain has failed to satisfy the technical prong of the domestic industry requirement." (RPSt. at 3.).

operators"). (CDX-0004.0026 (introduced during the testimony of Dr. Subramanian) (*see* Figure 9 below); RRBr. at 23-24 ("Throughout the case up to and including the hearing, Chamberlain took the position that the 'local wired connection' was the set of wires (otherwise known as the USART connection) running between the wall station and the head unit. … Nortek did not dispute that this particular set of wires in the accused products, running between the head unit and the wall station, was a "local wired connection.").). Those "local wired connections" clearly connect to and, thus, reside, at least in part, in the "movable barrier operator."[20]

CGI made this argument in its Pre-Hearing Brief. "The '404 Accused Products practice claim 11[b] because they comprise assemblies that include a motor connected to a drive apparatus to move a movable barrier and are capable of receiving commands via communication connections with a wall station ('local wired connection' and a 'system wired connection')[.]" (CPBr. at 32.). CGI mentioned a "button press" only in the context of "determination" elements [c] through [f], which require a determination with respect to the "communication connection" from which a command was received. (CPBr. at 33 (citing CX-0651C (Null Dep. Tr. (October 10, 2018)) at 117:5-25 ("[W]hen you press the *button*, that wall station firmware detects that *button* for us.")), 38 ("The processor in the representative Linear LDCO850 is configured to determine whether a received command for closing the movable barrier was received from the

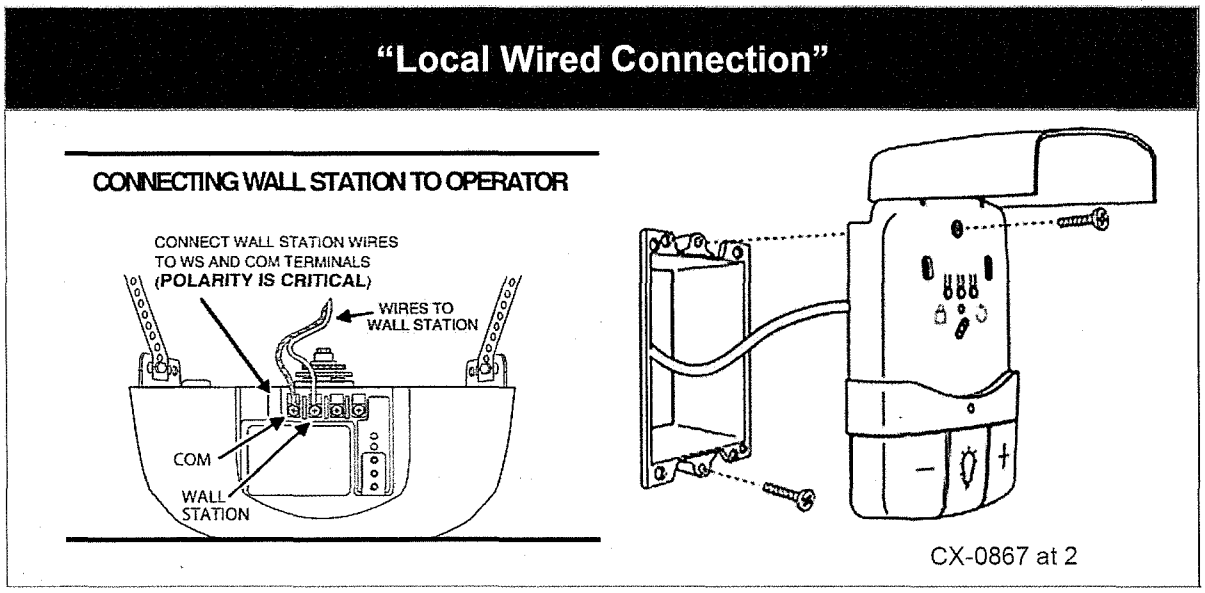
[20] There is also no dispute that the 404 Accused Products (with the exception of the Mighty Mule MM9333H and MM9333HA) have wireless communication system connections in their wall stations in the form of Wi-Fi receivers. (CBr. at 14 (for the 404 Accused Products, describing "circuitry in the wall station" as "the Wi-Fi connection in the wall station and the processor that determines whether a command to close was received over Wi-Fi or a hard-wired connection"); RRBr. at 14 ("Wi-Fi receiver, if any, is located in the wall station, while the head unit assembly has no such receiver.").). Moreover, there is no dispute that the "movable barrier operators" of the 404 Accused Products (i.e., head units) do not comprise Wi-Fi connections. Thus, CGI had only one option for satisfying element [b] in the 404 Accused Products: "local wired connection[s]" in the form of the wires running from wall stations to head units.

local wired connection (e.g., the *button* on the wall station ).").).

In other words, in its Pre-Hearing Brief, CGI did not explicitly disclose its theory that, in the context of element [b] of claim 11, "local wired connection" is satisfied by a wall station button. In other words, assuming *arguendo* that CGI cryptically raised its "button" theory before the Hearing, that disclosure was clear as mud. More is required of a party preserving an argument. Consequently, CGI has waived its "button" theory under Ground Rule 7.1.

During the Hearing, CGI appeared to follow the Ground Rules and emphasized its pre-hearing position that the claimed "local wired connection" in each 404 Accused Product was a set of wires linking the wall station and head unit. As Nortek noted, and as shown below in Figure 9, in addressing element 11[b], "Chamberlain went as far as to highlight the wire—but not the buttons on the wall station—in its demonstratives, even though the wall station is visible in the demonstrative and several other places in the source exhibit (CX-867)." (RRBr. at 23 (citing CDX-0004.0026 (introduced during the testimony of Dr. Subramanian)).).

**Figure 9: Chamberlain's Demonstrative Equating "Local Wired Connection" with the Wire Connecting the Wall Station to the Head Unit**



(CDX-0004.0026 (introduced during the testimony of Dr. Subramanian).).

Yet, as he was explaining his surgically highlighted demonstrative, Dr. Subramanian provided supposedly new and clearly contradictory testimony about an un-highlighted "wall station button" that he also tried to include as a "local wired connection:"

> Well, what's shown on the left is actually a figure from CX-867 at page 2, and specifically, if we look at the figure, we see that it shows wire -- wires that are -- that run from the head unit to the wall station, and specifically that is, given that the wall station has the button, that is the local wired connection, or that is at least one of the local wired connections.

(Tr. (Subramanian) at 305:12-18 (emphasis added).).

This testimony was problematic for several reasons. First, Dr. Subramanian's offhanded reference to a "button" qualifying as a "local wired connection" was antithetical to CGI's pre-Hearing contentions. Second, in general, Dr. Subramanian's testimony during the Hearing on what qualifies as a "local wired connection" was an Achilles heel in terms of his credibility as a witness. His statement that the wall station button "is at least one of the local wired connections" was cryptic. Finally, Dr. Subramanian's reference to a wall station "button" as a "local wired connection" in the context of element [b] of claim 11 was based on a clearly erroneous interpretation of the *Markman* Order's guidance on "movable barrier operator," as discussed above. Thus, even if not waived, CGI's "button" theory is entitled to little weight.

Nevertheless, in its Post-Hearing Brief, CGI seized upon Dr. Subramanian's "button" testimony. It appears that CGI advanced its "button" theory to increase its odds of proving that Nortek's 404 Alternative Products infringe claim 11. As discussed in more detail below, as compared to the 404 Original Products and 404 Private Label Products, the 404 Alternative Products enhance the role of the wall station processor in determining the source of commands and orchestrating the closing of a movable barrier with or without "imminent motion

notification."

To avoid applying its original infringement theory to the 404 Alternative Products, which led to the diminished role of the head unit processor in the 404 Alternative Products, CGI apparently attempted to expand "movable barrier operator" to include the wall station. (CBr. at 20 ("In the '404 Original Products and '404 Private Label Products, the 'processor configured to determine' is in the head unit. In the '404 Alternative Products, Nortek moved the 'processor configured to determine' to the wall station. ... Both the head unit and the wall station are part of the claimed 'movable barrier operator' because the circuitry used to move the barrier is distributed between the head unit and the wall station in the '404 Original Products, '404 Private Label Products, and the '404 Alternative Products.").). In so doing, CGI subsumed its original "local wired connection" (wires from wall station to head unit) into its new "movable barrier operator" and identified the wall station button as its new "local wired connection."

To this end, without tracking the language of element [b], CGI explicitly identified in its Post-Hearing Brief only "a button on the wall station" as the required "local wired connection."[21] (CBr. at 19-20 ("Each of the '404 Accused Products practices claim 11[b] because they are each capable of receiving commands either via a button on the wall station (i.e., a 'local wired connection') or via a Wi-Fi connection to the Linear smartphone application (i.e., a 'wireless communication system connection').).

In so doing, CGI did not discuss in its Post-Hearing Brief, and therefore waived pursuant to Ground Rule 10.1, its original argument that, in each the 404 Accused Products, wires

[21] Adding to its problems, CGI also characterized the "local wired connection" purportedly present in the 404 Accused Products as the action of "a button press on the wall station (i.e., a local wired connection)[.]" (CBr. at 33.). That is nonsensical because a connection is a thing, not an action, and one could ostensibly press a button on the wall station without that button being connected to anything.

connecting the wall station and head unit constituted the claimed "local wired connection." (*See* RRBr. at 24 ("Chamberlain does not even argue its original theory that the wire is the 'local wired connection' anywhere in its brief, and therefore has waived this theory[.]").). As explained above, CGI also waived its "button" theory for failing to raise it in a timely manner before the Hearing. This left CGI without a viable argument or explanation in its Post-Hearing Brief for how the 404 Accused Products satisfy element [b] of the claim 11 of the '404 patent.

Assuming, *arguendo*, that CGI had not waived its "button" argument and, instead, had unambiguously disclosed the argument in a timely manner before the Hearing, CGI would nonetheless have failed to prove infringement of element [b] of claim 11. That is because CGI's assertion that a button on a wall station in isolation qualifies as the claimed "local wired connection" is expressly rejected here.[22] While such a button connects to the "movable barrier operator" (i.e., head unit) via a set of wires running from the wall station, the button itself is not a "local wired connection" that resides, at least in part, in a "movable barrier operator" (i.e., head unit) of a 404 Accused Product, as required by claim 11[b]. As discussed above, the wall station is not part of the claimed "movable barrier operator" (i.e., head unit).

CGI has thus failed to even argue properly, much less prove, that the 404 Accused Products satisfy element [b] of claim 11 of the '404 patent. Nortek was correct that "this is grounds to 'find no violation' because "Chamberlain has not preserved any argument under the Ground Rules regarding the claim elements that depend on the 'local wired connection.'" (*Id.*).

For the foregoing reasons, CGI has failed to prove by a preponderance of the evidence that the 404 Accused Products satisfy element [b] of claim 11 of the '404 patent. Based upon the

[22] CGI did not assert the doctrine of equivalents for element [b], relying instead on literal infringement. Consequently, CGI has waived its right to raise that argument pursuant to Ground Rule 10.1.

evidentiary record, the 404 Accused Products do not infringe the '404 patent.

### 6. Assuming, *Arguendo*, That CGI Had Identified the Wire Connecting the Wall Station to the Head Unit in the LDCO850 Representative Product as the Required "Local Wired Connection," This Product Would Satisfy Claim 11 of the '404 Patent

For the 404 Original Products and 404 Private Label Products, CGI could have proven infringement by applying its original "local wired connection" theory to satisfy element [b] of claim 11. That is because the identified Products satisfy the remaining elements [c] - [f] of claim 11 of the '404 patent. These elements require that the "movable barrier operator" contain a "processor" configured to "determine" whether a received "command for a closing" "was received from" a least one listed local communication connection (i.e., "direct wireless connection to the transmitter" or "local wired connection") and at least one listed remote communication connection (i.e., "system wired connection," "network connection," or "wireless communication system connection"). (JX-0005 ('404 patent), cl. 11.). Claim 11 also requires that the processor be configured to act "in response to" that determination "to effect" closure of "the movable barrier" with or without an "imminent motion notification." (*Id.*).

Applying the correct interpretation of "movable barrier operator" (i.e., head unit, in this context), Nortek made three (3) related arguments why the 404 Accused Products did not "determine[] over what 'connection' a communication is received." (RRBr. at 12.).

First, Nortek contended that, in the 404 Accused Products, "all the communications relevant to this claim element are received over the same connection, i.e., the local wired connection between the wall station and the head unit." (*Id.* at 12; *see also id.* at 32.). Nortek also asserted that claim 11 draws a distinction between a determination based on the connection over which the command is received (what the claim supposedly requires) and a determination

based on the contents of a command (how the 404 Accused Products supposedly work). (*Id.* at 32-22.). Finally, Nortek argued that "all commands received via the local wired connection are processed in the same software function." (*Id.* at 27.). Unfortunately for Nortek, as discussed below, these distinctions are not reflected in the explicit language of claim 11 as chosen by the patentee.

With respect to Nortek's first argument, claim 11 requires determinations that commands were "received from" particular connections, not "received over" those connections exclusively. "Received over" rephrasing appears to be Nortek's attempt to rewrite the claim language to manufacture a non-infringement argument because, in the 404 Original Products and 404 Private Label Products, the head unit arguably receives all commands pertaining to "movable barrier" closure, with or without "a moving barrier imminent motion notification," "over" only the "local wired connection." (RX-0737C.0003; RX-0747C.0002; Tr. (Toliyat) at 800:21-802:16.). On the other hand, "received from," the language actually used in the "determination" limitations of claim 11, appears broad enough to cover connections that originate outside the wall station and use its "local wired connection" for "last-mile" access to the head unit. (*See, generally*, JX-0005 ('404 patent), cl. 11.). In other words, nothing in claim 11, including the use of "the" in the "determination" limitations to refer, on an antecedent basis, to the "movable barrier operator" "communication connection[s]," requires that each such communication connection be path independent or mutually exclusive all the way from command source to the head unit.[23] (*Id.*).

[23] To be fair, confusion of the scope of claim 11 is driven, in part, by the unorthodox manner in which the claim is written. Claim 11 is expressly satisfied by a "movable barrier operator" with only one type of communication connection. (JX-0005 ('404 patent), cl. 11.). However, claim 11 also requires that the same "movable barrier operator" comprise a processor configured to determine whether "command[s] for closing" were received from more than one of the recited "communication connections," such that the processor is configured to differentiate between local and remote "communication connections" in terms

Similarly, claim 11 is silent with respect to how the claimed "determination" is made, whether using communication connections or contents of commands. Nortek argued that claim 11 was limited to a particular embodiment described in Figure 4 of the '404 patent, which performs the determination limitations based whether a communication was "received over" one type of communication connection versus another type communication connection. (RRBr. at 32 ("determination based on the connection over which the command is received"); JX-0005 ('404 patent) at 10:13-56, Fig. 4.). Indeed, the embodiment of Figure 4 appears to be where Nortek obtained its "received over" distinction that is rejected above. Nortek contrasted this embodiment with the embodiment described in Figure 3, which bases its local versus remote determination on not a "communication connection," but instead, for example, on a "code format, a signal frequency, and a signal modulation." (RRBr. at 32 ("determination" based on the contents of the command); JX-0005 ('404 patent) at 9:30-10:12, Fig. 3.). According to Nortek with respect to the 404 Accused Products, "Chamberlain's [infringement] argument, at best, is that the head unit processor simply determines the content of a command and makes a determination whether to operate the notification based on the content of the command." (RRBr. at 32-33.).

Yet, the claims do not reflect Nortek's "contents" versus "connection over" distinction. As explained above, the claims merely require that the processor in "movable barrier operator" be configured to determine that commands were "received from" particular connections. (JX-0005 ('404 patent), cl. 11.). The specification reveals that this "received from" language comes

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of operating a "moving-barrier imminent motion notification." (*Id.*). In other words, it appears that claim 11 effectively requires that the "movable barrier operator" comprise only one type of communication connection but nonetheless can be configured to comprise other types of communication connections.

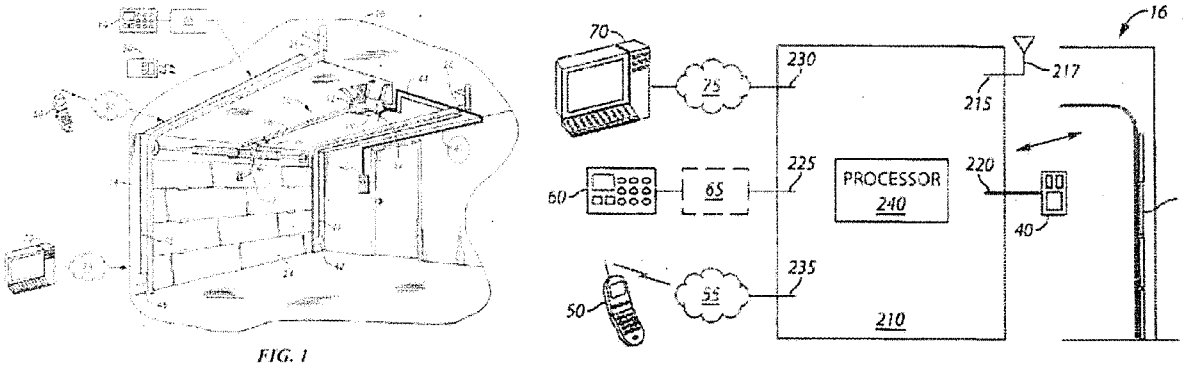
not from the embodiment depicted in Figure 4 as Nortek suggests, or the embodiment in Figure 3 that Nortek distinguishes, but instead from a narrow, non-limiting embodiment described in relation to Figure 2. (*Id.* at (8:45-9:60) (Fig. 2), 9:30-10:12 (Fig. 3), 10:13-56 (Fig. 4).). In other words, Nortek's "contents" versus "connection over" distinction amounts to a conflation of embodiments (and non-limiting embodiments, at that).

Additionally, Nortek's arguments suggest that it would limit claim 11 to a particular embodiment suggested by Figures 1 and 2 of the '404 patent but that are not required by claim 11. This embodiment, depicted below in Figure 10, is one in which the "movable barrier operator" has a separate connection to each "local" or "remote" source of close commands and makes the required "determinations" based only on the connection over which the "movable barrier operator" receives a command. This is how Nortek argued, for example, that for claim 11 to read on the 404 Accused Products, the "movable barrier operator" of the 404 Accused Products must possess not only a "local wired connection," but also a Wi-Fi connection. (RRBr. at 29-30 ("Additionally, the "wireless communication system connection" in claim element 11(c) depends on claim element 11(b), which states that the MBO comprises such a connection; therefore, the claimed connection is a wireless communication system connection to the MBO. … It is undisputed that there is no Wi-Fi connectivity in the head unit of any accused GDO. … Because the head unit does not even have a network connection, it cannot make the required 'determination' based on such a connection.").).

According to Nortek, the "movable barrier operator" of claim 11 cannot receive commands originating from a wireless connection and a wired connection on a communication pathway that is shared in part, such as the "local wired connection" in the 404 Accused Products connecting the wall station to the "movable barrier operator" and providing "last-mile" access to

the head unit. However, as explained above, this Initial Determination rejects Nortek's attempt to limit claim 11 to such a "hub and spoke" embodiment in which a "movable barrier operator" acts as a communication hub with multiple and entirely separate "communication connections" over which to receive commands.

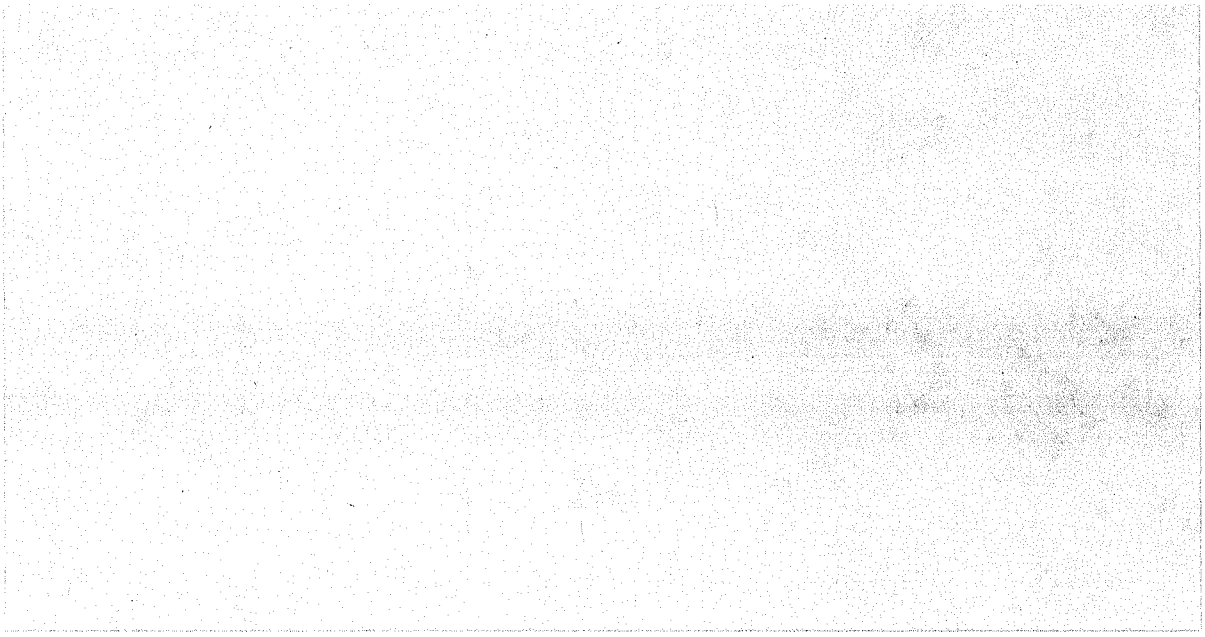
**Figure 10: Figures from the '404 Patent that Appear to Disclose, But Do Not Require, a "Hub-and-Spoke" Embodiment That Nortek Treats as Required for Claim 11**




(JX-0005 ('404 patent) at Figs. 1-2.).

Finally, Nortek asserted that, in the 404 Original Products and 404 Private Label Products, "all commands received via the local wired connection are processed in the same software function." (RRBr. at 27.). This argument echoed Nortek's related assertion, depicted below in Figure 11, that, in the context of the 404 Original Products and 404 Private Label Products, "[i]f the wall station processor makes the claimed 'determination' by sending different commands, there is no 'determination' left to make for the head unit processor." (*Id.* at 33.). These arguments lend themselves to a discussion set forth immediately below with respect to the particulars of how the LDCO850 representative product operates.

**Figure 11: Nortek's Depiction of the Operation of the LDCO850 (Representative Product) (Notably Omitting Differences in the Binary Representations of Those Commands)**



(RDX-1001C.0029 (introduced during the testimony of Dr. Toliyat).).

For the LDCO850 representative product, CGI asserted that the claimed processor "configured to" "determine" and "effect" was located in the head unit. (CBr. at 20.). In the head unit, the function processes incoming

. (RX-1653C at lines 4268 ( ), 4297-4312 ( ).). For example, . (*Id.*).

In terms of specifics, as shown in Figure 11 above and Figure 12 below, in response to the wall station receiving a close command from a Wi-Fi (i.e., wireless communication system) connection, the processor in the head unit of the LDCO850 representative product receives a . (Tr. (Subramanian) at 308:22-310:21, 311:9-22, 312:9-314:15; CX-0945C at NRTK_ITCSRC00031-32). . (*Id.*). As shown below in Figure 12, the . (Tr. (Subramanian) at 308:22-310:21, 311:9-22, 312:9-314:15.).

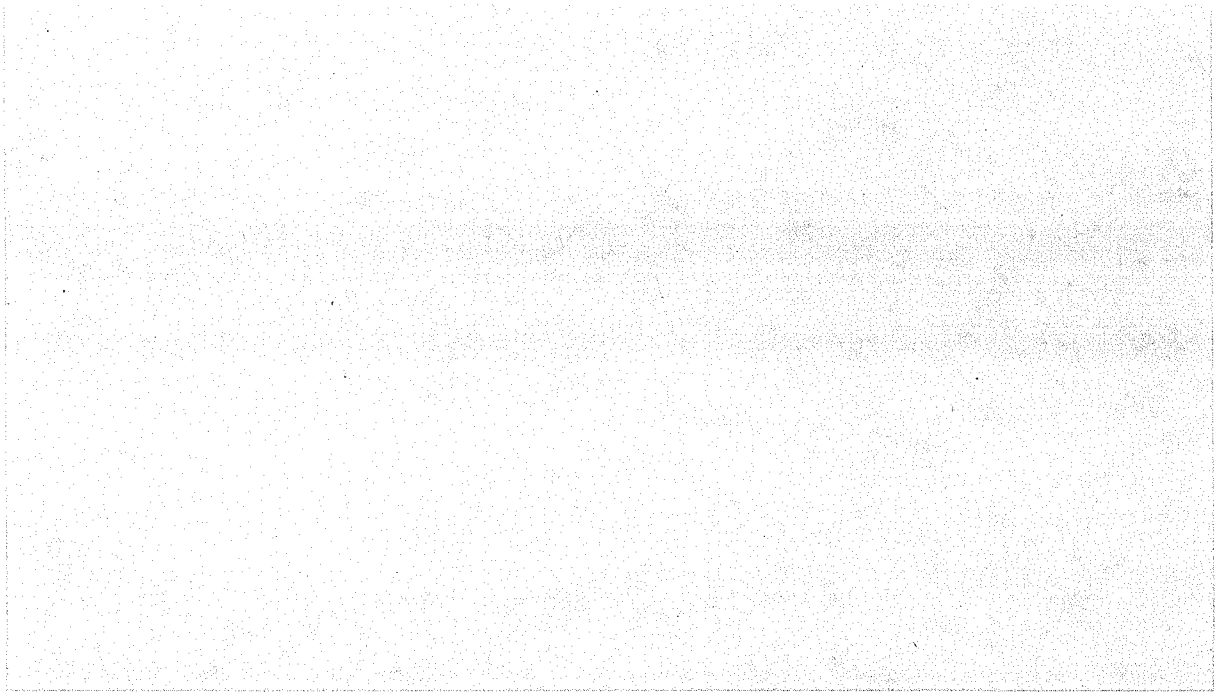
**Figure 12: CGI's Depiction of the**

(CDX-0004.0029 (introduced during the testimony of Dr. Subramanian).).

Consequently, as shown below in Figure 13, when the head unit processor receives a

. (Tr. (Subramanian) at 316:11-317:21, 340:10-357:9, 347:3-11 , 349:11-16.).

**Figure 13: CGI's Depiction, Based on Source Code, of**



(CDX-0004.0035C (introduced during the testimony of Dr. Subramanian).).

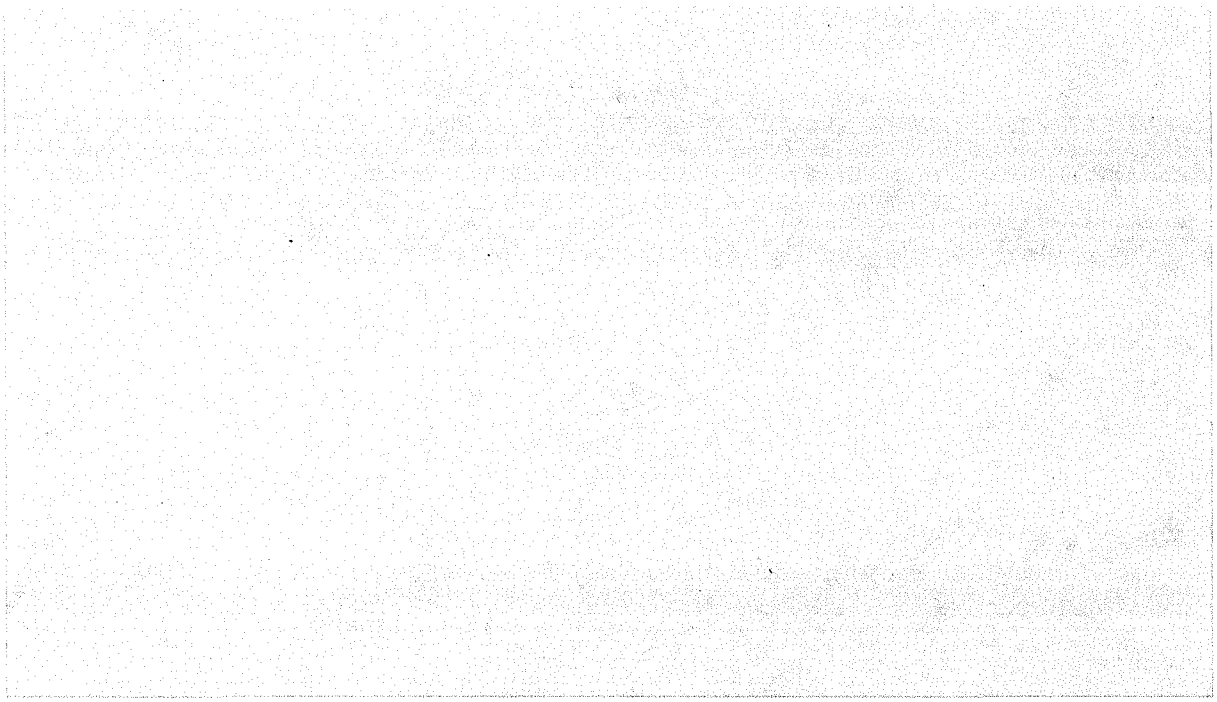
In addition, as shown in Figure 13 above and Figure 14 below, . (Tr. (Subramanian) at 310:22-311:19, 313:7-314:15; JX-0014C (Null Dep. Tr. (Oct. 10,

2018)) at 130:1-7, 130:18-21, 131:15-20; CX-0945C at NRTK_ITC-SRC00031-32.).

. (*Id.*). .

(Tr. (Subramanian) at 312:9-314:15.).

**Figure 14: CGI's Depiction of the**



(CDX-0004.0030 (introduced during the testimony of Dr. Subramanian).).

Consequently, as shown below in Figure 15,

(Tr. (Subramanian) at 349:17-350:22.).

**Figure 15: CGI's Depiction, Based on Source Code, of**

(CDX-0004.0036C (introduced during the testimony of Dr. Subramanian).).

Based on the evidence, it is undeniable that the head unit processor of the LDCO850 representative product is configured to "determine" that close commands are "received from" a Wi-Fi connection (remote) versus a wall station connection (local) and "effect" "the closing of the movable barrier" as claimed.

Nortek concedes that "the head unit processor sets a parameter for the appropriate command," (RRBr. at 17, 33 (citing Tr. (Toliyat) at 815:12-25, 816:24-817:12, 938:9-20, 539:6-17, 540:18-23).). Nortek also appears to admit outright that the LDCO850 representative product satisfies limitations [c] and [d] of claim 11

(determining and effecting a remote closure with notification), at least some of the time: "In a few specific instances where a warning is required by the 'unattended operation' provisions of UL 325 (discussed in more detail below), depending on what the door state is when the command is received, the [redacted]. (RPX-004.)" (RRBr. at 17.). Finally, as shown below in Figure 16, [redacted] (CX-0945C at NRTK_ITCSRC00031-32.).

**Figure 16: CGI's Depiction of**

(CDX-0004.0031C (introduced during the testimony of Dr. Subramanian).).

Nortek's cites Dr. Toliyat's Hearing testimony in support of its non-infringement arguments with respect to the operation of the LDCO850 representative product. (Tr. (Toliyat) at 800:18-20 (Wi-Fi receiver, if any, is located in the wall station), 800:21-802:16 (wall station and head unit communicate with each other exclusively via a USART (universal asynchronous receiver-transmitter) wired interface), *id.* at 815:5-17 (in head unit, local and remote close commands are processed using same software function), *id.* at 815:12-25, 816:24-817:12 (LDCO850 in head unit processes entire ), 819:3-10, 939:14-940:6 ( ).). Dr. Toliyat testified accurately about the operation of the LDCO850. However, Nortek's non-infringement arguments based on that testimony are not supported by the language of claim 11. In other

words, Dr. Toliyat's testimony with respect to the LDCO850 do not rebut CGI's evidence that the LDCO850 satisfies elements [c] – [f] of claim 11. Here, Nortek's non-infringements arguments amount to attempts to read limitations that simply do not exist into claim 11.

### 7. For the 404 Alternative Products, CGI Focused on the Operation of the Wall Station Processor and, In So Doing, Failed to Prove that Representative Product LDCO850A Satisfies Claim 11

CGI argued that the 404 Alternative Products, and, in particular, the LDCO850A representative product, satisfy claim 11 of the '404 patent. As an initial matter, CGI's infringement case against the 404 Alternative Products hinges on CGI's expansive and unsupported interpretation of "movable barrier operator" including a wall station. (CBr. at 26 ("'404 Alternative Products still include 'a processor configured to determine whether a received command for a [] closing the movable barrier was received from . . . the wireless communication system connection"—namely, the processor located in the wall station. (*See* Tr. (Subramanian) at 364:4-365:21; JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 223:22-224:13. But because the wall station is part of the claimed 'movable barrier operator' as discussed above, this makes no difference for infringement of claim elements 11[c] and 11[e].").). That interpretation was rejected above.

Moreover, CGI's infringement analysis with respect to the LDCO850A emphasize on user experience over substance. For example, CGI argued "[t]here is no dispute that Nortek's products distinguish between commands received over Wi-Fi and commands received from the button on the wall station. There is also no dispute that Nortek's products will delay and alarm before closing in response to a close command received over Wi-Fi, and close without delay or alarm in response to a close command received from the button on the wall station." (CBr. at 14.). However, for claim 11, user experience and infringement are different from one another.

Nortek is correct that "[i]t is not enough to say the accused products close with a pre-movement alarm when a user sends a command from a smartphone, but close without such an alarm when the user presses a button on the wall station." (RRBr. at 14.). The operational details matter.

The LDCO850 (legacy representative product described above) and LDCO850A (redesign representative product) operate in materially different ways for the purposes of an infringement analysis. Mr. Null explained that, in fashioning the 404 Alternative Products (which, as discussed above, entailed no hardware changes and only changes in software), he converted the single [redacted] sent from the wall station to the head unit in the LDCO850 legacy product (issued in response to a close command received over Wi-Fi) into two commands separated by a confirmation message from the head unit to the wall station. (JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 200:20-22, 205:4-10; *see also* Tr. (Subramanian) at 362:17-363:5.). The first command causes the head unit to delay and alarm. (*Id.*). The second command causes the door to close, but it is issued by the wall station only after it received a [redacted] message from the head unit, signaling the completion of the warning task. (*Id.*). In other words, as compared to the LDCO850, the LDCO850A provides a similar "moving-barrier imminent motion notification" feature with significantly more back-and-forth communication overhead.

With respect to operational details, as shown below in Figure 17, when a user presses the wall station button on the LDCO850A representative product, the wall station processor[24] calls

[24] Nortek asserted that, during the Hearing, CGI failed to identify (e.g., by make and model number) the processor found in the wall station of the LDCO850A. (RRBr. at 26-27.). Nortek argued that "[t]he only processor Chamberlain identified during trial as satisfying element 11(c) (and therefore elements 11 (d)-(f), which refer to 'the processor' and thus rely on the processor identified in claim 11(c) for antecedent basis) is an Atmel XMEGA325 processor located in the head unit." (*Id.* at 26 (citing Tr. at 307:21-308:13, citing CX-0480 (showing part no. 10014204); Tr. at 359:22-360:7, citing Bills of Materials at

the function [redacted]. (RX-1817C at lines 1251-1256, RX-1818 at lines 338-363; Tr. (Null) at 806:21-807:4, 917:19-919:1.). When the head unit receives that command, the [redacted] (RX-1783C.78-81 at lines 4248-4407) [redacted]. (*Id.* at line 4256.). If the door is in the open limit and not in the close warning state, the door will close after checking the obstruction state of the photobeam. (*Id.* at lines 4699-4747.).

**Figure 17: Nortek's Depiction of the Operation of the LDCO850A (Representative Product) After User Requests a Door Close Via the Wall Station**

(RDX-1001C.0010 (introduced during the testimony of Dr. Toliyat).).

If the wall station receives a close command over Wi-Fi, the wall station will send a first [redacted], to the head unit. (CX-0945C at NRTK_ITC-SRC01247, lines

CX-0898, CX-0895, CX-0897, CX-0894, CX-0896, CX-0906, CX-0912, CX-0913); Tr. at 928:19-929:4 (processor is in the head unit).). Nortek's argument here is moot. To be clear, the only processor that matters for purposes of satisfying claim 11, in the LDCO850 and LDCO850A representative products, is the processor found in the head unit of these products. As a matter of claim construction, the "movable barrier operator," which possesses the claimed "processor," does not encompass a wall station.

1258-1263; Tr. (Null) at 805:24-806:7, 919:19-920:1.). When the head unit receives the

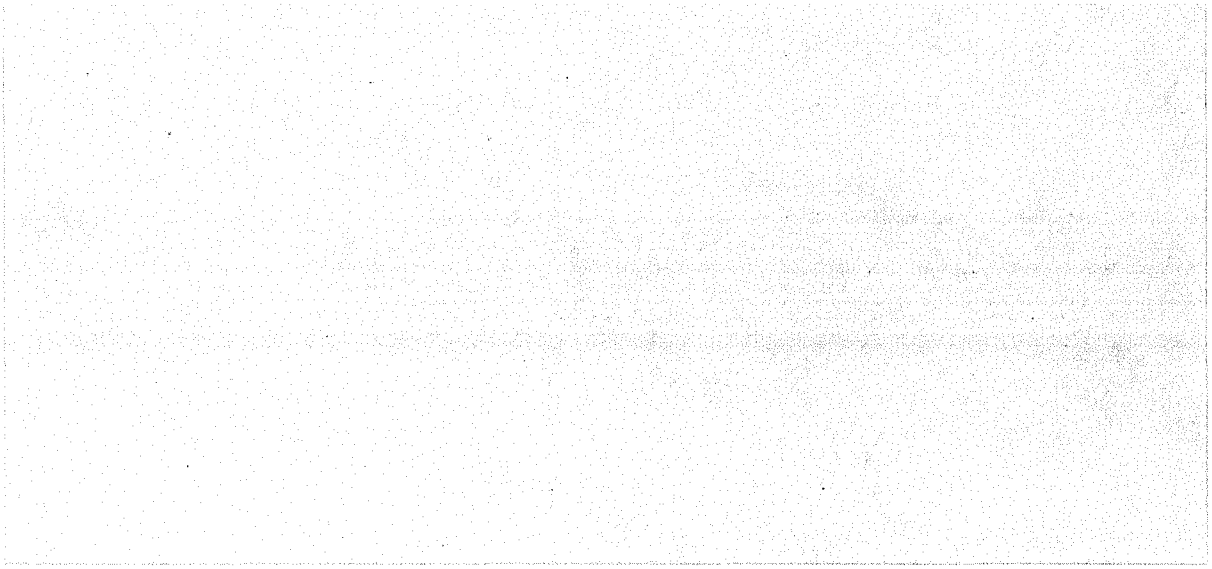
. (RX-1783C at lines 4248-4274; CX-0945C at NRTK_ITC-SRC00867, at lines 4286-4293.). If the head unit processor receives a

. (*Id.* at lines 4746-4755, 4832-4840, 5326-5426; Tr. at 806:8-13.).

When five (5) seconds expire, the head unit sends a confirmation message, , to the wall station (RX-1783C at lines 4248-4274; CX-0945C at NRTK_ITC-SRC00886, lines 5331-5344; Tr. (Null) at 805:20-806:13, 920:2-10, 921:24-922:25.). When the wall station receives the

. (CX-0945C at NRTK_ITC-SRC01255, lines 708-713; CX-0945C at NRTK_ITC-SRC01247, lines 1258-1263; Tr. (Null) at 806:14-20, 920:11-16, 923:4-17.). If the head unit is not already at the close limit, the head unit then checks for obstructions from the photobeam and closes the door. (RX-1783C at lines 4248-4284, CX-0945C at NRTK_ITC-SRC00873-00877, lines 4629-4777 (e.g., at 4723-4727, 4767-4773), 4780-4864 (e.g., at 4802-4804, 4844-4848, 4857-4861), Tr. (Toliyat) at 920:17-20, 923:20-924:7.).

**Figure 18: Nortek's Depiction of the Operation of the LDCO850A (Representative Product) After a User Requests a Door Close Via Wi-Fi**



(RDX-1001C.0013 (introduced during the testimony of Dr. Toliyat).).

Against this backdrop, CGI argued that the processor in the wall station satisfied the "determine" elements [c] and [e] of claim 11. In so doing, CGI focused exclusively on how the wall station processor is configured and failed to present, and thus waived pursuant to Ground Rule 10.1 argument with respect to whether the processor in the "movable barrier operator" (i.e., head unit) performed the "determine" elements, as required by claim 11. (CBr. at 25-29.). CGI's attempt to expand the "movable barrier operator" and its required "processor" to the wall station has been rejected as unsupported by evidence. CGI did not argue that elements [c] and [e] are satisfied by the LDCO850A under the doctrine of equivalents, therefore CGI has waived a doctrine of equivalents argument pursuant to Ground Rule 10.1. CGI has failed to prove by a preponderance of the evidence that the 404 Alternative Products satisfy elements [c] and [e] of claim 11.

Having failed to prove that the LDCO850A satisfies claim elements 11[c] and 11[e], CGI

next argued that the processor in the wall station satisfies the "effect" elements [d] and [f] of claim 11 by effecting closure of a "movable barrier" with an alarm for a "remote" close command and without an alarm for a "local" close command. Once again, CGI focused exclusively on how the wall station processor is configured and failed to present argument whether the processor in the "movable barrier operator" (i.e., head unit) satisfied elements [d] and [f], as required by claim 11. (CBr. at 33-34 ("But it is the processor in the wall station that effects the closing of the barrier with an imminent barrier motion notification by starting a sequence of commands that causes a delay and alarm and then closes the garage door in response to determining that a command to close was received over the Wi-Fi connection.") (citing Tr. (Subramanian" at 365:22-368:20)).). CGI has waived its argument under Ground Rule 10.1. CGI's attempt to expand the "movable barrier operator" and its required "processor" to the wall station has been rejected as not supported by evidence or the language of the patent. Thus, CGI has failed to prove by a preponderance of the evidence that the 404 Alternative Products satisfy elements [d] and [f] of claim 11.

CGI next argued that the 404 Alternative Products satisfy elements [d] and [f] of claim 11 under the doctrine of equivalents. As Nortek noted, the doctrine of equivalents applies only in "exceptional" cases and is not "simply the second prong of every infringement charge, regularly available to extend protection beyond the scope of the claims." (RRBr. at 31 (citing *Amgen Inc. v. Sandoz Inc.*, 923 F.3d 1023, 1029 (Fed. Cir. 2019).).

As CGI highlighted, Nortek's redesign in the LDCO850A moved the code that decides whether to sound the imminent barrier movement notification from the head unit to the wall station or, in other words, from inside the "movable barrier operator" to outside the "movable barrier operator." (CBr. at 25.). Stated another way, and as explained above, in the LDCO850A,

the wall station processor, and not the head unit processor, appears to determine whether a close command is from a local or remote source and, in response to that determination, effects: (1) the sounding of an alarm, and (2) the closure of the "movable barrier" at the "movable barrier operator" by sending separate commands to the head unit processor for each of those actions.

CGI's framing of its equivalency argument provides yet another example of the analytical problems posed by CGI's purportedly new and consistently rejected theory that the "movable barrier operator" includes the wall station and its "processor." Specifically, citing to Mr. Null's deposition testimony,[25] CGI argued that [redacted] in the LDCO850A are the equivalent of the [redacted] used in the LDCO850." (*Id.* at 35 (citing JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 205:4-10).).

CGI asserted that "difference(s) between a processor configured to effect the closing in combination with a moving barrier imminent motion notification in claim 11[d] with a single command and a processor configured to effect the closing in combination with a moving barrier imminent motion notification in claim 11[d] with a sequence of two commands are insubstantial[.]" (CBr. at 35.). In drawing this comparison, CGI contended that moving the "processor" outside the "movable barrier operator" (i.e., head unit) to the wall station *and* issuing separate commands from the wall station "processor" to "effect" alarming and closing is the equivalent of having the "processor" in the head unit *and* using one command to "effect"

[25] CGI makes much of this testimony because Mr. Null agrees that "the equivalent of the [redacted] in the code in the products today is a combination of a [redacted] (CBr. at 26; CDX-0004.0051; Tr. (Null Dep. Tr (October 30, 2018) at 205:4-10.). However, the testimony is given little weight as an equivalency opinion because Mr. Null is an engineer by profession. CGI offered no evidence that Mr. Null has expertise in patent law.

alarming and closing "in combination," as required by claim 11.

Yet, applying the function-way-result test for equivalency, CGI proved, at most, only two (2) of the three (3) required criteria. *See AquaTex Indus. v. Techniche Sols.*, 479 F.3d 1320, 1326 (Fed. Cir. 2007) ("A finding of infringement under the doctrine of equivalents requires a showing that the difference between the claimed invention and the accused product or method was insubstantial or that the accused product or method performs the substantially same function in substantially the same way with substantially the same result as each claim limitation[.]").

CGI is correct that moving the code from inside the "movable barrier operator" to outside the "movable barrier operator" did not change the function claimed in elements [d] and [f] of claim 11: determining whether a received command to close was received from a local or remote source and, based on that determination, effecting a closure with or without a notification. (Tr. (Subramanian) at 371:18-372:11.). Likewise, moving the code did not change the result of closing with or without notification. (*Id.*).

However, CGI failed to prove that, after moving the code from inside the "movable barrier operator" to outside the "movable barrier operator," and increasing communication overhead between the head unit and wall station from one command to two commands and a confirmation message, the "movable barrier system" operates in substantially the same way as required by element [d] of claim 11.

As Dr. Toliyat testified during the Hearing, and as shown below in Figure 19, this change had consequences in terms of operating the "movable barrier system":

> A. . . . This is the LDCO850A that I tested at your office in San Diego. And what I did was, as you see, I commanded a [redacted] from the app. And so what it does, the [redacted], as we just discussed it, is sent to the movable barrier operator. Then -- so the movable barrier operator, the head unit sounded the alarm. Then what I did, I disconnected the wall station, okay. So once -- when the

> was sounding, I disconnected the wall station, so the communication was interrupted between these two. So the signal -- the head unit sends the , right, back to the wall station. Well, that line is disconnected, so the wall station is not receiving it. And then wall station, once it supposedly receive it, has to send a back to the -- command back to the head unit. That doesn't happen. So what happened at the end was that, of course, the movable barrier operator only sounded the alarm but didn't close.
>
> Q. And you could see whether it closed or not by whether the motor shaft was turning?
>
> A. That's correct.

(Tr. (Toliyat) at 924:8-925:5; *see also* RX-0778.).

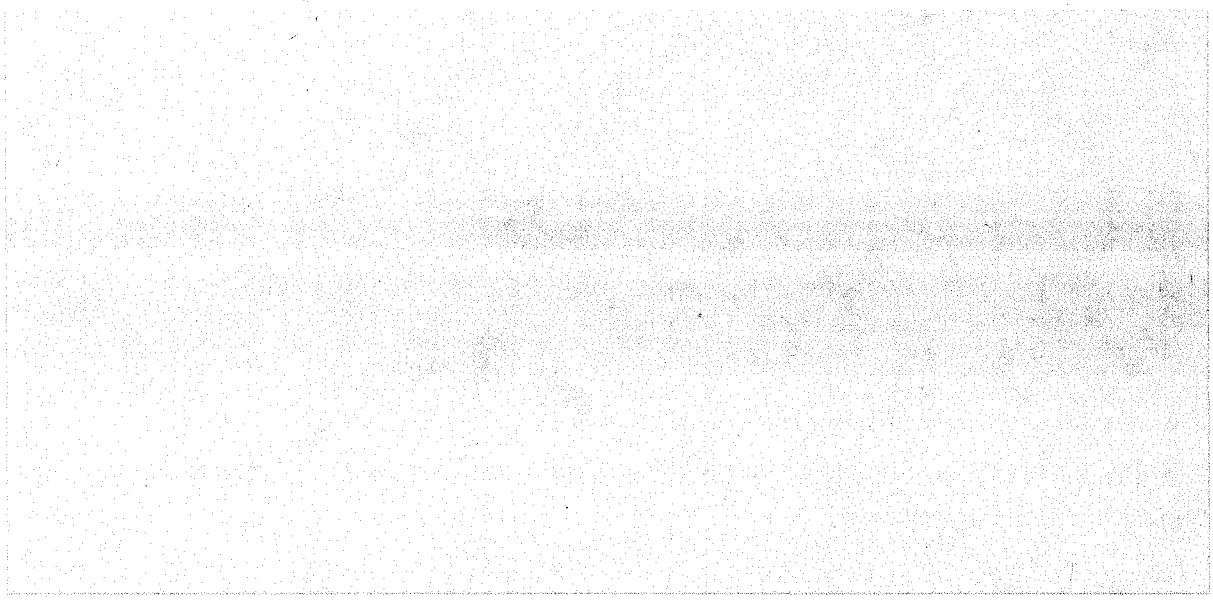
In other words, in the LDCO850A, if the head unit were disconnected after receiving a from the wall station, the head unit would simply sound the alarm and stop without proceeding to the step of effecting a "movable barrier" close. (*Id.*).

By way of comparison, an entirely different outcome occurs in the LDCO850, in which the head unit processor has the wherewithal to determine whether a command has a remote or local source *and* effect closure of the "movable barrier" "in combination" with or without an alarm notification based on that determination. As discussed above, a single from the wall station would cause the head unit to sound an alarm *and* close the "movable barrier operator" without additional input from the wall station. In the LDCO850, once the is sent from the wall station, the "movable barrier system" proceeds to closure regardless if the head unit is disconnected. The same outcome would occur if Nortek has simply moved the "processor" to the wall station, while maintaining the one-command approach to "effect" notification and closure "in combination."

However, Nortek made two (2) critical changes that made the LDCO850A patentably

distinct from claim 11. Consequently, under a proper construction of claim 11, a "movable barrier operator" (i.e., head unit) processor receiving a single command and effecting "movable barrier" closure with "imminent barrier motion notification" "in combination" is not substantially the same operationally, and thus not equivalent to, a wall station processor (not the required processor) using separate (not combined) commands to "effect" the "movable barrier operator" (i.e., head unit) to (1) sound an alarm (the "notification") and (2) close a "movable barrier," separated by a message from the head unit to the wall station confirming the alarm.

**Figure 19: Nortek's Depiction of What Would Happen to the Operation of the LDCO850A in the Event That the Head Unit Disconnected from the Wall Station after Receiving a**



(RDX-1001C.0019 (introduced during the testimony of Dr. Toliyat).).

### 8. Dr. Subramanian's Technical Testimony Is Credible

Nortek launched a blistering attack on Dr. Subramanian's credibility as an expert witness. (RRBr. at 18-22.). While acknowledging that Dr. Subramanian "may present well in court" and possess "steady demeanor," according to Nortek, "Dr. Subramanian did virtually no work

regarding his opinions." (*Id.* at 18.). Nortek argued that "Dr. Subramanian's discussion of both parties' source code is also unintelligible and fails to identify source code within any degree of specificity within the actual trial record." (*Id.* at 19.). Nortek critiqued CGI's attempt to "fix this deficiency by having its counsel create a new demonstrative, which it styled a 'corrected' or 'replacement' CDX-4C, to cite specific source code," characterizing the "new demonstrative" as "not properly part of the record." (*Id.*). Nortek also highlighted "Dr. Subramanian's conclusory assertions that he reviewed numerous documents and source code files and they all purportedly supported his testimony." Nortek suggested that "Dr. Subramanian simply regurgitated a list of documents that Chamberlain's counsel prepared." (*Id.* at 20-21.).

What is notably absent from Nortek's impassioned critique of Dr. Subramanian's testimony is Nortek's specific or verifiable examples of Dr. Subramanian's false or misleading testimony. Nonetheless, Dr. Subramanian made a few mistakes:

- he identified "'BOMs [Bills of Materials] and packaging materials' as evidence of infringement" where "some of the cited exhibits were just labels for products that Chamberlain no longer accuses of infring[ement];"
- he cited CX-0909C for the proposition that there were no relevant hardware differences between the accused Mighty Mule MM9333H and other accused products, although CX-0909C specifically states that "the MM9333H comes with the MMW100 wall station without wifi capability," distinguishing MM9333H from at least some of the other accused products; and
- he cited "deposition testimony by Mr. Brickner of Precision Door (a Nortek customer) specifically stating that Precision Door had installed BGU gate operators," although Mr. Brickner's testimony mentioned no such thing.

(RRBr. at 20 (citing Tr. (Subramanian) at 357:13-358:17; CX-0798C (label for MM571W); CBr. at 4 n.3 (dropping MM571W)), 20-21 (citing Tr. (Subramanian) at 285:16-24, 357:13-358:17, 666:23-667; CX-0909C.0020), 21 (citing Tr. (Subramanian) at 446:18-447:8; JX-0007C.).

Yet, these three (3) examples do not appear to be indicative of a broader trend in which Dr. Subramanian provided inaccurate information. Nor are they persuasive evidence that, as

Nortek requests, Dr. Subramanian's "testimony should accordingly be given little to no weight in the ALJ's and the Commission's analysis." (RRBr. at 22.). Nortek's argument does not change that. Generally, Dr. Subramanian presented as a knowledgeable and compelling witness who admittedly, as permitted under Federal Rule of Evidence 703, relied in part upon the testing and testimony of James Fitzgibbon,[26] Chamberlain's Director of Intellectual Capital. (*See, e.g.*, CDX-0004.0004 (materials reviewed by Dr. Subramanian); Tr. (Subramanian) at 685:11:23, 701:10-702:1, 708:20-22.).

Perhaps the greatest challenge to Dr. Subramanian's credibility was his conclusion that, in the context of the '404 patent, a "movable barrier operator" could comprise a wall station. For the reasons stated above, that conclusion was wrong. Importantly, however, that conclusion pertained to claim construction, a matter of law, and CGI's distortion of the Court's *Markman* Order. For specific technical details with respect to the operation of 404 Accused Products or 404 DI Products, Dr. Subramanian's credibility largely remained intact.

### 9. CGI's Representative Product Analysis is Mostly Sound

According to Nortek, "Chamberlain's expert analysis opining that the LDCO850 was representative of all accused GDO products is not credible." (RRBr. at 37.). Nortek asserted that "Chamberlain's representative product analysis at trial relied primarily on (1) citations to deposition testimony suggesting that some accused products might share certain high-level features, and (2) conclusory assertions from Dr. Subramanian that he had traced the relevant

[26] When he testified on Monday, June 10, 2019, James Fitzgibbon's responsibilities at the Chamberlain Group consisted of "patent portfolio management, working with the patents of Chamberlain." (Tr. (Fitzgibbon) at 157:18-25.). CGI called Mr. Fitzgibbon to testify about "the conception and reduction to practice of the inventions claimed in the patents-in-suit, the design and functionality of Chamberlain's domestic industry products, Chamberlain's business, including its history and product development processes, the prosecution of the patents-in-suit, and product testing that he performed at the direction of Chamberlain's expert, Dr. Vivek Subramanian, for use in this Investigation." (CPSt. at 2.).

functionality through all of the accused products by reviewing individual source code and relevant documents." (*Id.* (citing Tr. (Subramanian) at 309:23-310:1).).

During the Hearing, Dr. Subramanian presented a demonstrative, shown in Figure 20 below, that listed the 404 Accused Products: (1) purportedly representative of LDCO850; and (2) the remaining 404 Original Products (LDCO852, Amarr840, Amarr860, MM9545M), 404 Private Label Products, and 404 Alternative Products.

**Figure 20: Chamberlain's Listing of 404 Accused Products**

| Type of Product | Shorthand Name | Infringing Products | Claims Practiced | Representative Product |
|---|---|---|---|---|
| Garage Door Operators | '404 Original GDO Products | LDCO850, LDCO852, Amarr840, Amarr860, MM9545M, MM9434K, MM9333H | 11 | LDCO850 |
| | '404 Private Label Products (CX-0707C at 105-106) | **Private Label Versions of LDCO850:** Smart DC Megacode Oper 1 Led Light; AFS LDCO850 PVT; DGD LDCO850. | 11 | LDCO850 |
| | | **Private Label Versions of LDCO852:** 8428.90.0290; DGD LDCO852; Smart DC LDCO852 No Batt. | | |
| | | **Private Label Version of Amarr840:** Ent840 1 Led GDO. | | |
| | | **Private Label Versions of Amarr860:** Ent860 3 Led GDO; PDS Ultra 900 | | |
| | '404 Alternative GDO Products | LDCO850A, LDCO852A, Amarr840A, Amarr860A, MM9434KA, MM9545MA, MM9333HA | 11 | LDCO850 |

(CDX-0004.0009 (introduced during the testimony of Dr. Subramanian).).

Dr. Subramanian also testified that, based on his analysis, the LDCO850 was representative of each of 404 Accused Products in possessing the accused functionality.

Q. Which of the '404 accused products have you analyzed?

A. Well, I've actually analyzed all of those that are on the list.

* * *

Q. Can you explain how you selected the LDCO850 as representative?

A. Certainly. So what I did was I took the LDCO850 documentation, and this is the type of documentation that I just described, and I performed a claim element by claim element analysis to look for those features in the LDCO850. It turns out, as

> I've already pointed out, I found that all of those claim elements were practiced by the LDCO850. Now, I call that representative for the following reason, because I did that analysis. Once I had done that analysis, I knew what features to look for in the other parts. So it's not that I didn't look at the other documents. I still looked at the other documents. But it sped up the process, because now I knew exactly what to look for.
>
> Q. And were you able to map the features that infringed the LDCO850 to each and every one of the infringing products identified in CDX-4.9?
>
> A. I was.

(Tr. (Subramanian) at 285:12-286:25.).

As shown below in Figure 21, Dr. Subramanian relied upon deposition testimony of David Null, Nortek's Senior Software Engineer. Mr. Null agreed that "the functionality of the smart movement alarm in the LDCO850 is representative of the functionality in the smart movement alarm functionality in the LDCO852, the Amarr 840, Amarr 860, and the Mighty Mule residential GDOs[.]" (JX-0014C (Null Dep. Tr. (October 10, 2019) at 107:19-108:2.). Mr. Null also agreed that "all of the private label products that Nortek makes for third parties that have the smart movement alarm functionality work the same way" because "they share the same firmware with the products that we've discussed[.]" (*Id.* at 138:25 139:7.). In other words, Mr. Null's testimony validated Dr. Subramanian's analysis that the LDCO850 is representative of the 404 Accused Products.

**Figure 21: Mr. Null's Deposition Testimony on the Representativeness of the LDCO850**

**Representative Product: LDCO850**

David Null
Senior Software Engineer
NORTEK SECURITY & CONTROL

Q. And would you agree that, you know, since – the functionality of the smart movement alarm in the LDCO850 is representative of the functionality in – the smart movement alarm functionality in the LDCO852, the Amarr 840, Amarr 860, and the Mighty Mule residential GDOs? ...

**THE WITNESS: Yes.**

JX-0014C, Null 10/10/18 Dep. Tr. at 107:19-108:2

**Representative Product: LDCO850**

David Null
Senior Software Engineer
NORTEK SECURITY & CONTROL

Q. Do all of the private-label products that Nortek makes for third parties that have the smart movement alarm functionality work the same way we just discussed?

**A. To my knowledge, yes.**

Q. Is that because they share the same firmware with the products that we've discussed?

**A. I believe so.**

JX-0014C, Null 10/10/18 Dep. Tr. at 138:25-139:7

(CDX-0004.0011-12 (introduced during the testimony of Dr. Subramanian).).

However, Nortek presented rebuttal evidence that Dr. Subramanian and Mr. Null made one mistake in the LDCO850 representative of other 404 Accused Products. As Nortek argued, two (2) Mighty Mule products, the MM9333H and MM9333HA, "ship[] with an analog wall station with no Wi-Fi capability whatsoever." (RRBr. at 36.). This is important because,

according to Nortek, in the 404 Accused Products, "the only other type of connection identified by Chamberlain [in addition to a local wired connection from the wall station] is a 'network connection.'" (RRBr. at 25.).

Unlike the LDCO850, the MM9333H and MM9333HA lack a network connection and the ability to receive Wi-Fi commands. (Tr. (Null) at 830:8-831:3; Tr. (Toliyat) at 942:25-943:19; RX-0748C; RX-0740C.). Thus, they cannot distinguish Wi-Fi (remote) commands from those received from a local source, as required by claim 11.

Mr. Null confirmed this during the Hearing:

> Q. Okay. One of the products I had mentioned in my prior question was the Mighty Mule 9333H and HA. Do all of the Mighty Mule gate operators have -- or sorry, do all the Mighty Mule garage door openers use a smart wall station?
>
> A. They do not.
>
> Q. Which ones do not use a smart wall station?
>
> A. The one you just previously mentioned, the 9333.
>
> Q. So what kind of a wall station does it use if it's not a smart wall station?
>
> A. We also include -- have an option for users to have a manual wall station, so it's an analog component, very simple design, button press wall station, has no microcontroller on it. It's just resistors and switches.
>
> Q. And does -- when a Mighty Mule product such as the 9333H or HA uses an analog wall station, is it capable of receiving commands over Wi-Fi?
>
> A. It is not.

(Tr. (Null) at 830:8-24.).[27]

There is no evidence that Dr. Subramanian misclassified any other 404 Accused Products as represented by the LDCO850. Faced with this dearth of evidence, Nortek attempted to

[27] In light of this evidence, CGI should have dropped the MM9333H and MM9333HA as accused products during or immediately after the Hearing. CGI's decision not to do so is inexplicable.

discredit the remainder of Dr. Subramanian's representative product analysis by once again questioning his credibility: "the weight of Chamberlain's evidence on this point depends on the credibility of Dr. Subramanian's claims that he actually evaluated this evidence." (RRBr. at 37.). Yet, Nortek's tactic fails for the reasons stated above: absent a few apparently isolated and honest mistakes, Dr. Subramanian was a knowledgeable and compelling witness whose credibility survived Nortek's attacks.

### B. Technical Prong of Domestic Industry

#### 1. CGI's 404 DI Products Fall Into Two Categories: 404 Wi-Fi DI Products and 404 Internet Capable DI Products

As shown below in Figure 22, the 404 DI Products fall into two (2) categories that CGI identified: 404 Wi-Fi DI Products and 404 Internet Capable DI Products. (CBr. at 36.). The 404 Wi-Fi DI Products, standing alone, can connect to the Internet via an integrated Wi-Fi module. (Tr. (Fitzgibbon) at 160 ("The 8355W is the Wi-Fi version of a garage door operator."); CX-134C (8355W Installation Guide) at 29-30 ("The garage door opener has an internal gateway that allows the garage door opener to communicate directly with a home Wi-Fi network and access your MyQ account.").).

The 404 Internet Capable DI Products do not include a Wi-Fi module and can connect to the Internet, if at all, only by a separate Internet Gateway accessory. (Tr. (Fitzgibbon) at 218:25-219:5 ("Q. What product is this? A. It's the 8355 operator. Q. Now, we saw the 8355W is Wi-Fi-enabled. Is this Wi-Fi-enabled? A. This is not Wi-Fi-enabled. It is MyQ-enabled."), 219:6-11; CX-0044 (8355 Installation Guide) at 26 ("MyQ technology uses a 900Mhz signal to provide two-way communication between the garage door opener and MyQ enabled accessories."), 34 ("Liftmaster Internet Gateway: Internet enabled accessory which . . . allows you to monitor and

control garage door openers . . . enabled by MyQ technology.").).

According to CGI, the LiftMaster 8355W is representative of the 404 Onboard Wi-Fi Domestic Industry Products and the LiftMaster 8355 is representative of the 404 Internet Capable Domestic Industry Products, as shown below in Figure 22. (CBr. at 37.).

**Figure 22: CGI's Depiction of Its 404 DI Products**

| Representative Product | Represented Products |
|---|---|
| 8355W | 8155W (CX-0502); 8160W (CX-0502); 8160WRGD (CX-0501); 8164W (CX-0502); 8164WAC (CX-0503); 8165W (CX-0502); 8165WRGD (CX-0061); 8355W-267 (CX-0063); 8355WRGD (CX-0064); 8360W (CX-0063); 8360WL (CX-0063); 8365W-267 (CX-0063); 8365WRGD-267 (CX-0067); 8550W (CX-0069); 8550W-267 (CX-0069); 8550WL (CX-0069); 8550WL-267 (CX-0106); 8550WLRGD (CX-0528); 8550WRGD (CX-0071); 8557W (CX-0069); 8587W (CX-0047); 8587WL (CX-0047); 8587WRGD (CX-0070); B550 (CX-0074); B552 (CX-0074); B750 (CX-0074); B970 (CX-0075); B970PLT6 (CX-0075); B980 (CX-0505); C450 (CX-0079); C455 (CX-0080); C870 (CX-0082); HD750WF (CX-0090); HD950WF (CX-0091); LW9000WF (CX-0091); WD1000WF (CX-0091); WLED-267 (CX-0069) |
| 8355 | 8160 (CX-0327); 3043 (CX-0051); 54915 (CX-0050); 54918 (CX-0051); 54920 (CX-0052); 54930 (CX-0053); 54931 (CX-0054); 54985 (CX-0055); 54990 (CX-0056); 55918 (CX-0058); 57915 (CX-0132); 57918 (CX-0058); 8065 (CX-0041); 8075 (CX-0041); 8155 (CX-0042); 8155RGD (CX-0059); 8160RGD (CX-0060); 8165 (CX-0041); 8165RGD (CX-0061); 8350 (CX-0305); 8355-267 (CX-0044); 8355RGD (CX-0064); 8360 (CX-0045); 8365-267 (CX-0504); 8365RGD-267 (CX-0067); 8550 (CX-0046); 8550-267 (CX-0046); 8557 (CX-0046); 8557-267 (CX-0046); 8587 (CX-0046); 8587RGD (CX-0072); B500 (CX-0073); B503 (CX-0073); B510 (CX-0073); B730 (CX-0076); C203 (CX-0077); C205 (CX-0078); C400 (CX-0078); C410 (CX-0077); HD210 (CX-0077); HD420EV (CX-0086); HD420EVP (CX-0107); HD520EV (CX-0087); HD520EVG (CX-0108); HD520EVP (CX-0109); HD630EVP (CX-0088); HD920EV (CX-0049); HD930EV (CX-0049); HD930EVP (CX-0049); LW2200 (CX-0085); LW3000EV (CX-0089); LW3500EV (CX-0093); LW3500EVPLT6 (CX-0089); LW5000EV (CX-0049); M885 (CX-0094); M8856 (CX-0094); PD510 (CX-0098); PD512 (CX-0098); PD612EV (CX-0086); PD752KEV (CX-0099); PD762EV (CX-0099); WD832KEV (CX-0101); WD832KEVG (CX-0101); WD850KEVG (CX-0111); WD962EV (CX-0049); WD962KEV (CX-0049); WD962KPEV (CX-0049); WD962MLEV (CX-0049) |

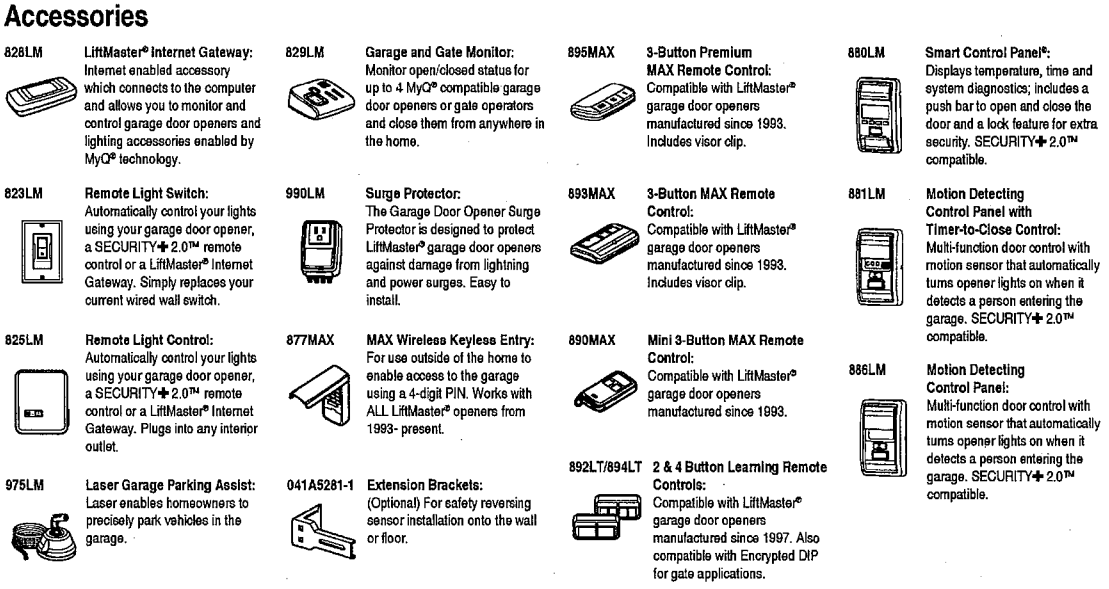
(CDX-0004.0055 (introduced during the testimony of Dr. Subramanian).).

Nortek argued that "there are differences between the LiftMaster 8355 and 8355W material to the issue of whether the LiftMaster 8355 practices claim 11." (RRBr. at 40.). Nortek is correct. (Tr. (Fitzgibbon) at 218:25-219-5; Tr. (Subramanian) at 654:15-655:3; CBr. at 36.).

Unlike the LiftMaster 8355W, the LiftMaster 8355 requires, a separate product, the 828LM Internet Gateway accessory shown below in Figure 23, to establish a Wi-Fi connection. (CX-0044.0034 (8355 product manual describing 828LM accessory to allow computer control of garage door openers).). The 828LM Internet Gateway is a "module that basically plugs into your router and allows communication through the Internet to the [movable barrier] operator via 900-megahertz radio that's built into the operator." (Tr. (Fitzgibbon) at 219:8-11.). The LiftMaster

8355 and 828LM Internet Gateway combination uses CGI's Alert2Close functionality, and can use a smartphone application to close a "movable barrier" with an imminent close notification (e.g., alarm). (Tr. (Fitzgibbon) at 219:4-15, 217:13-218:234 (describing Alert2Close feature).). According to Mr. Fitzgibbon, the Alert2Close feature that is enabled when the 828LM Internet Gateway is combined with the LiftMaster 8355 "is basically the pre alert as I've been calling it. You're alerting before the door is in motion to close" and it is used for "unattended door closing. In other words, that nobody is there watching the door, is the idea." (Tr. (Fitzgibbon) at 217:17-24; *see also* Tr. (Subramanian) at 655:12-24 (gateway used to allow MyQ smartphone application to communicate with LiftMaster 8355).).

**Figure 23: "Accessories" Page of LiftMaster 8355 Manual Showing the 828LM Internet Gateway as One of Many Accessories for the LiftMaster 8355**



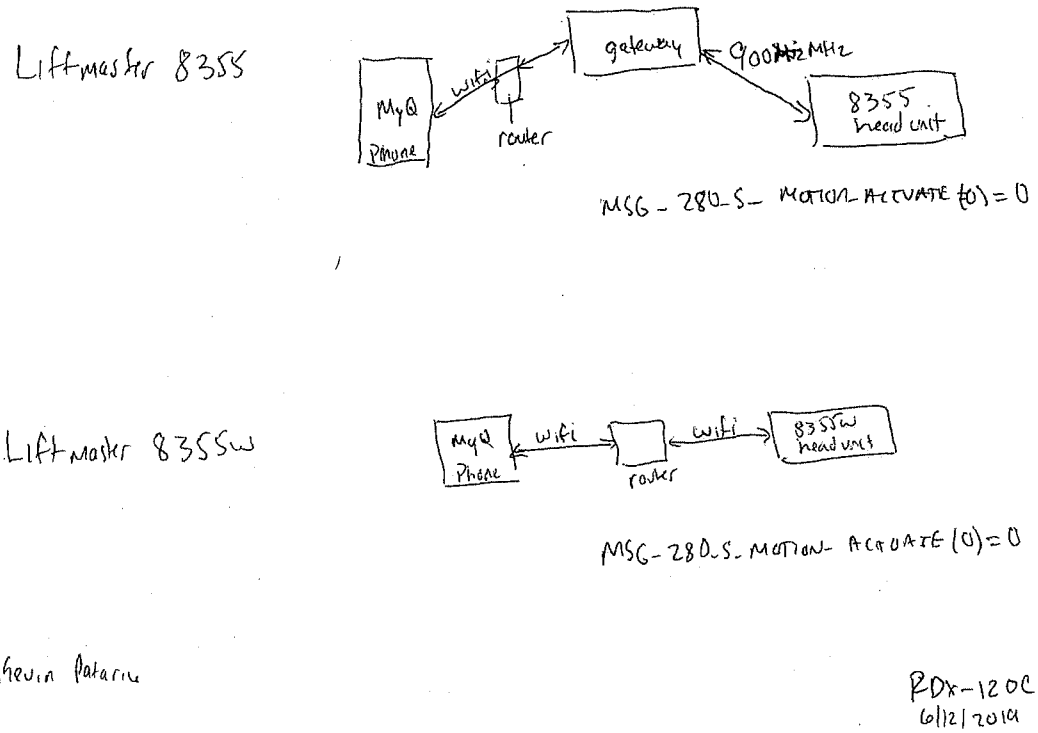

(CX-0044 (manual for LiftMaster 8355) at 34.).

### 2. CGI's Decision to Treat the LiftMaster 8355W as Representative of All 404 DI Products Overlooks CGI's Failure of Proof with Respect to the LiftMaster 8355 Accessorized with 828LM Internet Gateway

During the Hearing, Mr. Fitzgibbon and Dr. Subramanian took the position that the LiftMaster 8355W is representative not only of the 404 Onboard Wi-Fi Domestic Industry Products, but also of the 404 Internet Capable Domestic Industry Products, previously represented by the LiftMaster 8355. (Tr. (Subramanian) at 379:9-12 ("Q. And when the 8355 product is used with the [828LM Internet] Gateway, is the 8355W representative of all of those products as well? A. Yes, it is."); Tr. (Fitzgibbon) at 219:12-16 ("Q. When used together with the [828LM] Internet gateway, will the 8355 product perform all of those same features that you've just explained about Alert2Close and the notifications? A. Yes, it performs identical to the Wi-Fi model.").). Consequently, in its Post-Hearing Brief, CGI relied on evidence with respect to the operation of the LiftMaster 8355W for the operation of all of the 404 DI Products.

This is potentially problematic for at least two (2) reasons. First, as shown below in Figure 24, the 8355W and 8355 operate, at least to some extent, in different ways. Figure 24, created during the cross examination of Dr. Subramanian, which he verified as accurate, shows that while the 8355W and 8355 process commands received by the head unit in the same manner, how commands reach the head unit differs depending on the product. (Tr. (Subramanian) at 656:9-660:17.). In the 8355W product, commands sent from the MyQ smartphone application travel over only a Wi-Fi network en route to the head unit. (*Id.*). By contrast, in the 8355 accessorized with the 828LM Internet Gateway, commands from the MyQ smartphone application travel to the 828LM Internet Gateway over a Wi-Fi connection and then travel from the 828LM Internet Gateway to the head unit via a separate 900 MHz connection. (*Id.*).

**Figure 24: Demonstrative Created by Nortek's Counsel During Cross Examination of Dr. Subramanian at the Hearing, Showing Distinct Networking Arrangements LiftMaster 8355W and LiftMaster 8355 Accessorized with 828LM Internet Gateway**




(RDX-120C (showing different communication pathways for smartphone close commands when communicating with LiftMaster 8355 and 8355W.).).

This operational difference is echoed in CGI's Pre-Hearing Brief. There, CGI drew a distinction between the 8355W product and the 8355 product accessorized with the 828LM Internet Gateway with respect to the satisfaction of element [b] of claim 11, insofar as CGI makes a doctrine of equivalents argument only for the latter. (CPBr. at 50-51.). Thus, the underlying operational differences between these products set forth in Figure 25 below are potentially material, given that claim 11 focuses on the "communication connection[s]" of the "movable barrier operator" (i.e., head unit). (JX-0005 ('404 patent), cl. 11.).

However, based on the proper construction of claim 11, that is that the "movable barrier

operator" is the head unit and need not have mutually exclusive "communication connections[s]" for commands received via Wi-Fi, "local wired connection," etc.), CGI's equivalency argument is unnecessary. Moreover, CGI did not raise this argument in its Post-Hearing Brief and thus waived it under Ground Rule 10.1. The 8355 product accessorized with the 828LM Internet Gateway appears to satisfy element [b] of claim 11 even under Nortek's narrow, now-rejected position that the head unit must have mutually exclusive "communication connections" in a hub-and-spoke configuration. (CBr. at 41-42 ("The '404 DI Products meet this limitation under that construction because the head unit, which is part of the movable barrier operator, directly connects to each of the devices discussed above via a wired or wireless connection.").).

Moreover, as CGI noted, the operation of the 404 DI Products is undisputed. (CBr. at 42.). 404 Internet Capable DI Products accessorized with a 828LM Internet Gateway can receive commands from the MyQ mobile phone application over the internet just as if they were connected via an onboard Wi-Fi adapter. (Tr. (Fitzgibbon) at 219:6-16 (once connected to network, 8355 and 8355W work the same); Tr. (Subramanian) at 381:23-382:21.). Whether the connection to the network adapter is by an onboard Wi-Fi connection, or, alternately, through a dedicated 900Mhz wireless channel, is irrelevant to claim 11 of the '404 patent. (Tr. (Subramanian) at 707:7-11 (reaffirming his opinions in view of cross-examination).).

In the 8355W product and 8355 product accessorized with the 828LM Internet Gateway, the [redacted] (*Id.* (citing CX-0943C (Source Code) at 433; Tr. (Subramanian) at 384:21-385:12; Tr. (Toliyat) at 944:16-24.). As shown above in Figure 24, a [redacted], regardless of the networking differences between the 8355W and 8355 accessorized with the 828LM Internet

Gateway. (Tr. (Subramanian) at 385:17-386:3; Tr. (Toliyat) at 944:11-945:12; CX-0943C (Source Code) at 438-39 , 1161 ( ); CDX-0004.0065 ( ).). In the 8355W and 8355 accessorized with the 828LM Internet Gateway, the head units respond to this the same way, based on the , as explained in more detail below.

Nortek and its expert, Dr. Toliyat, did not dispute this evidence and thus failed to raise a material operational difference between the 8355W product and the 8355 product accessorized with the 828LM Internet Gateway. Consequently, from a technical perspective, CGI appropriately treated the 8355W as representative of all the 404 DI Products. Moreover, Nortek waived the argument under Ground Rule 10.1.

CGI's technical domestic industry problems do not end there. More troubling than CGI's collapse of two (2) representative 404 DI Products (8355W and 8355) into one representative 404 DI Product (8355W) is Nortek's contention that CGI has not identified the 828LM Internet Gateway as part of a domestic industry product.

According to Nortek, CGI did not identify the LiftMaster 828LM Internet Gateway as one of the 404 Internet Capable Domestic Industry Products, either alone or in combination with other 404 Internet Capable Domestic Industry Products, in CGI's Pre-Hearing Brief or even its Motion for Summary Determination on the Economic Prong of the Domestic Industry Requirement. (RRBr. at 41.).

Nortek is correct, and the same is true for CGI's Post Hearing Brief. CGI listed the non-Wi-Fi enabled LiftMaster 8355 as a 404 DI Product and only alluded to the fact that "Chamberlain internet-capable GDOs" "can be connected to the internet using an internet

gateway accessory[.]" (CBr. at 7.). Chamberlain also did not allege or prove by a preponderance of the evidence that the LiftMaster 828LM Internet Gateway was included with the LiftMaster 8355 product or any other 404 Internet Capable DI Products. This raised questions, largely unresolved, about the frequency with which customers purchase and pair the Gateway with the LiftMaster 8355 such that the combination is configured to practice claim 11. (CX-0044.0034 (showing 828LM Internet Gateway as optional accessory).).

In other words, for the purposes of domestic industry, as shown below in Figure 25, CGI seeks to have its cake and eat it, too. For the purposes of satisfying the economic prong of domestic industry (addressed in a separate Summary Determination Order), CGI has included all domestic industry expenditures for 404 Internet Capable DI Products without mentioning the 828LM Internet Gateway accessory that actually makes those Products "Internet Capable." Yet, for the purposes of satisfying the technical prong of domestic industry, CGI has presented an analysis that relies upon the inclusion of the 828LM Internet Gateway connected to the 404 Internet Capable DI Products in order to show that these Products practice claim 11.

CGI cannot have it both ways. On the one hand, CGI could exclude the 828LM Internet Gateway altogether from the domestic industry analysis and consequently not claim any of the expenditures associated with the 404 Internet Capable DI Products. On the other hand, CGI could include the 828LM Internet Gateway and claim only those domestic industry expenditures attributable to the fraction of total LiftMaster 8355 units that customers have combined with the 828LM Internet Gateway because that combination, and only that combination, makes the LiftMaster 8355 capable of practicing claim 11. What CGI has tried to do, but cannot do, is exclude the 828LM Internet Gateway for economic prong purposes and include the 828LM Internet Gateway for technical prong purposes. For the above-mentioned reasons, this approach

artificially inflates CGI's domestic industry expenditures.

According to CGI,

Similarly, Chamberlain's (Mem. in Supp. of CGI's Mot. for Summary Determination That It Has Satisfied the Economic Prong of the Domestic Industry Requirement (Doc. ID No. 664043 (December 12, 2018)) at 13-14.). However, CGI's record contains no information about the number of 828LM Internet Gateway accessories CGI sells or sold through the filing of the Complaint. Also left unexplained is whether CGI tracks, for example, the percentage of LiftMaster 8355 customers who acquire the 828LM Internet Gateway.

**Figure 25: Product-by-Product Breakdown of CGI's DI Products, Attached as Exhibit 4A to the Memorandum Accompanying CGI's Motion for Summary Determination That it Has Satisfied the Economic Prong of the Domestic Industry Requirement**

Exhibit 4A - U.S. DI Product Sales Detail[1,(a),(b)]
*Inv. 337-TA-1118*

| | 2013 *1/1/2013 - 12/31/2013* | 2014 *1/1/2014 - 12/31/2014* | 2015 *1/1/2015 - 12/31/2015* | 2016 *1/1/2016 - 12/31/2016* | 2017 *1/1/2017 - 12/31/2017* | 2018[(c)] *1/1/2018 - 5/4/2018* | Total *1/1/2013 - 5/4/2018* |
|---|---|---|---|---|---|---|---|
| **GDO DI Product Sales[2]** | | | | | | | |
| 3043 | | | | | | | |
| 54915 | | | | | | | |
| 54918 | | | | | | | |
| 54920 | | | | | | | |
| 54930 | | | | | | | |
| 54931 | | | | | | | |
| 54985 | | | | | | | |
| 54990 | | | | | | | |
| 55918 | | | | | | | |
| 57915 | | | | | | | |
| 57918 | | | | | | | |
| 8065 | | | | | | | |
| 8075 | | | | | | | |
| 8155 | | | | | | | |
| 8155RGD | | | | | | | |
| 8155W | | | | | | | |
| 8160 | | | | | | | |
| 8160RGD | | | | | | | |
| 8160W | | | | | | | |
| 8160WRGD | | | | | | | |
| 8164W | | | | | | | |
| 8164WAC | | | | | | | |
| 8165 | | | | | | | |
| 8165RGD | | | | | | | |
| 8165W | | | | | | | |
| 8165WRGD | | | | | | | |
| 8350 | | | | | | | |
| 8355 | | | | | | | |
| 8355-267 | | | | | | | |
| 8355RGD | | | | | | | |
| 8355W | | | | | | | |
| 8355W-267 | | | | | | | |
| 8355WRGD | | | | | | | |
| 8360 | | | | | | | |
| 8360W | | | | | | | |
| 8360WL | | | | | | | |
| 8365-267 | | | | | | | |
| 8365RGD-267 | | | | | | | |
| 8365W-267 | | | | | | | |

(*Id.*, Ex. 4A (annotated to show U.S. sales of the 8355W and 8355 DI products).).

For this reason, CGI's domestic industry showing cannot include the 404 Internet Capable DI Products and expenditures for those Products, unless the Products happen to practice a claim of the '223 patent as CGI also alleged. (*See* Section VIII.B.).[28] This is so for one (1) of

[28] As explained in Section VIII.B below, the LiftMaster 8355 sans 828LM gateway also fails to practice the '223 patent. Thus, CGI cannot count qualifying expenditures related to the LiftMaster 8355, 8355-267, or 8355RGD toward CGI's overall domestic industry expenditures. Nevertheless, the omission of these expenditures does not affect the outcome that CGI has satisfied the economic prong of domestic industry. (*See, generally*, Initial Determination Granting CGI's MSD That It Has Satisfied the Economic Prong of the Domestic Industry Requirement (Doc. ID No. 695438 (Nov. 25, 2019).).

two (2) reasons. First, either CGI has failed to identify the LiftMaster 8355 and LiftMaster 828LM gateway combination as a DI product, and thereby has waived the opportunity to do so now for the purposes of satisfying domestic industry requirements. Or, second, CGI has properly identified that combination as a DI product but failed to apportion its DI expenditures so as to account for the potentially large percentage of LiftMaster 8355 products that were not sold with or do not operate with the LiftMaster 828LM accessory.

Either way, it would be antithetical to the domestic industry requirement to credit CGI with 100% of expenditures for a product that, standing alone, definitively does not practice a claim of an asserted patent and only when some of the time, it is combined with another product from the same manufacturer, it practices an asserted patent claim. However, the frequency of that combination is unclear.

Based on the above, CGI did not prove by a preponderance of the evidence that the LiftMaster 8355W was representative of all 404 DI Products, and, in particular, the LiftMaster 8355, in terms of operation.

### 3. CGI Has Proven That the 404 Wi-Fi DI Products, and the 404 Internet Capable DI Products Accessorized with a 828LM Internet Gateway, Satisfy Claim 11 of the '404 Patent

There is no dispute that all of the 404 DI Products practice element 11[p]. The 404 DI Products are GDOs that contain processors configured to selectively use light and sound alerts together (i.e., a barrier imminent motion notification) when an unattended door is closing. (CX-0134 (8355W Installation Guide) at 1; CX-0044 (8355 Installation Guide) at 1; Tr. (Subramanian) at 379:13-21.).

An "unattended" closing is one that the user typically cannot see (such as when closing via the Internet using a mobile phone application). (CX-134 (8355W Installation Guide) at 3

(defining unattended operation); CX-0206C (Product Requirements Specification for '404 DI Products) at 13 ; *see also* Tr. (Subramanian) at 380:7-14 (explaining unattended close).).

There is no dispute that the 404 DI Products practice claim 11[a]. All of the 404 DI Products include a motor that is connected to a drive apparatus to open and close a movable barrier between a first and second position. (CX-0134 (8355W Installation Guide) at 25-26 (showing ability of door to travel), 41 ("motor with travel module"); CX-0044 (8355 Installation Guide) at 22-23 (showing ability of the door to travel), 38 (8355 "Motor"); Tr. (Fitzgibbon) at 195:10-16 ("Q. Now, are all of the products that are shown here on CDX-3.2 -- have they all been tested in the United States? A. At some time, of course they have. Q. Were they all connected to movable barriers when they were tested? A. Yes."); Tr. (Subramanian) at 380:17-381:22; Tr. (Toliyat) at 944:18-24.).

It is undisputed that the 404 DI Products practice claim 11[b]. All of the 404 DI Products (with or without Wi-Fi enablement) have local "communication connection[s]" with: (1) a wall station ("local wired connection"), (CX-0134 (8355W Installation Guide) at 31 ("Using the door control"); CX-0044 (8355 Installation Guide) at 26 (same); Tr. (Subramanian) at 381:23-382:6), and (2) a remote control ("direct wireless connection to a transmitter"), (CX-0134 (8355W Installation Guide) at 33; CX-0044 (8355 Installation Guide) at 28; Tr. (Subramanian) at 382:7-10.).

Additionally, 404 Wi-Fi DI Products, 404 Internet Capable DI Products accessorized with a 828LM Internet Gateway, have remote "communication connection[s]" with: (3) a

smartphone application ("wireless communication system connection").[29] (CX-0134 (8355W Installation Guide) at 30; CX-0044 (8355 Installation Guide) at 33; Tr. (Subramanian) at 382:11-21; CX-0638C (8355W test results); CX-0639C (8355 test results).).

It is undisputed that the 404 Wi-Fi DI Products, and the 404 Internet Capable DI Products accessorized with an 828LM Internet Gateway satisfy the "determination" elements [c] and [e]. The claimed "processor" in the LiftMaster 8355W and 8355 is the PIC18F67J11 processor which is included on the main logic board of the head unit (i.e., "movable barrier operator"). (Tr. (Subramanian) at 383:20-384:17.). In the DI Products, this processor is capable of determining if a signal is received from "at least one of the system wired connection, the network connection, and the wireless communication system connection." On the one hand, and "at least one of the direct wireless connection to the transmitter and the local wired connection."

In the 404 DI Products, a close command is called . (Tr. (Subramanian) at 385:17-386:3; Tr. (Toliyat) at 944:11-945:12; CX-0943C (Source Code) at 438-39 , 1161 ( ); CDX-0004.0065 ( ).). When a 404 DI Product receives a close command, the "processor"

[29] According to Nortek, "Dr. Subramanian did not offer an opinion that the '404 Domestic Industry Products practice Claim 11's 'network connection,'" and, thus, "Chamberlain has failed to establish that the LiftMaster 8355 practices the 'wireless communication system connection' or 'network connection' limitation in limitation 11[b]." (RRBr. at 423.). Yet, expert testimony is only one form of evidence relevant to CGI's DI case. In the absence of expert testimony, technical documents and product manuals provide the necessary proof, particularly where, as here, the underlying technology is relatively straightforward.

[redacted][30] (*Id.*). [redacted]

[redacted]. (Tr. (Subramanian) at 386:2-3 [redacted]

[redacted].). [redacted]

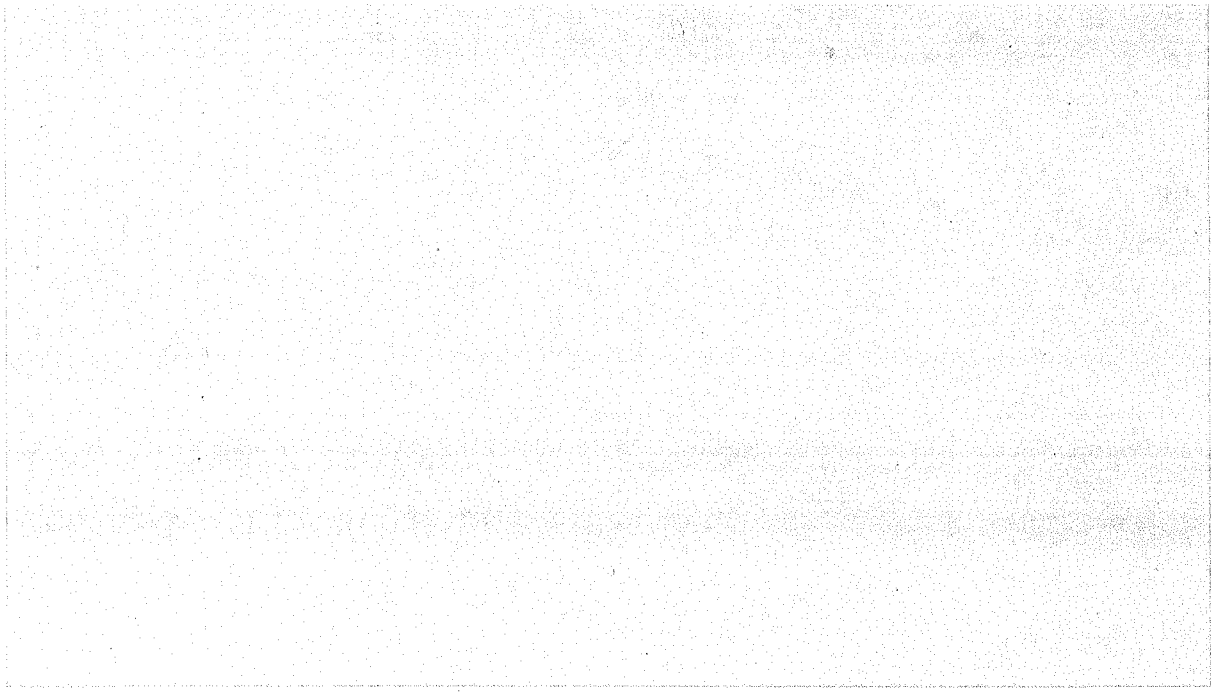
[redacted]. (*Id.*). [redacted]

[redacted]. (Tr.

(Subramanian) at 387:18-388:1; CX-0943C (Source Code) at 438-439.).

[30] Dr. Toliyat argued that [redacted] (Tr. (Toliyat) at 948:3-15; RRBr. at 44-50.). In so doing, Dr. Toliyat imported a requirement that the processor determine the exact type of communication connection over which a message is received, which is reminiscent of Nortek's now-rejected "hub and spoke" embodiment in which a "movable barrier operator" acts as a communication hub with multiple and entirely separate "communication connections" over which to receive commands from different command sources. Yet, that is not what claim 11 requires. Rather, elements [c] and [e] require only that the "processor" "determin[e] whether" a command is "received from at least one of" a group of "communication connection[s]." (JX-0005 ('404 patent), cl. 11.).

**Figure 26: CGI's Depiction of the 404 DI Products' Use of the**



(CDX-0004C.0065 (introduced during the testimony of Dr. Subramanian).).

It is undisputed the 404 Wi-Fi DI Products, and the 404 Internet Capable DI Products accessorized with a 828LM Internet Gateway, satisfy the "effect" elements [d] and [f].

In response to making the local versus remote source "determination" explained above, the "processor" . (CX-0943C (Source Code) at 438-439 , 383-420 ( ).). The

.

(Tr. (Subramanian) at 387:12-388:8 (analyzing claims 11[d] and 11[f]), 651:21-652:1 (explaining specific firmware function); CX-0943C (Source Code) at 384, 418 ( ),

438-439 ( ); Tr. (Toliyat) at 944:18-24

.).

Consequently, the 404 Wi-Fi DI Products, and the 404 Internet Capable DI Products accessorized with a 828LM Internet Gateway satisfy claim 11 of the '404 patent. With respect to those products only, CGI has satisfied the technical prong of the domestic industry requirement for the '404 patent. *Certain Doxorubicin and Preparations Containing Same*, Inv. No. 337-TA-300, Initial Determination at 109, 1990 WL 710463 (U.S.I.T.C. May 21, 1990), aff'd, Views of the Commission at 22 (October 31, 1990) (the test for claim coverage for the purposes of the technical prong of the domestic industry requirement is the same as that for infringement).

### C. Invalidity

#### 1. Invalidity Overview:[31] Nortek Failed to Prove That the '404 Patent Is Invalid

For the reasons set forth below, Nortek has failed to prove by clear and convincing evidence that claim 11 of the '404 patent is invalid.

Section 101 of the Patent Act states: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35

[31] In its Response to the Complaint, Nortek alleged that "[a]ll asserted claims of the Asserted Patents are invalid for failure to meet one or more of the requirements set forth in Title 35 of the United States Code, including Sections 101, 102, 103, 112, and/or 116." (Resp., Affirmative Defenses at ¶¶ 3, 5.). In its Pre-Hearing Brief, Nortek did not raise any arguments that the '404 patent was invalid under 35 U.S.C. § 102 or § 116. Thus, any argument on these issues are deemed abandoned or withdrawn under Ground Rule 7.2. Additionally, in its Initial Post-Hearing Brief, Nortek failed to address any allegations that the '404 patent is invalid under 35 U.S.C. § 112. Accordingly, any argument on this issue is deemed waived under Ground Rule 10.1.

U.S.C. § 101. Nortek has not proven that claim 11 is directed to an abstract idea and is otherwise patent ineligible under Section 101.

Under 35 U.S.C. § 103(a), a patent is valid unless "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made" to a person having ordinary skill in the art. 35 U.S.C. § 103(a). The ultimate question of obviousness is a question of law, but "it is well understood that there are factual issues underlying the ultimate obviousness decision." *Richardson-Vicks*, 122 F.3d 1476, 1479 (Fed. Cir. 1997) (citing *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17 (1966)).

Nortek has also not proved by clear and convincing evidence that claim 11 of the '404 patent is obvious in view of Nortek's prior art.

**2. Claim 11 Covers Patent Eligible Subject Matter**

According to Nortek, claim 11 is invalid for attempting to cover patent ineligible subject matter that is not allowed by 35 U.S.C. § 101. (RBr. at 8.). Nortek argued that "claim 11 is directed to the abstract idea of using a rule to choose between two alternatives." (*Id.* at 8-9.). Nortek framed this purportedly abstract idea as a "need to differentiate inputs" (quoting the '404 patent specification) and the "use of a rule to choose whether or not to sound the alarm as the claimed invention." (*Id.* at 9.). In Nortek's words, "[t]his decision between alternatives is so basic and abstract that it is not entitled to patent protection under §101." (*Id.* at 8.).

In rebuttal, CGI argued that "[a] movable barrier system with a selective 'moving-barrier imminent motion notification' is patent-eligible because it is an improved machine that falls squarely within § 101, and is outside any exception." (CRBr. at 3.). According to CGI, claim 11 is "directed to a specific machine that performs a specific algorithm, not an abstract idea,"

because "[e]ach element of claim 11 (and the claim as a whole) is focused on a networked movable barrier system that selectively uses a 'moving-barrier imminent motion notification' based on specific ways of determining when it is safe to close without an alarm."[32] (*Id.*).

Nortek and CGI appear to agree on the inventive feature of claim 11. That feature is providing a notification (e.g., an alarm) when a "movable barrier operator" determines that a close command came from a remote source (e.g., a smartphone application connected to the "movable barrier operator" via Wi-Fi) and, by contrast, not providing a notification when a "movable barrier operator" determines that a close command came from a local source (e.g., a wall station connected to the "movable barrier operator" via a "local wired connection".). (RBr. at 9 ("decision-making process is the focus of the claims"), 10 ("'determining' step is the 'core' of the '404 invention") (quoting its expert, Dr. Kenneth Fernald,[33] who referenced CGI Pre-Hearing Brief); CRBr. at 2-3 ("Claim 11 of the '404 patent is directed to an improved movable barrier system that alarms before moving when operated remotely, but closes without the

[32] Nortek highlighted CGI's decision not to provide rebuttal evidence on the patent eligibility of claim 11 during the Hearing. "Accordingly," Nortek concluded, "the evidence overwhelmingly shows that this issue should be decided in Nortek's favor." (RBr. at 8.). There are two (2) problems with this argument. First, as evinced by citations to the Hearing record provided in the section of CGI's Reply Post-Hearing Brief addressing Nortek's § 101 argument, including case-in-chief testimony from Mr. Fitzgibbon and Dr. Subramanian, Nortek is incorrect that "the only evidence presented at trial regarding the '404 Patent's eligibility under §101 came from Nortek." (CRBr. at 3.). Second, Nortek's argument ignores its burden of proof on this issue. If Nortek failed to satisfy its burden here, CGI would not need to present rebuttal evidence on this issue in order to prevail.

[33] When he testified on Thursday, June 13, 2019, Dr. Kenneth Wilson Fernald had earned a "bachelor's, a master's and a PhD in electrical engineering" from North Carolina State University and had worked in industry for about 30 years focusing on "microcontrollers and related systems, microprocessors, [and] embedded systems" and, during that time, been awarded over 70 patents and published "20-odd" papers. (Tr. (Fernald) at 1053:12-1055:11; RX-0056). Dr. Fernald was called by Nortek to testify about "the level of skill in the art at the relevant time period, how the Asserted Patents fail to satisfy the requirements of patentability, the prior art Respondents have identified, and how those references invalidate the Asserted Claims" and "the materiality of the references withheld during prosecution by the applicants for the '404 Patent." (RPSt. at 3.).

annoyance of an alarm when operated locally.").).

As the specification of the '404 patent explains, "there is a need to differentiate inputs that are received locally or within sight of the operator (either physically or by a camera) as opposed to inputs that can be generated from a long distance or not within sight of the operator." (JX-0005 ('404 patent) at 1:48-52.). *See ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 767 (Fed. Cir. 2019) ("the specification may … be useful in illuminating whether the claims are directed to the identified abstract idea").

Against this backdrop, Nortek draws a distinction between those decisions that find patent claims invalid on the one hand, and valid on the other hand, under § 101. Cases falling into the former category relate to patent claims covering "longstanding practices and methods of organizing human activity." (RBr. at 12 (citing *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1259 (Fed. Cir. 2016) ("providing out-of-region access to regional broadcast content" is an abstract idea and "merely limiting the field of use of the abstract idea to a particular existing technological environment [here, cellular phones] does not render the claims any less abstract"); *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) ("abstract idea of classifying and storing digital images in an organized manner" where "tangible components such as 'a telephone unit' and a 'server'" "merely provide a generic environment in which to carry out the abstract idea").); *see also FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089, 1092 (Fed. Cir. 2016) (claim 1 "implement[ed] an old practice in a new environment" generating a rule based on at least one of a number of predetermined criteria of user access, applying the rule to audit log data to determine if at least one criterion was met, storing a "hit" if an event occurred, and notifying the user if an event had occurred, "the same questions … that humans in analogous situations detecting fraud have asked for decades, if not centuries").

According to Nortek, cases falling into the latter, "patent-eligible" category relate "to specific technical improvement in the functioning of computer technology." (RBr. at 14 (citing *Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999, 1003 (Fed. Cir. 2018) ("specific method for navigating through three-dimensional electronic spreadsheets"); *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1362 (Fed. Cir. 2018) ("improved user interface for electronic devices, particularly those with small screens"); *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016) ("a specific asserted improvement in computer animation); *Enfish v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016) ("specific type of data structure designed to improve the way a computer stores and retrieves data in memory"); *DDR Holdings v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) (claimed generation of websites to retain visitors "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks").).

Nortek fails to recognize that claim 11 falls squarely into the patent eligible category. Claim 11 covers a simple but specific improvement in the operation of a computerized "movable barrier" system. In essence, claim 11 requires that a "movable barrier operator" be configured to process "close" commands received from specifically enumerated "communication connection[s]," determine whether the commands come from local or remote sources, and effectuate closing of the "movable barrier" with a "moving barrier imminent notification" only when a "close" command arrives from a remote source. (JX-0005 ('404 patent), cl. 11.).

In a tangible way, claim 11 attempts to preserve the safety benefits of a "moving barrier imminent motion notification" when a "close" command originates from a remote source, and the sender of the command might not have eyes on the "movable barrier." Claim 11 dispenses with the annoyance of the "moving barrier imminent motion notification" when a "close"

command originates from a local source and the sender of the command likely has eyes on the "movable barrier." (*Id.* at 1:36-48 ("[I]t is advantageous to include the notification feature to warn those near the barrier of the barrier's imminent movement when actuated to move by a user that is not present at the barrier. … The operator or user of the movable barrier system may be located near the door such that delay in the operation of the movable barrier system can result in user frustration because the user will typically expect immediate operation of the movable barrier operator upon actuation by the user.").).

Nortek framed "the focus of claim 11" as merely "using a rule to choose between two alternatives[.]" (RBr. at 8, 12-13.). If claim 11 did cover the truly abstract idea of a "movable barrier operator" configured to apply a generic condition or rule to choose between generic two alternatives, claim 11 would likely be found to cover an abstract idea. Yet, in the context of a "movable barrier system," claim 11 requires the application of a *specific condition* (command source is local or remote) to choose between two specific alternatives (close barrier with or without a notification (e.g., alarm) (emphasis added).). (JX-0005 ('404 patent), cl. 11.). It is the operational specificity of claim 11 that makes it patent eligible under § 101. Stated another way, the conditional sounding of a garage door alarm, based on a local versus remote "close" command source, is much more akin to a "specific technical improvement in the functioning of computer technology" than a "longstanding practice[] and method[] of organizing human activity."

Nortek draws a false equivalency between claim 11 of the '404 patent and claim 1 of U.S. Patent No. 7,224,275 ("the '275 patent"), which was recently held to be invalid by the Federal Circuit pursuant to § 101. *See Chamberlain Group, Inc. v. Techtronic Industries Co.* (*"Techtronic"*), 935 F.3d 1341, 1349 (Fed. Cir. 2019). Claim 11 of the '404 patent and claim 1

of the '275 patent are distinct claims from distinct patents and, thus, the Federal Circuit's decision to find the latter directed to an abstract idea and ultimately patent-ineligible is not dispositive with regard to Nortek's § 101 challenge to the '404 patent. Nevertheless, the Federal Circuit's analysis of claim 1 of the '275 patent in *Techtronic* is instructive for purposes of applying *Alice* insofar as *Techtronic* sheds light on the metes and bounds of an "abstract idea."

Claim language is the focus of a § 101 inquiry. *See Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016) ("The §101 inquiry must focus on the language of the Asserted Claims themselves."). Claim 1 of the '275 patent recites:

> A movable barrier operator comprising:
>
> a controller having a plurality of potential operational status conditions defined, at least in part, by a plurality of operating states;
>
> a movable barrier interface that is operably coupled to the controller;
>
> *a wireless status condition data transmitter* that is operably coupled to the controller, wherein the wireless status condition data transmitter transmits a status condition signal that:
>
> > corresponds to a present operational status condition defined, at least in part, by at least two operating states from the plurality of operating states;
> >
> > and comprises an identifier that is at least relatively unique to the movable barrier operator, such that the status condition signal substantially uniquely identifies the movable barrier operator.

*Techtronic*, 935 F.3d at 1345 (emphasis added).

As the Federal Circuit explained with respect to claim 1 of the '275 patent:

> The '275 patent relates to an apparatus and method for communicating information about the status of a movable barrier, for example, a garage door. The '275 patent explains that, "[o]ver time, the capabilities of and features supported by . . . movable barrier operators . . . expanded to include actions other than merely opening and closing a corresponding movable barrier." '275 patent at col. 1, ll. 31–34. Some movable barrier operators could provide ambient lighting, for example, or sense the presence of an obstacle in the path of the movable barrier and take an appropriate

> action. *Id.* at col. 1, ll. 34–38. The '275 patent explains that the movable barrier operator may communicate information relating to the movable barrier's status with respect to these actions with various peripheral devices, including sensors, alarms, displays, lights, and so forth. *Id.* at col. 1, ll. 54–61. Rather than communicating this information over a physical signaling path, the asserted claims recite communicating it wirelessly. *Id.* at col. 1, l. 64 – col. 2, l. 16. The specification describes wireless transmitters as being "well understood in the art." *Id.* at col. 3, l. 54 – col. 4, l. 4.

*Id.*

In arriving at its patent-ineligible finding, the Federal Circuit explained that "claim 1 is directed to wirelessly communicating status information about a system. ... The only described difference between the prior art movable barrier operator systems and the claimed movable barrier operator system is that the status information about the system is communicated wirelessly[.]" *Id.* at 1346. The Federal Circuit continued, "the claims merely recite a system that communicates status information, in the same 'well understood' manner that wireless transmissions have always occurred" and "no specific manner of performing the abstract idea is recited in these claims." *Id.* at 1348.

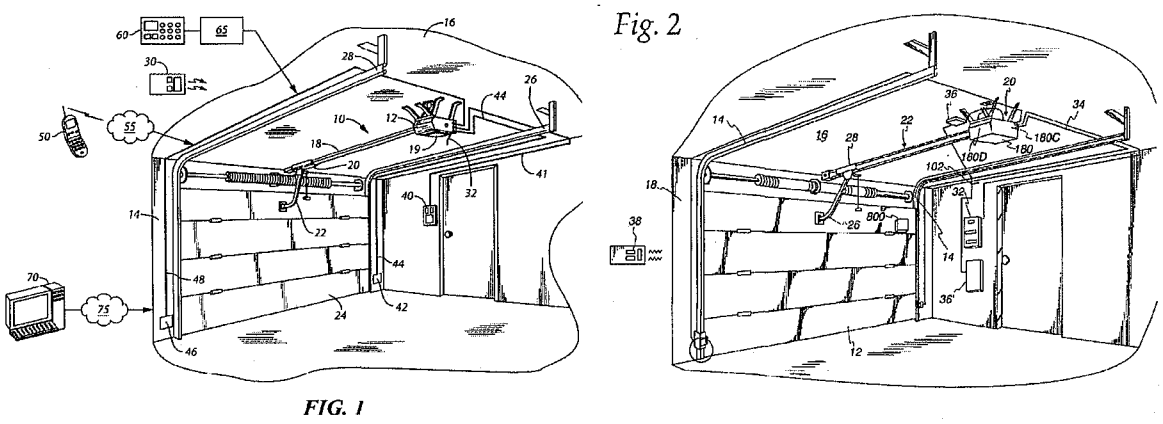
Here, by contrast, claim 11 of the '404 patent recites a specific manner for selectively applying a "moving barrier imminent motion notification." While "movable barrier operator" processors surely make myriad "determination[s]" under normal operating conditions, claim 11 targets a specific determination based on a specific condition, i.e., command source is local or remote, specific "communication connection[s]" from which commands can be received, e.g., "local wired connection," "wireless communication system connection", and specific results, i.e., close barrier with or without a notification. Thus, Nortek's § 101 defense falters at the first blush or, as CGI asserted, "Nortek's argument that the '404 patent is directed to an abstract idea fails at Alice step one." (CRBr. at 2.).

That said, if the "determine" and "effect" elements of claim 11 ([c] – [f]) are subsequently found to recite an abstract idea, claim 11 would likely be found to be patent ineligible. That is because, in step 2 of the *Alice* analysis, "courts must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 217. Here, as shown below in Figure 27, there appears to be no legitimate dispute[34] that there is nothing inventive about elements [p] – [b] of claim 11, alone or in combination. (*See* RBr. at 14-18.). *See Alice*, 573 U.S. at 225 (examine not just whether the claimed elements existed independently prior to the asserted patent, but whether they were routine and conventional as an "ordered combination.").

As of March 2009, when the '404 patent application was filed, as Figure 27 demonstrates, "movable barrier operator systems" (or "MBOs") with combinations of "processor[s]," "communication connection[s]," "movable barriers" and "imminent motion notifications" appear to have been routine and conventional for some time. In February 2006, a patent application disclosing these elements, which subsequently issued as U.S. Patent No. 6,998,977 and was assigned to CGI ("Gregori Patent"). (RX-1360 (Gregori Patent) at Cover, Figs. 1-2.).

[34] According to CGI, "[a]t the time of the '404 invention in 2007, MBOs (or movable barrier operators, or more simply, systems that opened garage doors or gates, etc.) with the ability to connect to the internet and other devices through a plurality of communication connections were anything but 'well-understood' or 'conventional.' Chamberlain was the first to bring such connected products to market in 2011. Tr. [Sorice] at 110:9-14 ('Q. When MyQ was launched [in 2011], did anyone else in the industry have an Internet-connected MBO? A. No, we were the first.')." (CRBr. at 8.). Yet, while market introduction of products possessing certain claim elements might be indicative of those elements being routine and conventional as an "ordered combination," market introduction is not the test laid out in step two of the *Alice* analysis.

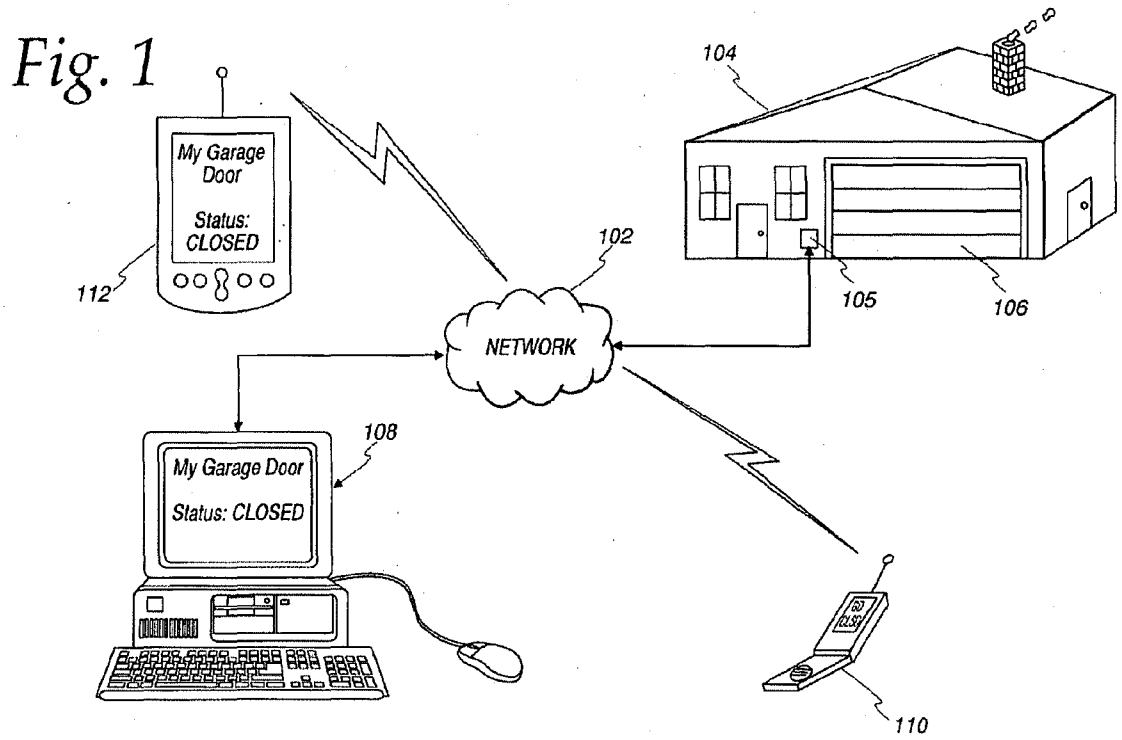
**Figure 27: Figure 1 of '404 Patent (left, application filed in 2009) and Figure 2 of the Gregori Patent (right, application filed in 2003), Both Assigned to CGI**




(JX-0005 ('404 patent) at Fig. 1 (left); RX-1360 (Gregori Patent) at Fig. 2 (right).).

While Figure 1 of the '404 patent discloses items not explicitly disclosed in Figure 2 of the Gregori Patent, such as cellphone (50) and the computer (70), as shown below in Figure 28, Figure 1 of the Gregori Patent also disclosed a computer (108) and cell phone (110) connected to a "movable barrier operator system" via a network connection. (RX-1360 at Fig. 1.). As discussed in more detail in the obviousness section below, the Gregori Patent also explained that the "digital network" can be "the well known Internet." (*Id.* at 2:25-28.).

**Figure 28: Figure 1 of '404 Patent (left, application filed in 2009) and Figure 2 of the Gregori Patent (right, application filed in 2003), Both Assigned to CGI**




(*Id.* at Fig. 1.).

Thus, Nortek has proven by clear and convincing evidence that step 2 of the *Alice* test would be satisfied in the event that the "determine" and "effect" elements [c] – [f] of claim 11 are found to recite an abstract idea.

### 3. Claim 11 Is Not Obvious in View of the Identified Prior Art

Nortek argued that claim 11 is obvious in view of three (3) references: DASMA Article (RX-1026 (Jan. 2006)), Gregori Patent (RX-1360 (underlying application published in Jan. 2005; patent issued in Feb. 2006)), and the UL325 Standard (RX-0086C (Jan. 2009)). (RBr. at 18.). CGI does not dispute that these references are prior art to the '404 patent, which was filed on March 24, 2009. (CRBr. at 9-17.).

Dated January 23-25, 2006, DASMA Article is entitled "News From the DASMA Annual Meeting" and was published in D+AS MAGAZINE, a publication of the Door & Access Systems Manufacturers Association ("DASMA"). (RX-1026 (DASMA Article) at 1.). In pertinent part, the DASMA Article states that, as of January 2006, the UL 325 Standards Technical Panel "reviewed and developed provisions," eligible for adoption by a future vote, "regulating unattended operation of residential garage doors" because of "the market presence of devices that can automatically operate a garage door without someone in the line-of-sight of the door," including some devices that "operate via timers or Internet access." (*Id.* at 3.).

The Gregori Patent is entitled "Method and Apparatus for Monitoring a Movable Barrier Over a Network." (RX-1360 (Gregori Patent) at Cover.). The Gregori Patent issued on February 14, 2006 from an application filed in 2003. (*Id.*). The Gregori Patent describes systems in which a "movable barrier operator" "is connected to a digital network," such as "the well known Internet." (*Id.* at 2:25-28.).

The UL 325 Standard, entitled "Door, Drapery, Gate, Louver, and Window Operators and Systems" and dated January 19, 2009, is a standard promulgated by Underwriters Laboratory ("UL"). (RX-0086C (UL325 Standard) at 1, 3.). In Section 32.5, the UL325 Standard addresses "Unattended operation" in general. (*Id.* at 84-85.). In subsection 32.5.5.3, the UL325 Standard states that "[a]fter two attempts per 32.5.5.2 [unattended downward traveling door is stopped and reversed by an entrapment protection], the operator system shall suspend unattended operation. The operator system shall require a renewed, intended input, *via door control*, prior to re-enabling unattended operation." (*Id.* at 85 (emphasis added).). In its Glossary (Section 3), the UL 325 Standard defines "UNATTENDED OPERATION RESIDENTIAL GARAGE DOOR OPERATOR" as "Operation without the user within the line-of-sight of the door." (*Id.* at 21.).

This definition is echoed in the '404 patent: "differentiate inputs that are received locally or within sight of the operator (either physically or by a camera) as opposed to inputs that can be generated from a long distance or not within sight of the operator." (JX-0005 ('404 patent) at 1:48-52.).

In line with the patent eligibility discussion, CGI did not dispute that the Gregori Patent discloses certain, foundational elements of claim 11 of the '404 patent. (CRBr. at 9-17.). For element 11[a], CGI did not dispute Figure 2 shows a "movable barrier operator for automatically opening and closing a barrier," which includes "movement between the closed position illustrated in Fig. 2 and an open or raised position." (RX-1360 (Gregori Patent) at 2:39-40, 2:54-55; Tr. (Fernald) at 1061:2-4, 1073:3-12.). With respect to element 11[b], as Dr. Fernald testified, the Gregori Patent contains all the "ordinary garage door mechanics" and components including a wired "keypad control," while also disclosing a network connection to the Internet for wireless operation. (Tr. (Fernald) at 1060:21-1061:4, 1073:3-22; *see also id.* at 1069:25-1070:4.).

As Dr. Fernald testified, Figure 2 depicts a "push button control unit" (i.e., wall station) that is wired to the garage door opener. (RX-1360 (Gregori Patent) at 3:5-9, Fig. 2; Tr. (Fernald) at 1073:3-22.). Likewise, Figure 1 discloses controlling the garage door opener wirelessly "through a PDA or computer or a phone through the Internet." (Tr. (Fernald) at 1060:21-1061:1, RX-1360 (Gregori Patent) at Fig. 1.). It is also clear that the DASMA Article and the UL 325 Standard address a "movable barrier system" configured to use a "moving barrier imminent motion notification," which is required by element [d] of claim 11. (RX-1026 (DASMA Article) at 3 (under heading "Unattended Operation May Come to Vote," states that "Operator Electronics Division discussed alarm signals"); UL 325 Standard at 84-85 (under section 32.5,

entitled "Unattended Operation," the Standard states "[t]he operator system shall provide an audible and visual alarm signal.").).

Nevertheless, CGI argued that Nortek's obviousness defense failed for four (4) reasons. (CRBr. at 9-10.). First, CGI asserted that "Nortek failed to present expert testimony that showed how each specific limitation of claim 11 is disclosed in the alleged prior art." (*Id.* at 9.). Second, CGI argued that "Nortek incorrectly contends that § 32.5.5.3 of the UL 325 standard ... 'necessarily' implies 'distinguish[ing] whether the source of a command is local or remote." (*Id.* at 9.). Third, CGI raised Nortek's purported "failure to address the unique requirements of the 'effecting' limitations" insofar as "Nortek improperly treats the 'effecting' requirement as coextensive with 'determining' the source of a received command," although "nothing in UL 325 teaches effecting the closing of a movable barrier in response to the claimed 'determination.'" (*Id.* at 9-10.). Finally, CGI questioned Nortek's motivation to combine the references "based on the supposed 'mandatory' nature of UL 325 fails because UL 325 was not required at the time the '404 application was filed." (*Id.* at 10.).

CGI's first and fourth arguments are unavailing. As for CGI's first argument, expert testimony is only one form of evidence relevant to a resolution of Nortek's obviousness defense. In the absence of expert testimony, the prior art references provide sufficient specificity to draw a conclusion without expert testimony because the underlying technology is relatively straightforward.

With respect to CGI's fourth argument, whether the UL 325 Standard was legally mandated or not,[35] at the time of the filing of the patent application that eventually issued as the

[35] As CGI noted, correctly, in March 2009, the UL 325 Standard "was a voluntary safety standard, and its

'404 patent, is not necessarily dispositive of the motivation to combine issue. This is because, as Dr. Fernald testified, before the priority date of claim 11 of the '404 patent, the UL 325 Standard may have been a *de facto* standard:

> Q. Have you seen other evidence that companies like Chamberlain and Nortek work to comply with the UL325?
>
> A. Yes. We've actually heard testimony to that effect from several people, Mr. Board -- excuse me, Mr. Ward, Mr. Fitzgibbon, Mrs. Kelkoff. They all indicate that it's an extremely important standard for them. It's about liability because it's all about safety. So they basically treat it as a *de facto* mandate, in my opinion.

(Tr. (Fernald) at 1065:4-11.). Dr. Fernald's *de facto* standard testimony is unrebutted, and clear and convincing evidence of a motivation to combine these references. [36]

Although not raised by CGI, Nortek did not show that its prior art combination identified above disclosed the "processor" required by claim 11. Elements [c] – [f] require a "processor" that resides in the "movable barrier operator" (i.e., head unit). (JX-0005 ('404 patent), cl. 11.).

The Gregori Patent discloses a "microcontroller," which Nortek maps to the "processor" of claim 11. (RX-1360 (Gregori Patent) at 3:20-67, 4:18-38, Fig. 3; *see also* Tr. (Subramanian) at 1174:22-1175:21.). However, this microcontroller (304) resides in the network interface (36) located outside the "movable barrier operator" (20), as shown clearly in Figure 2 of the Gregori

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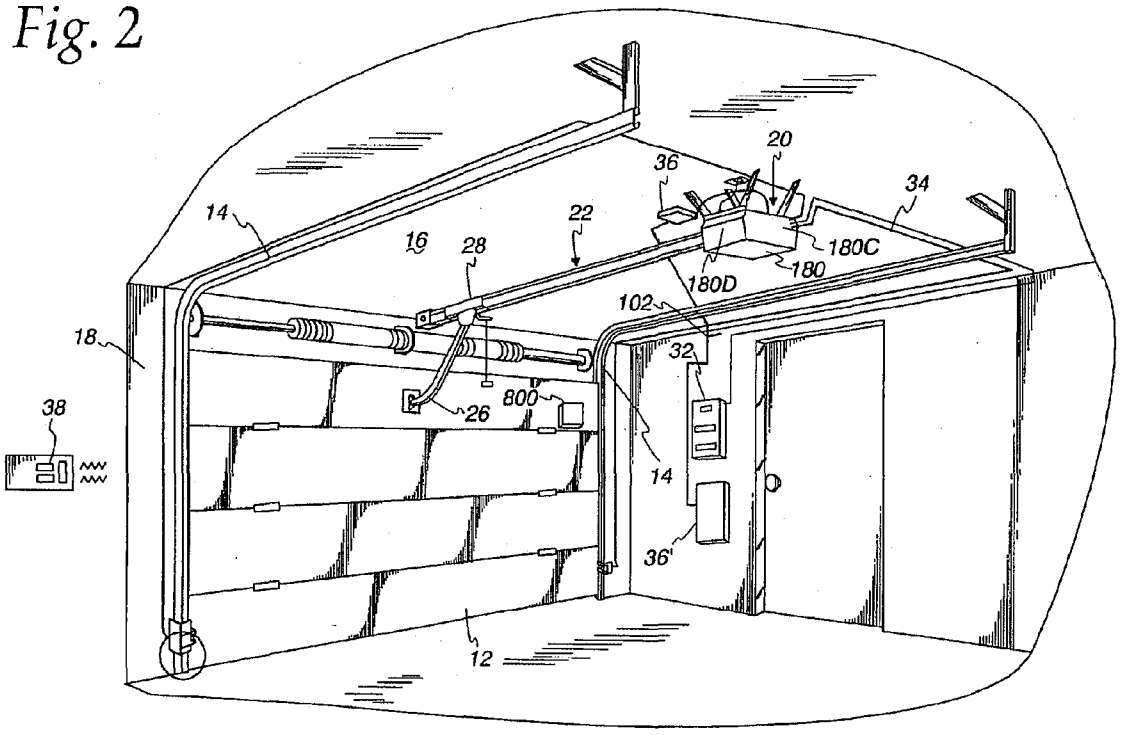
unattended operation provisions were not incorporated into federal regulations until May 2016—long after the '404 patent issued in November 2013." (CGI at 14 (citing Consumer Product Safety Commission ("CPSC"), Final Rule, 81 Fed. Reg. 20224 (Apr. 7, 2016) (revised rule effective May 9, 2016); *id.* at 20226, 20234-35 (adding new § 1211.14 on unattended operation of GDOs).). CGI also noted that "the CPSC notice states that '***no version of the voluntary standard UL 325 is currently mandatory, nor has it been mandatory in the past.***'"(emphasis added). (*Id.* (citing 81 Fed. Reg. at 20225).). CGI contended that "the California statute Nortek cites, § 19890, does not address unattended operation." (*Id.* (citing Cal. HSC § 19890(a) (2019).).

[36] However, Nortek failed to proffer evidence that a person of ordinary skill in the art would have had a reasonable expectation that making its proposed combination would succeed in arriving at claim 11. *See, e.g., Procter & Gamble Co.*, 566 F.3d at 994 ("reasonable expectation of success" required to show obviousness'") (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)).

Patent, reproduced in Figure 29 below.

Of course, CGI did not raise this argument, which lead Nortek to characterize the issue as "indisputably present." This is because a "movable barrier operator" to a head unit for the purposes of rebutting Nortek's invalidity case, as CGI argued, conflicts with CGI's infringement case and, especially, its ill-fated theory that "movable barrier operator" is broad enough to encompass a wall station. (RBr. at 19.).

**Figure 29: Figure 2 of the Gregori Patent Showing the Network Interface (36) Containing a Microcontroller Located Outside "Movable Barrier Operator" (i.e., Head Unit) (20)**




(RX-1360 (Gregori Patent) at Fig. 2.).

CGI's second and third arguments of non-obviousness focus on the lack of disclosure, in Nortek's prior art combination, of the "determine" and "effect" elements of claim 11. Nortek

relied on the UL 325 Standard for disclosure of these elements, particularly § 32.5.5.3. (RBr. at 21-22.). According to Nortek, § 32.5.5.3 requires that, if an unattended close command has failed twice (for example, because there is an obstruction preventing closure), unattended operation is disabled and the only way to reactivate unattended close in this situation is via "door control." (RX-0086C (UL325 Standard) at 85; Tr. (Fernald) at 1069:1-24.). This is correct.

However, relying only on Dr. Fernald's testimony, and ignoring evidence to the contrary, Nortek made an evidentiary leap that "door control" necessarily means a user is controlling the door from the wall station rather than from a remote source like a cellphone. (Tr. (Fernald) at 1069:18-24 ("Well, what it means is in order to be able to reenable unattended operation when it's been disabled because of two reversals, you have to be able to distinguish whether your input command came from a door control or versus the Internet, for example.").). The implication of this argument is that the "movable barrier system" of the prior art combination must be able to differentiate between local and remote commands. This implication is problematic.

There is evidence that Dr. Fernald did not mention in his testimony that "door control" must be local. For example, while it does not explicitly define "door control," the UL 325 Standard draws a distinction between "wired control" and "wireless control." (RX-0086C (UL325 Standard) at 22.). The former is a "control implemented in the form of fixed physical interconnections between the control, the associated devices, and an operator" (e.g., a conventional wall station). (*Id.*). The latter, on the other hand, is a "control implemented in means other than fixed physical interconnections (such as radio waves or infrared beams) between the control, the associated devices, and an operator[.]" (*Id.*).

Consequently, a reasonable interpretation of the UL 325 Standard is that "door control" can be "wired door control," such as a local wall station, or "wireless door control," such as a

mobile phone. Untethering "door control" from a local connection undermines Nortek's argument that the "movable barrier system" of the prior art combination must be able to differentiate between local and remote commands. In other words, § 32.5.5.3 of the UL 325 Standard could be satisfied by a system that reactivates unattended closures (rendered inactive by two failures) based on *local or remote* "door control."

Another problem for Nortek's obviousness defense is that, while the '404 patent focuses on promoting safety (notify when closure is unattended – elements [c], [d]) and minimizing user annoyance (do not notify when closure is attended – elements [e], [f]), the UL 325 Standard addresses only the former and is silent on the latter. (RX-0086C (UL325 Standard) at 84-85.).

To plug this evidentiary hole, Nortek's argument that "from the very start, UL 325 and its members only ever considered employing alarms for remote operation, not local operation." (RBr. at 22 n.5.). Nortek continued: "the named inventor, Mr. Laird, has admitted that UL 325 does not require alarming for attended operation, (JX-0023C at 163:14-18), and that UL 325 systems do not alarm all the time, i.e., when attended. (JX-0023C at 164:6-11.)." (*Id.*).

Yet, once again, Nortek ignored evidence suggesting the opposite is true. The Background section of the '404 patent indicates that, at least some of the time, "movable barrier systems" of that era did provide notifications during an attended close: "The operator or user of the movable barrier system may be located near the door such that delay in the operation of the movable barrier system can result in user frustration because the user will typically expect immediate operation of the movable barrier operator upon actuation by the user." (JX-0005 ('404 patent) at 1:43-48.). Moreover, Mr. Laird said as much during his deposition:

> Q. So, if someone is actually physically present presses the garage door button on the wall, the UL 325 unattended operation provisions don't require there to be any sort of advanced notification before the garage closes, correct?

* * *

> A. The standard is not, but anyplace it was -- it existed in practice at that time to my knowledge the alarms were sounded, the pre-warnings were sounded.

(JX-0023C (Laird Dep. Tr. (Nov. 13, 2018)) at 163:20-164:4.).

In other words, Nortek has not provided clear and convincing evidence that its prior art combination necessarily discloses a *forbearance* of notification when a closure is attended based on a determination that the user is local, as required by elements [e] and [f]. (Emphasis added).

While § 32.5.5.3 of the UL325 Standard does suggest a "movable barrier system" with the ability to differentiate between local and remote commands ("if an unattended close command has failed twice"), § 32.5.5.3 does not explicitly require such a system or unambiguously disclose disparate treatment of remote and local closures in terms of effecting a notification for the former and not the latter, as required by claim 11.

Finally, CGI's secondary considerations of non-obviousness are unavailing. CGI argued that "commercial success and long-felt need confirm that the '404 patent claims were not obvious." (CRBr. at 17.). When claiming that secondary indicia support a finding of nonobviousness, the patentee is required to tie the purported indicia to the asserted claims of the patent in suit. *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311-12 (Fed. Cir. 2006) ("Evidence of commercial success . . . is only significant if there is a nexus between the claimed invention and the commercial success."); *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995) ("For objective evidence to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention."); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988) (no presumption of nexus when "patented invention is only a component of a commercially successful machine or process").

CGI's evidence of commercial success and long-felt need is skeletal at best. CGI presented virtually no evidence on the long-felt need. (CRBr. at 16 (citing JX-0005 ('404 patent) at 1:40-51 ("delay in the operation of the movable barrier system *can result* in user frustration because the user will typically expect immediate operation") (emphasis added) and CX-0418 (lacking a pinpoint cite to a collection of articles)).). For commercial success, CGI pointed to sales data that demonstrated the general commercial success of products, not to specific patented features. (CX-0673C; CX-0819C; CX-0829C.). CGI also cited to survey results that made vague references to "safety," "security," "convenience," and "quietness." However, once again, CGI failed to link these attributes to any specific patented feature. (*See, e.g.* CX-0262C at 3, 22; CX-0263C at 7.). Mr. Sorice[37] attempted to tie CGI products to the '404 patent. However, it was clear from his testimony that the purportedly innovative feature of the '404 patent was not among the six (6) features that most influence demand for garage door openers in the U.S. (Tr. (Sorice) at 131:22-135:4; RDX-0100.).

While CGI's secondary considerations of non-obviousness are unavailing, for the reasons set for above, particularly those addressing the scope and content of the prior art and differences between the claimed invention and the prior art, Nortek has not proven by clear and convincing evidence that claim 11 of the '404 patent is obvious in light of the combination of the DASMA Article, the Gregori Patent, and the UL325 Standard.

[37] When he testified on Monday, June 10, 2019, Cory Sorice was "vice president and general manager of emerging business for the Chamberlain Group and, in that role, had "responsibility for incubating new business opportunities for the company." (Tr. (Sorice) at 104:3-9.). Mr. Sorice was called to testify about "Chamberlain's history, product development, marketing, competition" and possibly "the development, sales, and marketing of the Chamberlain domestic industry products." (CPSt. at 2.).

## VIII. U.S. PATENT NO. 7,755,223

### A. Direct Infringement

#### 1. Infringement Overview: CGI Failed to Prove That the 223 Accused Products Satisfy Claims 1 and 23 of the '223 Patent

CGI alleged that the 223 Original Products satisfy each limitation of claim 1, and the 223 Alternative Products satisfy each limitation of claim 21. (CBr. at 52.). For the reasons discussed below, neither the 223 Original Products nor the 223 Alternative Products practice claims 1 or 21 of the '223 patent because the obstacle detectors in both categories of products do not "operate" during a "second mode of energy consumption operation."[38]

The only material difference between claims 1 and 21 of the '223 patent pertinent to the infringement analysis is whether the "state information" that prompts the transition to sleep mode indicates whether the barrier is open or closed, as claim 1 requires, or is travelling, as claim 21 requires. (Tr. (Subramanian) at 494:21-495:16.). Nortek agreed that the infringement analysis for claims 1 and 21 are identical, but for the difference in what the state information indicates. (RPBr. at 69.).

The following table provides a comparison of the claim language recited in claims 1 and 21. Differences in claim language are bolded and underlined.

**Table No. 5: Comparison of Claims 1 and 21 of the '223 Patent**

| Claim 1 | Claim 21 |
|---|---|
| 1[pre]: A movable barrier operator apparatus comprising: | 21[pre]: A movable barrier operator apparatus comprising: |
| 1[a]: a power supply that operably couples to at least one source of alternating current; | 21[a]: power supply that operably couples to at least one source of alternating current; |

[38] Collectively, the 223 Original Products and the 223 Alternative Products are referred to as the "223 Accused Products."

| Claim 1 | Claim 21 |
|---|---|
| 1[b]: an obstacle detector; and | 21[b]: an obstacle detector; and |
| 1[c]: a movable barrier operator which includes a controller, the movable barrier operator operably coupled to the power supply, receives operating power from the power supply and has at least a first and a second mode of energy consumption operation and being further configured and arranged to: | 21[c]: a movable barrier operator which [includes] a controller, the movable barrier operator operably coupled to the power supply, receives operating power from the power supply and has at least a first and a second mode of energy consumption operation and being further configured and arranged to: |
| 1[d]: selectively open and close a corresponding movable barrier; and | 21[d]: selectively open and close a corresponding movable barrier; and |
| 1[e]: develop an obstacle detector operating mode control signal from the controller as a function of movable barrier operator system state information that indicates whether the barrier is **open or closed**, the obstacle detector operating mode control signal being operable to directly control the energy usage of the obstacle detector, **the control signal from the controller developed as a result of the state information**, the state information selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof; | 21[e]: develop an obstacle detector operating mode control signal from the controller as a function of movable barrier operator system state information that indicates whether the barrier is **travelling**, the obstacle detector operating mode control signal being operable to directly control the energy usage of the obstacle detector and the state information selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof; |
| 1[f]: the obstacle detector operably coupled to the power supply and to the movable barrier operator, receives operating power from the power supply, and has a plurality of operating modes, wherein at least some of the operating modes have different energy usages, and wherein the obstacle detector is directly responsive to the movable barrier operator obstacle detector operating mode control signal such that: | 21[f]: the obstacle detector operably coupled to the power supply and to the movable barrier operator, receives operating power from the power supply, and has a plurality of operating modes, wherein at least some of the operating modes have different energy usages, and wherein the obstacle detector is directly responsive to the movable barrier operator obstacle detector operating mode control signal such that |
| 1[g]: during the first mode of energy consumption operation, the obstacle detector | 21[g]: during the first mode of energy consumption operation, the obstacle detector |

| Claim 1 | Claim 21 |
|---|---|
| operates using a first energy usage; and | operates using a first energy usage; and |
| 1[h]: during the second mode of energy consumption operation, the obstacle detector operates using a second energy usage, wherein **the operating power used in one of the energy usages is less than the power used by the other energy usage**. | 21[h]: during the second mode of energy consumption operation, the obstacle detector operates using a second energy usage, wherein **the second energy usage is lower than the first energy usage**. |

Because the infringement analysis for claim 1 and claim 21 is materially the same for limitations [pre]-[d] and [f]-[h], those limitations are addressed together for all of the 223 Accused Products. For each of those limitations, the 223 Alternative Products have the same hardware as the 223 Original Products, and therefore practice or fail to practice those limitations for the same reasons. (Tr. (Subramanian) at 491:12-492:15 (explaining analysis of 223 Alternative Products); *see also* JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 171:20-172:3 (hardware for the 223 Alternative Products did not change).). However, certain portions of element [e] of claims 1 and 21 are addressed separately for the 223 Original Products (e.g., LDCO850 and LDCO800) and the 223 Alternative Products (e.g., LDCO850A and LDCO800A) because the state information required by elements 1[e] and 21[e] differ.

The only disputed limitations of claims 1 and 21 are limitations [e], [f], and [h]. (RPBr. at 65-68, 69; RRBr. at 53-70.). Specifically, Nortek argued that: (i) the 223 Accused Products do not meet limitation [f] of claims 1 and 21 that require the obstacle detector to be "directly responsive" to an "obstacle detector operating mode;" (ii) the 223 Accused Products do not meet limitation [h] of claims 1 and 21 that require the obstacle detector to "operate" in a second mode; and (iii) the 223 Original Products (LDCO850 and LDCO800) and 223 Alternative Products (LDCO850A and LDCO800A) do not satisfy limitation [e] of claims 1 and 21, respectively,

which require the "obstacle detector operating mode control signal" to be developed from the "controller" based on the defined "state information." (RRBr. at 53-54.).

For the reasons discussed below, CGI failed to demonstrate that the 223 Accused Products practice limitation [h] of claims 1 and 21. Thus, it is a finding of fact that: (i) CGI failed to meet its burden of proving by a preponderance of evidence that the 223 Accused Products practice claims 1 and 21 of the '223 patent; and (ii) Nortek has not infringed the asserted claims of the '223 patent.

**2. Representative 223 Accused Products**

The 223 Accused Products, which CGI alleged practice claims 1 and 21 of the '221 patent, are the same as the 404 Accused Products, with the addition of the LDCO800 and LDCO800A Accused Products. Dr. Subramanian provided compelling testimony that the LDCO850 is representative of each 223 Accused Product, including the 223 Alternative Products, which incorporate certain software changes that do not alter the outcome of the infringement analysis, as explained in below. (Tr. (Subramanian) at 470:20-472:20 ("I have performed my analysis with the LDCO850, identified the relevant functions and then established using the documentation that those same features are, in fact, in the other products as well.").).

Dr. Subramanian confirmed that he "performed a claim element by claim element analysis to look for [the accused] features in the LDCO850" and subsequently conducted the same analysis for each 223 Accused Product. (*Id.* at 286:8-14 (explaining representativeness analysis for the 404 Accused Products), 471:8-472:20 (confirming the same process for the 223 Accused Products).). Dr. Subramanian explained that this process entailed mapping the infringing features of the LDCO850 to each and every one of the remaining infringing products. (*Id.* at 472:4-20 ("Q. You were able to trace through the relevant function and feature? A.

Yes[.]").). Dr. Subramanian testified that he analyzed the manuals and installation instructions for each 223 Accused Product and determined that they all contain the infringing features and operate in substantially the same way.

For example, the installation instructions for the LDCO850 state that "[i]f the door remains idle for 5 minutes, the beam light will turn off to save power."[39] (CX-0867.0003; Tr. (Subramanian) at 471:8-472:20 (confirming that Dr. Subramanian reviewed and analyzed each installation instruction), CDX-0004.0075 (listing the manuals and instructions Dr. Subramanian analyzed).). The installation instructions for the LDCO852, LDCO800, Amarr 840, Amarr 860, and Mighty Mule 9000 series GDOs include the same disclosure. (CX-0921C (LDCO800 Installation Instructions) at 2 (instructing installers that "[i]f the door remains idle for 5 minutes, the beam light will turn off to save power."); CX-0788 (LDCO852 Installation Instructions) at 3 (same); CX-0884C (Amarr840/860 Installation Instructions) at 3 (same); CX-0909C (Mighty Mule 9000 Series Assembly and Installation Instructions) at 25 (same); JX-0014C (Null Dep. Tr. (Oct. 10, 2018)) at 138:3-139:7 (explaining the private label products are the same as their Nortek branded counterparts); JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 171:20-172:3 (explaining the hardware for the Alternative Products did not change); CDX-0004.0075 (listing the manuals and instructions Dr. Subramanian analyzed and the testimony reviewed).).

Dr. Subramanian also reviewed the source code for all of the 223 Accused Products and confirmed that the accused functionality is present in each, including the 223 Alternative Products. (Tr. (Subramanian) at 484:13-25 (confirming the relevant LDCO850 source code is representative of all the accused products for claim 1, including the LDCO800), 494:21-495:4

[39] The "beam" is also referred to as the "infrared beam," "IR beam," and "photobeam."

(explaining the minor firmware modification of the LDCO850 for the accused products for claim 21).).

Both in its Pre-Hearing Brief and through its corporate representative, Mr. Mark Chiaravallotti,[40] Nortek acknowledged that the 223 Private Label Products are the same as its Nortek-branded counterparts. (RPBr. at 7 n.3 (stating that ); Tr. (Chiaravallotti) at 759:11-13 ). Thus, the LDCO850 is also representative of the 223 Private Label Products.

Nortek's senior software engineer, Mr. Null, was involved in writing the firmware in the 223 Accused Products. (JX-0014C (Null Dep. Tr. (Oct. 10, 2018)) at 110:1-6 (confirming he wrote code for the 223 Accused Products); JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 202:15-22 (confirming that he wrote the code for the 223 Alternative Products).).

Mr. Null confirmed that the LDCO850, LDCO852, . (JX-0014C (Null Dep. Tr. (Oct. 10, 2018)) at 32:24-33:5.). Mr. Null also testified that the 0. (*See id.* at 223:21-224:14; Tr. (Null) at 873:7-874:6 (confirming sleep mode function in the LDCO850, LDCO852, LDCO800, Amarr 840 and 860, and the Mighty Mule 9000 series).).

Additionally, Mr. Null confirmed that the LDCO850, LDCO852, Amarr 840, Amarr 860,

[40] When he testified during the Hearing on June 12, 2019, Mr. Mark Chiaravalloti was the Vice President of Program Management and Engineering at Nortek Security & Control, LLC. (Tr. (Chiaravalloti) at 753:15-22.). Nortek identified Mr. Chiaravalloti as a fact witness to testify about Nortek's history, structure and organization. (RPSt. at 2.). Nortek also described him as having knowledge about the identity, development, structure, function, operation, and release of Nortek's products. (*Id.*).

and Mighty Mule 9000 series residential GDOs all use the same power control circuit, and that power to the obstacle detectors in the LDCO800 is managed in the same way the LDCO850. (JX-0014C (Null Dep. Tr. (Oct. 10, 2018)) at 21:19-22:8 (confirming power circuit), 68:25-69:5 (confirming common obstacle detector power management across products).). Nortek's expert, Dr. Toliyat also testified that the "connections between the obstacle detectors and the head unit are the same in the LDCO850 and 850A as the LDCO800 and 800A." (Tr. (Toliyat) at 987:19-23.).

Tellingly, Mr. Null agreed that he tested the amount of power delivered to the obstacle detectors only in the LDCO850 because it would be "representative" of the other 223 Accused Products. (*See* JX-0014C (Null Dep. Tr. (Oct. 10, 2018)) at 78:7-11, 79:23-81:1.).

Lastly, Dr. Toliyat and Mr. Null testified that, in all relevant respects, the 223 Original Products and the 223 Alternative Products have the same hardware. (JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 171:20-172:3 (confirming no hardware changes), 21:13-18 ("Q. So at least 90 percent of the code for each accused product sets was unchanged; is that right? . . . A. Yes."); Tr. (Toliyat) at 1019:2-5 (confirming that "A" hardware is the same as the original).).[41]

Accordingly, evidence adduced and testimony elicited in this Investigation demonstrate that the LDCO850 is representative of each 223 Accused Product, including the 223 Alternative Products.

[41] "A products" refer to Nortek's "alternative products." (*See, e.g.*, Tr. (Null) at 874:7-11.).

### 3. The 223 Accused Products Do Not Practice Claims 1 and 21 of the '223 Patent

#### a) 1[pre], 21[pre]: "A movable barrier operator apparatus comprising"

Nortek did not contest that each 223 Accused Product practices the preambles of claims 1 and 21. (Tr. (Subramanian) at 472:25-473:12.). All the 223 Accused Products are GDOs. (*Id.*; CX-0866 (LDCO850 Homeowner's Manual) at 1.). Thus, there is no dispute that the accused GDOs are movable barrier operators.

Accordingly, CGI has proven by a preponderance of evidence that the 223 Accused Products meet the preambles of claims 1 and 21 of the '223 patent.

#### b) 1[a], 21[a]: "a power supply that operably couples to at least one source of alternating current"

Each 223 Accused Product practices limitations 1[a] and 21[a], which Nortek did not refute. (Tr. (Subramanian) at 473:13-474:11.). The 223 Accused Products include a power supply capable of connecting to at least one source of alternating current. (*Id.* (identifying the grounded receptacle in CX-0867 as a source of alternating current); CX-0867 (LDCO850 Installation Instructions) at 2; JX-0014C (Null Dep. Tr. (Oct. 10, 2018)) at 54:2-3 (LDCO850 board receives "120 volts AC").).

Thus, CGI has proven by a preponderance of evidence that the 223 Accused Products meet these limitations of claims 1 and 21 of the '223 patent.

#### c) 1[b], 21[b]: "an obstacle detector"

Nortek did not dispute that each 223 Accused Product practices limitations 1[b] and 21[b]. (Tr. (Subramanian) at 474:12-475:11.). The 223 Accused Products include an obstacle detector system, which contains an infrared safety beam transmitter and receiver to detect objects in the path of the garage door as it closes. (*Id.* (explaining that the obstacle detector is not just

the infrared safety beam or the emitter and receiver but "the entirety of the component"), 478:20-22 (same); CX-0867 (LDCO850 Installation Instructions) at 3 (explaining safety beam).).

Accordingly, CGI has proven by a preponderance of evidence that the 223 Accused Products meet these limitations of claims 1 and 21 of the '223 patent.

**d) 1[c], 21[c]: "a movable barrier operator which includes a controller, the movable barrier operator operably coupled to the power supply, receives operating power from the power supply and has at least a first and a second mode of energy consumption operation and being further configured and arranged to"**

Nortek did not contest that each 223 Accused Product practices limitations 1[c] and 21[c]. (Tr. (Subramanian) at 475:13-479:21.). The 223 Accused Products are movable barrier operators that "include a controller," i.e., an ATXMEGA32E5 or equivalent processor. (*Id.* at 476:8-20; JX-0014C (Null Dep. Tr. (Oct. 10, 2018) at 21:2-7 (confirming the LDCO850 has a microcontroller).

Moreover, in each 223 Accused Product, the operator and the controller are operably coupled to an AC power supply, which provides operating power. (CX-0867 (LDCO850 Installation Instructions) at 2; Tr. (Subramanian) at 476:21-477:5 (explaining how AC power is supplied); JX-0014C (Null Dep. Tr. (Oct. 10, 2018) at 53:19-54:10 (same).).

Additionally, the 223 Accused Products have at least a first and a second mode of energy consumption operation. For example, the representative LDCO850 has a "first . . . mode of energy consumption operation" when it is operating to open or close the barrier and the photobeam is on. (Tr. (Subramanian) at 477:20-24.). Mr. James Fitzgibbon's[42] test results

[42] When he testified during the Hearing on June 10, 2019, Mr. James Fitzgibbon was the Director of Intellectual Capital at CGI and the named inventor on the '223 and '052 patents. (CPSt. at 2.). CGI

demonstrate that when the LDCO850 is operating in the first mode of energy consumption, the obstacle detector beam consumes 8.9 watts. (*Id.* at 477:20-24 (explaining results); CX-0635C.0002-3 (testing results); CDX-0004.0089C.).

The 223 Accused Products also have a "second mode of energy consumption operation" during which they operate in a low power mode. When the door has been idle for a period of time and the photobeam is off, the obstacle detector goes into "sleep mode." (Tr. (Subramanian) at 478:1-3 ("In the low power mode, it's 8.2 watts and it turns out that the obstacle detector has gone to sleep and it's cut off the beam.").). Mr. Fitzgibbon's test results confirm that when the obstacle detector is in sleep mode, 8.2 watts are consumed by the system. (*Id.* at 478:1-3; CX-0635C.0003 (testing results); CDX-0004.0089C.).

For the foregoing reasons, CGI has proven by a preponderance of evidence that the 223 Accused Products meet these limitations of claims 1 and 21 of the '223 patent.

**e) 1[d], 21[d]: "selectively open and close a corresponding movable barrier"**

Each 223 Accused Product practices limitations 1[d] and 21[d], which Nortek did not dispute. (Tr. (Subramanian) at 479:22-480:11 (comparing the accused products to limitation 1[d]). For example, the representative LDCO850 is capable of opening and closing a connected garage door in response to commands issued by a user, for example, via a wall station. (*Id.* (highlighting that the accused products "can open and close the door"); *id.* at 491:21-492:15 (explaining that because there was no hardware change in the 223 Alternative Products, "we can

identified Mr. Fitzgibbon as a fact witness to testify about conception and reduction to practice of the inventions claimed in the patents-in-suit, the design and functionality of CGI's DI Products, CGI's business, including its history and product development processes, the prosecution of the patents-in-suit, and product testing that he performed at the direction of CGI's expert, Dr. Subramanian, for use in this Investigation. (*Id.*).

say that . . . limitation [d] . . . [is] practiced because the analysis follows exactly from the analysis we just went through with respect to the original products"); CX-0867 (LDCO850 Installation Instructions) at 4.).

Thus, CGI has proven by a preponderance of evidence that the 223 Accused Products meet these limitations of claims 1 and 21 of the '223 patent.

**f) 1[e], 21[e]: "develop an obstacle detector operating mode control signal from the controller as a function of movable barrier operator system state information that indicates whether the barrier is [open or closed]/[*travelling*], the obstacle detector operating mode control signal being operable to directly control the energy usage of the obstacle detector[, the control signal from the controller developed as a result of the state information,] [*and*] the state information selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof"[43]**

***i. 1[e], 21[e]: "develop an obstacle detector operating mode control signal from the controller"***

The 223 Accused Products develop an obstacle detector operating mode control signal from the controller, which Nortek did not contest. The controller in these products is an ATXMEGA32E5 or an equivalent processor. (Tr. (Subramanian) at 480:17-23, 476:8-20 (confirming that the 223 Accused Products contain a processor, which is a "controller" within the meaning of the claim); JX-0014C (Null Dep. Tr. (Oct. 10, 2018)) at 21:2-7 (confirming the LDCO850 has a microcontroller).).

Schematic drawings for the LDCO850 and LDCO800 show that power to the photobeam

[43] Bracketed text indicates language only recited in limitation 1[e]. Bracketed and italicized text reflects language only recited in limitation 21[e].

components of the obstacle detector is controlled by .[44] (CDX-0004.0093C; CX-0859C (LDCO800 schematic); RX-0737C (LDCO850 schematic).). Dr. Subramanian testified that he identified the as the claimed "obstacle detector operating mode control signal" because it is developed from the controller and controls the operating mode of the obstacle detector. (Tr. (Subramanian) at 481:6-14 (highlighting the And that's actually what's used to tell the obstacle detector to turn on or turn off the beam."), 482:4-17 (explaining and how "it is very much a control signal to turn on and off that photobeam").).

Mr. Null, the Nortek engineer responsible for the firmware in the 223 Accused Products, confirmed that the is controlled by the processor, and that the controls power to the photobeam component of the obstacle detector. (Tr. (Null) at 804:12-24.). He explained that . (*Id.* at 804:12-24, 805:10-13 ).

. (Tr. (Subramanian) at 480:24-484:25 (analyzing source code for the 223 Original Products with regard to claim 1[e]). For example, in the source code for the representative LDCO850, the

[44] The parties, their experts, and Nortek's engineer, Mr. Null, refer to this as the (*See, e.g.*, CBr. 57-58; RRBr. at 65; Tr. (Subramanian) at 489:9-13; Tr. (Null) at 804:12-24, 805:10-19; Tr. (Toliyat) at 982:16-17.).

. (CX-0945C at NRTK_ITC-SRC00070, NRTK_ITC-SRC00084 lines 4001-4008 ( ), lines 4012-4020 ( ); Tr. (Subramanian) at 481:16-482:17 (explaining same); CDX-0004.0093C.).

. (CX-0945C at NRTK_ITC-SRC00070 line 608; CDX-0004.0093C.).

. (CX-0945C at NRTK_ITC-SRC00070 line 609; CDX-0004.0093C.).

For the reasons discussed above, CGI has proven by a preponderance of evidence that the 223 Accused Products meet this aspect of limitations 1[e] and 21[e] of claims 1 and 21 of the '223 patent.

***ii. 1[e]: "as a function of movable barrier operator system state information that indicates whether the barrier is open or closed"/"the control signal from the controller developed as a result of the state information, the state information selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof"***

CGI alleged that the 223 Original Products (e.g., LDCO800 and LDCO850) practice these aspects of limitation 1[e]. (CBr. at 59, 63.). Nortek contended that these aspects of limitation 1[e] place two requirements on the state information that is the basis for the developed obstacle detector operating mode control signal: (i) the state information must "indicate[]

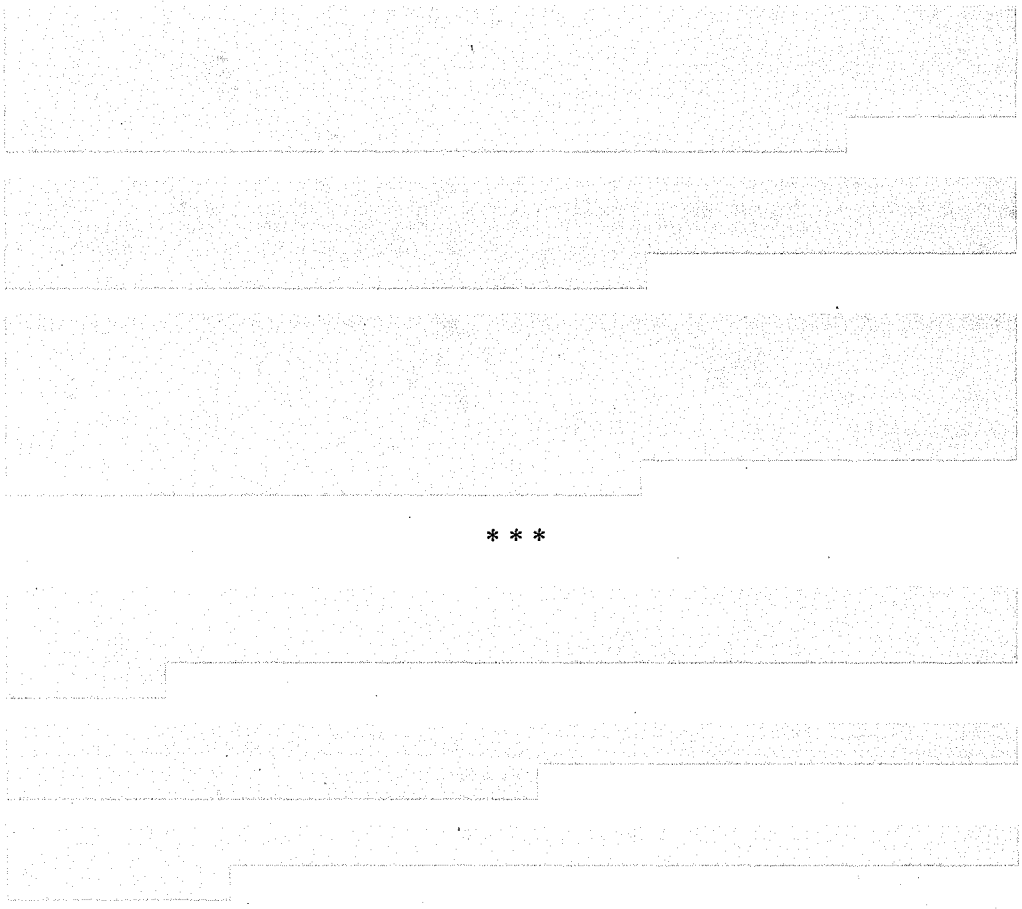
whether the barrier is open or closed"; and (ii) that state information must be "selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof." (RRBr. at 68.). According to Nortek, CGI "either focused on the first requirement and overlooked the second requirement, or mischaracterized the source code to allege that the second requirement was met while overlooking the first requirement." (*Id.*).

With respect to this particular aspect of limitation 1[e], Nortek provided separate rebuttal arguments for the LDCO850 and LDCO800 based on its assertion that the LDCO850 is not representative of the LDCO800. (RRBr. at 62-64, 68-70.). The differences Nortek identified, perhaps more significant in the context of other patents, are not germane and, more importantly, do not adequately refute CGI's infringement contentions with regard to claim 1 of the '223 patent. Nonetheless, for the sake of clarity, each of Nortek's rebuttal arguments for the LDCO850 and LDCO800 are separately addressed below.

Accordingly, for the following reasons, the 223 Original Products meet these aspects of limitation 1[e].

(1) *LDCO850*

Based upon the source code for the LDCO850, Dr. Subramanian persuasively testified that the claimed "obstacle detector operating mode control signal," [redacted], is developed as a function of movable barrier operator system state information that indicates whether the barrier is open or closed. (Tr. (Subramanian) at 483:17-484:25 (analyzing code), 495:17-23 (connecting code to claim 1[e]).). He explained that in the LDCO850, the [redacted].



(*Id.* at 483:17-484:12 (emphases added), 494:17-25 (emphases added); CX-0945C at NRTK_ITC-SRC00015 lines 5198, 5200, 5202; CX-0945C at NRTK_ITC-SRC00078-79 lines 1532-1590; CDX-0004C.0094.).

The source code for the LDCO850 confirms Dr. Subramanian's testimony that an obstacle detector operating mode control signal is developed as a function of movable barrier operator system state information that indicates whether the barrier is open or closed. (Tr. (Subramanian) at 483:17-484:25 (addressing the LDCO850 and the LDCO800); CX-0945C at NRTK_ITC-SRC00015; CX-0945C at NRTK_ITC-SRC00078-79.).

For example,

. (CX-0945C

at NRTK_ITC-SRC00015; Tr. (Subramanian) at 483:17-484:25.). Specifically,

. (CX-0945C at NRTK_ITC-SRC00078; Tr. (Subramanian) at 484:2-5 (explaining the ).). . (CX-0945C at NRTK_ITC-SRC00078 line 1574; Tr. (Subramanian) at 484:6-12 (same).).

. (CX-0945C at NRTK_ITCSRC00084 lines 4014, 4016; Tr. (Subramanian) at 483:17-484:25 (same).).

Thus, in the LDCO850, the control signal, i.e.,

. (Tr. (Subramanian) at 486:23-487:6 (offering the opinion that the ); *see also* Tr. (Null Dep. Tr. (Oct. 30, 2018)) at 251:4-6 (emphasis added).).

In rebuttal, Nortek unconvincingly argued that the

(RRBr. at 68.). In other words, Nortek applied an unduly narrow interpretation of "motor state information" that limits such state information to a direct evaluation of the motor and excludes from such state information the calling of a function that stops the motor. However, Nortek failed to cite any intrinsic evidence from '223 patent that justifies this narrow reading. Contrary to Nortek's assertion, and as discussed above,

. That this sequence of events, which results in turning off the beam , does not involve "time information" and "motor state information," respectively, is unavailing.

Nortek also contended that the . (RRBr. at 69.). Nortek's contention is contradicted by the evidence. As Dr. Subramanian testified, the source code confirms that the timer is set once the motor has ***stopped moving***, i.e., the door is ***closed***. (CX-0945C at NRTK_ITC-SRC00078; Tr. (Subramanian) at 484:2-5.).

Mr. Null's testimony with regard to the is also flawed.[45] During the Hearing, he testified that this variable does not track or correspond to a condition of the motor, or any switch information provided to the unit, and does not track any physical characteristics of the unit. (Tr. (Null) at 852:17-21, 856:8-17.). However, neither Mr. Null nor Nortek explained why must "track" any of this information in order for the LDCO850 to practice this limitation. Limitation 1[e] merely requires the obstacle detector operating mode control signal to be developed from state information that "***indicates*** whether the barrier is open or closed," which does not require state information to directly "track" or necessarily "correspond" to a particular door state. (JX-0001 at cl. 1 (emphasis added).).

Additionally, Dr. Toliyat testified that turning the beam on is not based on determining whether the motor is operating, but on other factors.

Q. You testified, if I understood correctly, that -- we talked before about

[45] Mr. Null described (Tr. (Null) at 852:20-21; *see also id.* at 855:7-12 ("And since you're in the closed state, at the very bottom of that if statement there, you can see ").).

(Tr. (Toliyat) at 1050:7-21; *see also* RRBr. at 68-69.).

However, as CGI noted, Dr. Toliyat failed to offer any evidence in support of this view. He did not specifically point to any source code corroborating his opinion or provide any explanation . Even assuming, *arguendo*, that the

Nortek also contended that nothing in the indicates whether the door is open or closed, because this function is also called to

. (RRBr. at 69 (citing CX-0945C at NRTK_ITC-SRC00090 lines 5027-5041 ( ); *id.* at NRTK_ITC-SRC00053 lines 5287-5298 ( )).). Nortek's argument misses the mark. That this function is ***also*** is

irrelevant. As Dr. Subramanian explained, the source code shows that the [redacted] is called when the door is in the closed state. (CX-0945C at NRTK_ITC-SRC00015; Tr. (Subramanian) at 483:17-484:25.).

Moreover, as discussed in Section VIII.A.3(g) below, Mr. Null, Nortek's engineer, confirmed that [redacted] is a function of state information about: (i) the motor; and (ii) elapsed time. In particular, [redacted]. (Tr. (Null) at 804:12-805:13.). Mr. Null also explained that:

> Q. How does the code run on the microcontroller on the control board of the LDCO850 to make sure that the beams are on?
>
> A. [redacted].
>
> Q. So when the LDCO850 is about to move the door, the controller knows that it's about to move the door and it turns on the obstacle detectors; is that right?
>
> A. That's correct.
>
> * * *
>
> Q: And when the door has been stationary for five minutes, the controller turns off the obstacle detector -- or shuts off power to the obstacle detectors; is that right?
>
> * * *
>
> THE WITNESS: Yes.

(JX-0014C (Null Dep. Tr. (Oct. 10, 2018)) at 228:11-229:4.).

In sum, the control signal in the LDCO850, i.e., [redacted], is generated from the controller as a result of "time information" and "motor state information." (*See, e.g.*, Tr. (Subramanian) at 486:23-487:6.). Accordingly, CGI has proven by a preponderance of evidence

that the LDCO850 meets these limitations of claims 1 and 21 of the '223 patent.

(2) *LDCO800*

Mr. Null repeatedly testified that the LDCO800 is different from the LDCO850 because

(JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 246:15-17, 249:17-18 , 250:23-251:6 , 253:7-10, 23-24 .).

Based on Mr. Null's testimony, Nortek argued that CGI failed to meet its burden of proof that the LDCO850 is representative of the LDCO800. (RRBr. at 70.). This "difference" is also the premise for Nortek's contention that the LDCO800 does not satisfy these claim limitations. (*Id.*). Nortek's assertions fail for the following reasons.

For the LDCO800, Nortek argued that is not a function of motor state information. However, neither Nortek nor Mr. Null provided ***any*** explanation for why the beam power control cannot, at least some of the time, be a function solely of ***time state information*** that "***indicates*** whether the barrier is open or closed." As recited in limitation 1[e], state information is to be "selected from the group consisting of motor state information, ***time***

***information*** . . . and combinations thereof." (JX-0001 at cl. 1 (emphasis added).). Nothing in the claim language requires state information to have ***both*** motor state ***and*** time information.

Additionally, the specification of the '223 patent teaches state information that includes, *inter alia*, time information.

> The information received 50 by the operator controller 5 can comprise, for example, information regarding one or more operational states of the movable barrier operator system. Such information could reflect, for example, that the movable barrier is at a particular position and/or is stationary at either of a fully opened or a fully closed position. The monitored operational state can further include, in a preferred embodiment, a ***temporal aspect*** as well. For example, ***the information can specifically reflect that a given stationary position of the movable barrier has been continuously maintained for at least a predetermined period of time (such as a specific number of seconds or minutes)***. When the movable barrier is at a fully opened or especially at a fully closed position, the operational state of the system often comprises a quiescent state, and especially so when the stationary position has been continuously maintained for a period of time.

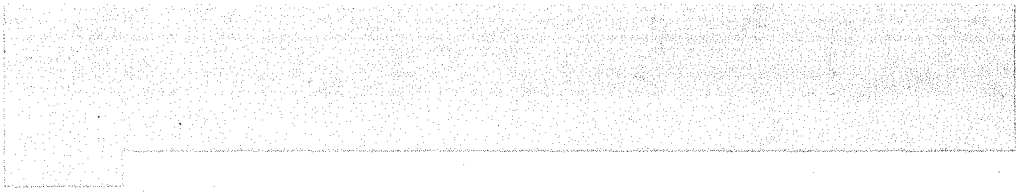
(JX-0001 at 5:43-58 (emphases added).).

Based on the record, [redacted] is developed as a function of time information (but not motor state information), which is enough for infringement. As Nortek pointed out, limitation 1[e] also requires that the obstacle detector operating mode control signal be developed as a function of "state information that indicates whether the barrier is open or closed." (JX-0001 at cl. 1; RRBr. at 68.). Evidence adduced in this Investigation demonstrates that this is the case.

For instance, Mr. Null explicated that in the LDCO800, the [redacted].

* * *

[redacted]



(JX-0015C (Null Dep. Tr. (Oct. 30, 2018) at 251:21-252:12.).

Thus, in order for the timer to be triggered, the door must already be in an open or closed state. Nothing in the claim language or the specification limits what it means to "indicate." Setting off the timer because the door is ***not moving*** "indicates" that the barrier is either open or closed.

For these reasons, CGI has proven by a preponderance of evidence that the LDCO800 meets these aspects of limitation 1[e] of the '223 patent.

***iii. 21[e]: "as a function of movable barrier operator system state information that indicates whether the barrier is travelling"/"the state information selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof"***

CGI alleged that the 223 Alternative Products (e.g., LDCO800A and LDCO850A) practice these aspects of limitation 21[e]. (CBr. at 71.).

Similar to its assertions with respect to limitation 1[e], Nortek contended that these aspects of limitation 21[e] place two requirements on the state information that is the basis for the developed obstacle detector operating mode control signal: (i) the state information must "indicate[] whether the barrier is travelling"; and (ii) that state information must be "selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof." (RRBr. at 63-64.). According to Nortek, CGI's "analysis focused on the first requirement and

overlooked the second requirement, or mischaracterized the source code to allege that the second requirement was met." (*Id.* at 64.).

With respect to this particular aspect of limitation 21[e], Nortek provided separate rebuttal arguments for the LDCO850A and LDCO800A based on its assertion that the LDCO850 is not representative of either the LDCO850A or the LDCO800A. (RRBr. at 62-67.). The differences Nortek identified, perhaps more significant in the context of other patents, are not germane and, more importantly, do not adequately refute CGI's infringement contentions with regard to claim 21 of the '223 patent. Nevertheless, for the sake of clarity, Nortek's separate rebuttal arguments for the LDCO850A and LDCO800A are addressed below.

For the following reasons, the LDCO850A and LDCO800A meet these claim limitations.

(3) *LDCO850A*

Evidence adduced in this Investigation demonstrates that the LDCO850A satisfies these aspects of limitation 21[e]. Specifically, Mr. Null testified that the controller in the 223 Alternative Products only

* * *

(Tr. (Null) at 877:20-878:16; *see also* Tr. (Subramanian) at 492:12-493:15 ("[I]f the door state is not opening or closing, then the is called.").).

Nortek's expert, Dr. Toliyat, confirmed that the timer in the LDCO850A that transitions the obstacle detectors to sleep mode is set based on whether the barrier is travelling.

Q. And this is the LDCO850A; right? Oh, I'm sorry. Mr. Lee, could you blow up the whole slide?

A. Yes, that's correct.

Q. And when the , then the is asserted; right?

A. That's correct.

Q. And we see that at lines 401 -- I'm sorry, 4001 and 4003; is that right?

A. Yes, that's where the if statement is, yes.

Q. Okay. And ; right? Yes?

A. That's correct.

Q. And it's an ; right?

A. That's correct.

(Tr. (Toliyat) at 1046:7-1047:1.).

Thus, the transition to the second energy state is based on whether the door is ***closing*** or ***opening***, i.e., is travelling, and the "obstacle detector operating mode control signal [is

developed] from the controller as a function of movable barrier operator system state information that indicates whether the barrier is travelling," as limitation 21[e] requires. (Tr. (Subramanian) at 493:2-15; CX-0945C at NRTK_ITC-SRC00765-767.).

Additionally, Mr. Null testified that the [redacted]. (Tr. (Null) at 849:22-850:9; RX-1783 (NRTK_ITC-SRC00730) at line 3991; *see also* Tr. (Toliyat) at 986:3-20, 987:19-23 (applying the same analysis for [redacted] to the LDCO850 and LDCO850A for claims 1 and 21, respectively).). Mr. Null also confirmed that the [redacted]. (Tr. (Null) at 849:22-850:12; *see also* RX-1783 (NRTK_ITC-SRC00730) at lines 3987, 3998, 3991, and 3993.). Moreover, he testified that like the 223 Original Products, [redacted] (Tr. (Null) at 850:15-17.). Accordingly, turning off the beam is a function of time information, as required by the limitation 21[e].

During the Hearing, Mr. Null testified that this variable does not track any physical characteristics of the unit. (Tr. (Null) at 852:17-21 (discussing RX-1783C.0108-109; CX-0945C at NRTK_ITC-SRC000765-66); RX-1783C.0108-109 lines 5911-15.). Neither Mr. Null nor Nortek explained why [redacted] must "track" such information in order for the LDCO850A to practice this limitation. As quoted above, limitation 21[e] merely requires the obstacle detector operating mode control signal to be developed from state information that "***indicates*** whether the barrier is travelling," which is not limited to directly "tracking" or "corresponding" to the door state. (JX-0001 at cl. 21 (emphasis added).).

Nortek also contended that the obstacle detector operating mode control signal is not a function of [redacted] based on Mr. Null's testimony that removing the [redacted] check before calling the [redacted] would not affect the operation of the door. (Tr. (Null) at 853:9-171 RRBr. at 65.). Whether [redacted] has any effect on the actual movement of the door is irrelevant. Nothing in the claim language or the specification requires the obstacle detector operating mode control signal, and the sequence of events leading to the turning off the beam, to be directly involved in operating the door.

Dr. Toliyat testified that the LDCO850A does not practice limitation 21[e] for the additional reason that "the photodetectors are turned on based on the receipt of any valid command," and therefore the "obstacle detector operating mode control signal from the controller" is not developed as a function of any claimed state information. (Tr. (Toliyat) at 1050:7-21.). Nortek also argued that because the [redacted] does not "indicate whether the barrier is moving." (RRBr. at 66.). That other mechanisms may also cause [redacted] does not change the fact that the LDCO850A practices these aspects of limitation 21[e] because, as discussed above, the transition to sleep mode is still a function of whether the barrier is travelling.

Accordingly, CGI has proven by a preponderance of evidence that the LDCO850A meets these aspects of limitation 21[e] of the '223 patent.

(4) *LDCO800A*

For the reasons discussed above in Section VIII.A.3(f)(ii) with respect to the LDCO800 and limitation 1[e], the LDCO800A satisfies these aspects of limitation 21[e]. As Mr. Null explained, in the LDCO800 and LDCO800A, the decision to turn off the photobeam is based

entirely upon on a timer, unlike the LDCO850 and LDCO850A. (*See, e.g.*, JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 249:14-18; Tr. (Null) at 890:4-891:2.). However, as addressed in Section VIII.A.3(f)(ii), this distinction does not permit the LDCO800A to circumvent the scope of this claim limitation, which requires developing the "obstacle detector operating mode control signal from the controller as a function of movable barrier operator system state information that indicates whether the barrier is travelling," and having the state information be "selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof." (JX-0001 at cl. 21.).

For example, Mr. Null testified that in the LDCO800A, when a command to cycle the garage door is received over the RF interface, or a button is pressed, the beam turns on, and a 5-minute timer is set. (JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 245:6-246:7, CX-0945C at NRTK_ITC-SRC00993 lines 238-39 (describing turn on beam power when a RF command is received); JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 236:18-246:7, CX-0945C at NRTK_ITC-SRC00936 lines 700-01 (describing turning on beam power when a button press is received at the wall station); JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 246:8-19 (timer set to 5 minutes).). Once the timer has expired, the beam is turned off. (JX-0015C (Null Dep. Tr. (Oct. 30, 2018)) at 247:4-249:10; CX-0945C at NRTK_ITC-SRC01010 lines 222-230.). Thus, like the LDCO800, the timer in the LCD800A is triggered by the ***start*** of the cycle, which indicates that the door is moving, and turns off the beam when the timer has expired, i.e., time information.

For the foregoing reasons, and the reasons set forth in Section VIII.A.3(f)(ii), CGI has proven by a preponderance of evidence that the LDCO800A meets these aspects of limitation 21[e] of the '223 patent. (*See* Section VIII.A.3(f)(ii), *supra.*).

### *iv. 1[e], 21[e]: "the obstacle detector operating mode control signal being operable to directly control the energy usage of the obstacle detector"*

The claimed obstacle detector operating mode control signal in the 223 Accused Products directly controls the energy usage of the obstacle detector by turning the photobeam on or off, which Nortek did not explicitly refute.[46] As discussed above in Section VIII.A.3(f)(i),

. (CX-0945C at NRTK_ITC-SRC00070 line 608; Tr. (Subramanian) at 481:22-482:14.).

. (CX-0945C at NRTK_ITCSRC00070 line 609; Tr. (Subramanian) at 482:4-17.).

Mr. Fitzgibbon's testing, which he conducted at Dr. Subramanian's direction, confirms the same. In the first mode of energy consumption operation, the beam is on, and Mr. Fitzgibbon measured 8.27V and 25.3mA passing to the obstacle detector. (Tr. (Subramanian) at 489:20-490:8 (discussing test data regarding the first mode); CX-0635C.0003 (test results).). In the second mode of energy consumption operation, the beam is off, but the rest of the obstacle detector circuitry is still powered, and Mr. Fitzgibbon measured 1.93V and .06mA. (Tr. (Subramanian) at 490:3-5 (discussing test data regarding the second mode), 486:2-8 (explaining the testing and stating, "Q. In both modes is the obstacle detector operating? A. Yes, in the bottom mode, in the lower power mode, the beam is off, but if you look at the circuitry, there's still lots of circuitry in the obstacle detector and the obstacle detector is still operating. It's just

[46] In the context of limitations 1[f] and 21[f], Nortek only contended that the accused obstacle detector is not "directly responsive to the movable barrier operator obstacle detector operating mode control signal," as required by the claims 1 and 21. (*See* RRBr. at 60-62.). Thus, any argument on this aspect of limitations 1[e] and 21[e] is waived under Ground Rule 10.1.

the beam is off."), CX-0635C.0003 (test results); CDX-0004.0095C.).

For the foregoing reasons, CGI has proven by a preponderance of evidence that the 223 Accused Products meet this aspect of limitations 1[e] and 21[e] of claims 1 and 21 of the '223 patent.

**g) 1[f], 21[f]: "the obstacle detector operably coupled to the power supply and to the movable barrier operator, receives operating power from the power supply, and has a plurality of operating modes, wherein at least some of the operating modes have different energy usages, and wherein the obstacle detector is directly responsive to the movable barrier operator obstacle detector operating mode control signal such that"**

***i. "the obstacle detector operably coupled to the power supply and to the movable barrier operator, receives operating power from the power supply"***

The 223 Accused Products include an "obstacle detector operably coupled to the power supply and to the movable barrier operator, receives operating power from the power supply." The installation instructions for each of the accused GDOs confirm that wires are used to connect the obstacle detector to the head unit of the operator. (CX-0867 (LDCO850 Installation Instructions) at 2; Tr. (Subramanian) at 487:22-488:20.). The installation instructions also demonstrate that the operator is connected to a source of AC power, which powers the obstacle detectors. (Tr. (Subramanian) at 487:22-488:20; CX-0867 (LDCO850 Installation Instructions) at 2; CDX-0004.0088.). Nortek did not contest this aspect of the claim limitations.

Thus, CGI has proven by a preponderance of evidence that the 223 Accused Products meet this aspect of limitations 1[f] and 21[f] of claims 1 and 21 of the '223 patent.

***ii. "the obstacle detector . . . has a plurality of operating modes, wherein at least some of the operating modes have different energy usages"***

The 223 Accused Products also have a plurality of operating modes, wherein at least

some of the operating modes have different energy usages. As discussed above in Sections VIII.A.3(d) and VIII.A.3(f)(iv) with respect to limitations 1[c], 1[e], 21[c] and 21[e], Dr. Subramanian directed testing of the energy consumption of the obstacle detectors. (Tr. (Subramanian) at 485:4-20; CX-0635C.0003 (test results).). The testing was done using a voltmeter at the obstacle detector to get the voltage and an ampere meter to measure the current. (Tr. (Subramanian) at 485:4-13, 15-20; *see also id.* at 485:13-15 ("Voltage times current is power, so you can then get the power out of it.").).

The testing results indicated 8.27V and 25.3mA in the first, full power, mode, and 1.93V and 0.06mA in the second, low power, mode. (CX-0635C.0003 (test results).). Thus, under the plain and ordinary meaning of "operating mode," the testing results establish that the obstacle detector has a high energy consumption mode and a low energy consumption mode, which satisfies the claimed "plurality of operating modes" with "different energy usages." (Tr. (Subramanian) at 478:8-479:1 (confirming the two operating modes of the obstacle detector), 488:21-490:8 (confirming this element of the limitation is met); CX-0635C.0003 (test results); *Markman* Order, App. A. at 5-6.). Mr. Fitzgibbon, the sole named inventor on the '223 patent, explained that the purpose of the claimed invention was to "get the amount of energy that the operator utilizes while sitting idle down to a very low state." (Tr. (Fitzgibbon) at 177:6-24.).

Nortek's expert, Dr. Toliyat, opined that the 223 Accused Products do not have a "plurality of operating modes" because the obstacle detector cannot detect obstacles in the second mode. (Tr. (Toliyat) at 993:5-9 ("when the beams are off . . . it's not working . . . the voltage of the beam across the line is at the low value"); *see also* Tr. (Jerry Dillon)[47] at 788:17-

[47] When he testified during the Hearing on June 12, 2019, Mr. Jerry Dillon was a Principal Engineer at

789: 5 (explaining that the when the IR beam detector gets "less than 6-1/2 volts," it "can't detect the IR energy" and does not perform "any function").). Dr. Toliyat's opinion rests on Nortek's proposed construction for "operating mode," which restricted the plain meaning of the term to "[d]istinct functioning arrangement or conditions in which the obstacle detector operates." (*See e.g.*, Joint CC Chart at 5.). However, Nortek's proposed construction was rejected based on the specification's broad treatment of the term "operating modes," which the patent describes as being used "to facilitate the energy management of a movable barrier operator system." (*Markman* Order, App. A at 5-6 (quoting JX-0001 at 7:5-8).). Thus, Dr. Toliyat's opinion is unavailing.

Therefore, the 223 Accused Products have two operating modes, a first mode where the beam is on and a second, sleep mode, where the beam is off, but the obstacle detector is still consuming power. (Tr. (Subramanian) at 478:8-479:1.). Accordingly, under the plain and ordinary meaning of "operating mode," the 223 Accused Products have the claimed "plurality of operating modes" with "different energy usages."

For these reasons, CGI has proven by a preponderance of evidence that the 223 Accused Products meet this aspect of limitations 1[f] and 21[f] claims 1 and 21 of the '223 patent.

***iii. "the obstacle detector is directly responsive to the movable barrier operator obstacle detector operating mode control signal"***

CGI asserted that the 223 Accused Products meet this element because the obstacle detector is directly responsive to the [redacted], which Dr. Subramanian identified as the obstacle detector operating mode control signal. (Tr. (Subramanian) at 489:9-19.).

---

Nortek Security & Control, LLC. (RPSt. at 2.). Nortek identified Mr. Dillon as a fact witness to testify about the identity, structure, function, and operation of Respondents' products. (*Id.*).

Nortek adduced evidence and elicited testimony demonstrating that the [redacted] remains on the printed circuit board in the head unit of the LDCO850 and is not connected to the obstacle detectors, i.e., transmitter and receiver of the beam. (RX-0737C.0003; Tr. (Null) at 804:6-805:19; Toliyat Tr. at 981:3-983:1; RDX- 1001C.0109.). For example, based on a schematic drawing of the LDCO850, Dr. Toliyat provided the following testimony:

> Q. . . . Does that [redacted] go out of the head unit in a connector?
>
> A. No, it doesn't.
>
> Q. Does that [redacted] connect -- is it wired directly to the obstacle detectors?
>
> A. No, it's not.

(Tr. (Toliyat) at 982:21-983:1; *see also* Tr. (Null) at 805:14-19 (same); RX-0737C.0003.).

Because the [redacted] is not connected to the obstacle detectors, Nortek argued that the obstacle detectors cannot be directly responsive to a signal it never receives. (RRBr. at 60; Tr. (Toliyat) at 982:21-983:1, 985:24-986:9.). CGI contended that the *Markman* Order precludes Nortek from asserting this argument based on the fact that Nortek's proposed construction for the term "obstacle detector operating mode control signal" was rejected. (CBr. at 68.).

> Nortek's construction inappropriately seeks to import claim limitations: (1) limit the source of the claimed signal (i.e., "from the head unit"), (2) limit the claimed signal to one particular type of signal (i.e., a "message"), and (3) add a method step requirement "to respond" to this signal (i.e., "which causes the obstacle detector to respond."). Claims 1 and 21 sufficiently limit this term. Nortek's additional limitations are not warranted by the specification or prosecution history.

(*Markman* Order, App. A at 5.).

However, as Nortek correctly pointed out, the claim language at issue, namely whether "the obstacle detector is ***directly responsive*** to the movable barrier operator obstacle detector

operating mode control signal" was not at issue in the dispute over the construction of "obstacle detector operating mode control signal" during the *Markman* proceedings. (RRBr. at 61-62; *Markman* Order, App. A at 5.). As Nortek noted, the language is recited in the claims themselves, and is thus an additional requirement beyond the plain and ordinary meaning of "obstacle detector operating mode control signal."

With that said, the evidence establishes that the obstacle detector in the 223 Accused Products directly responds to the . Nortek's engineer, Mr. Null, testified that two wires connect the head unit to the obstacle detector: (i) provides power to the obstacle detectors and allows the head unit to receive an obstruction signal generated by the detector; and (ii) is a ground. (Tr. (Null) at 801:3-13, 802:17-805:19; RX-0737C.0003, RX-0737C.0002.). As Mr. Null explained, the controls a circuit on the head unit printed board that ***causes*** to supply power to the obstacle detectors or disconnect the source.

> A. So the is directly connected to a GPIO[48] on the processor, on the head unit. And that is controlled by the processor. It will be a high or low, and if it's -- if it's on or if is high, it will turn on power to the wall station -- or sorry, the beams. And so that power that you see at the top of the left circuit, that will -- that will turn on and provide power to the beams.
>
> * * *
>
> Q. What happens when the GPIO pin that's connected to is set to logic low value?
>
> A. When it's low, that will disconnect power to the beams, and they will no longer be on.

(Tr. (Null) at 804:17-24, 805:10-13.).

Thus, Nortek's contention that the does not directly control the

[48] GPIO is an acronym for "general purpose input output." (*See, e.g.*, Tr. (Null) at 805:1-7.).

obstacle detectors themselves because the signal is not directly connected to the obstacle detectors is not persuasive. (RRBr. at 61.).

Notably, during prosecution of the '223 patent, in an attempt to overcome a rejection that the claims were anticipated under 35 U.S.C. § 102, the applicant (i.e., Mr. Fitzgibbon) distinguished his claimed invention over the prior art reference (U.S. Patent No. 6,247,558 to Bailey et al.) by amending claim 1 to recite, *inter alia*, an "obstacle detector [that] is directly responsive to the movable barrier operator." (JX-0002.0245.). Relying on this amendment, the applicant presented the following distinction:

> Bailey describes an apparatus to reduce power consumption in an elevator door protection system. Bailey's apparatus operates in conjunction with an elevator door control system 9 that serves to selectively open and close a corresponding movable barrier (denoted in Bailey as so-called "car doors" and referenced to herein as "elevator doors").
>
> One of Bailey's elevator doors 1a has a plurality of infrared transmitters 3 while the other elevator door lb has a corresponding plurality of infrared receivers 5. These infrared transmitters and receivers serve to detect when an obstacle is present between the doors. Upon detecting such an obstacle, a processor 7 drives a module denoted as "output relay to re-open doors" (denoted by reference numeral 8). This "output relay to re-open doors" 8, in turn, then provides a signal to the aforementioned movable barrier operator 9 to cause the latter to reverse the closing direction of movement of the elevator doors.
>
> Bailey seeks to reduce the on-time of the infrared transmitters when the doors are closed in order to extend the operational lifetime of the transmitters. Bailey evinces no interest in energy conservation as such.
>
> To achieve this result, Bailey detects that the elevator doors are closed in an ***indirect manner*** (that is, ***there is no direct communication between Bailey's obstacle detection apparatus and the disclosed movable barrier operator 9***) by measuring the maximum average signals of the infrared beams to determine when the doors are closed. This, in turn, provides a basis for causing the system to enter a standby mode of operation during which at least the transmitters are switched off for at least a substantial amount of time.
>
> Bailey therefore provides teachings with respect to reducing the amount of power that is consumed by obstacle detectors in an elevator door when the doors are closed. ***Bailey makes no suggestion or teaching, however, that there be any***

> ***particular interaction between the movable barrier operator itself and the obstacle detection apparatus aside from the aforementioned ability of the latter to instruct the former to "re-open" the elevator doors upon having detected an obstacle.***
>
> * * *
>
> As noted above, Bailey's obstacle detector is ***not directly responsive*** to the movable barrier operator. Bailey's obstacle detector instead is responsive to the proximity of its transmitters and receivers which proximity may be indirectly, but not directly, related to the activity of the movable barrier operator. ***The applicant describes and claims, however, a direct responsiveness that is missing from Bailey.*** Accordingly, with all due respect, the applicant therefore submits that claim 1 cannot be said to be anticipated by Bailey.

(*Id.* at 267-68 (emphases added).).

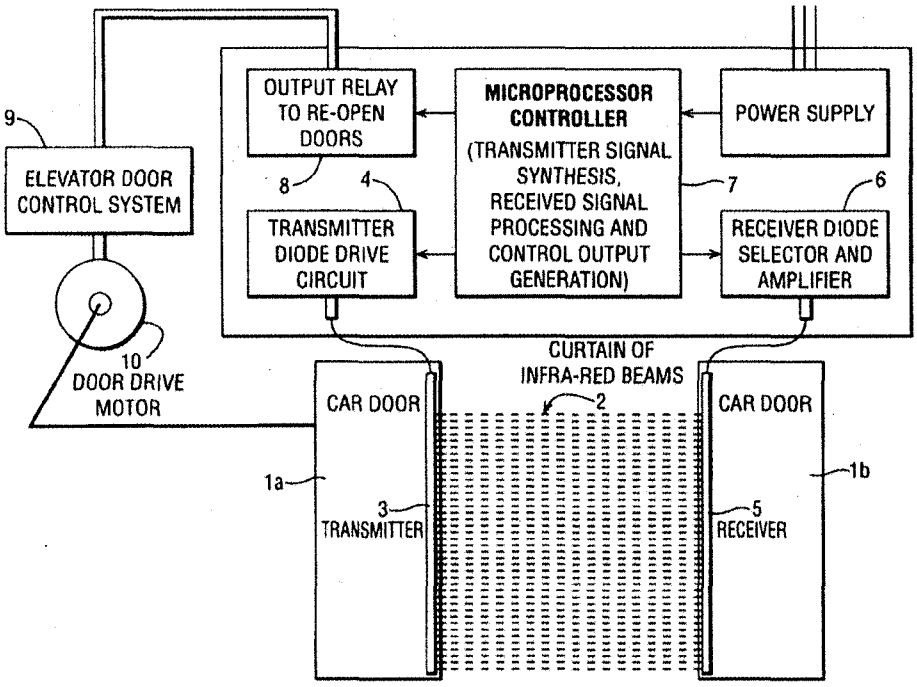
In a subsequent office action, the examiner rejected the applicant's arguments for the following reasons.

> The Bailey obstacle detector is ***directly responsive*** to the movable barrier operator (column 3, lines 57-62; column 4, lines 18-19, 45-50). ***The Bailey barrier operator provides the power for the obstacle detector and samples the receiver output to determine the barrier status.*** Applicant defines "directly responsive" as ***causing*** the obstacle detector to enter one of two modes of energy consumption operation (claim 1, last 6 lines). Similarly, Bailey discloses controlling the obstacle detector to enter one of two energy modes (column 4, lines 23-26, 35-40).

(*Id.* at 347 (emphases added).).

The examiner and the applicant appear to be referring to different components as comprising the "movable barrier operator." The applicant seems to have referenced the "door drive motor" (10) and/or the "elevator door control system" (9) as the claimed "movable barrier operator," while the examiner appears to have considered, *inter alia*, the "microprocessor controller" (7), "transmitter and receives diode(s)" (4, 6), and power supply as the "movable barrier operator." These components are shown in Figure 30 below.

**Figure 30: Figure 1 of Bailey**




(JX-0002.0267.).[49]

Even if the applicant's statements to the examiner are viewed as a disavowal of claim scope with respect to the phrase "directly responsive" recited in this limitation, such a disavowal would have little, if any, effect here, because the elevator door protection system disclosed in Bailey works very differently than the obstacle detector used in the 223 Accused Products.[50] As discussed above, the obstacle detector is directly responsive to the obstacle detector operating

[49] Because the resolution of the copy of Bailey's Figure 1 in the file history of the '223 patent was not very good, a sharper version copied from a pdf of Bailey is shown above in Figure 30.

[50] Disavowal of claim scope can be effectuated by language in the specification or the prosecution history. *See, e.g., Certain Access Control Sys. and Components Thereof*, Comm'n Op., 2017 WL 11198844, at ** (citing *Phillips V. AWH Corp.*, 415 F.3d 1303, 1316-17 (Fed. Cir. 2005) (en banc)). "In either case, the standard for disavowal is exacting, requiring clear and unequivocal evidence that the claimed invention includes or does not include a particular feature." *Id.* (citing *Poly-America, L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016)).

mode control signal, i.e., the [redacted]. (Tr. (Subramanian) at 489:9-19.).

Accordingly, CGI has proven by a preponderance of evidence that the 223 Accused Products meet this aspect of limitations 1[f] and 21[f] of claims 1 and 21 of the '223 patent.

**h) 1[g], 21[g]: "during the first mode of energy consumption operation, the obstacle detector operates using a first energy usage"**

Nortek did not dispute that each 223 Accused Product practices limitations 1[g] and 21[g]. (Tr. (Subramanian) at 490:9-18 (comparing the accused products to limitation 1[g]).). As explained above for claim 1[e], the 223 Accused Products have a first mode of energy consumption operation in which the obstacle detector operates using a first energy usage when the photobeam is on. The test results Mr. Fitzgibbon conducted at Dr. Subramanian's direction show 8.27V and 25.3mA at the obstacle detector in this first mode of operation. (*Id.*; CX-0635C.0003 (testing data); CDX-0004.101C.).

Thus, CGI has proven by a preponderance of evidence that the 223 Accused Products meet these limitations of claims 1 and 21 of the '223 patent.

**i) 1[h]: "during the second mode of energy consumption operation, the obstacle detector operates using a second energy usage, wherein the operating power used in one of the energy usages is less than the power used by the other energy usage"/ 21[h]: "during the second mode of energy consumption operation, the obstacle detector operates using a second energy usage, wherein the second energy usage is lower than the first energy usage"**

***i. "during the second mode of energy consumption operation, the obstacle detector operates using a second energy usage"***

As an initial matter, testing results indicated 8.27V and 25.3mA in the first, full power, mode, and 1.93V and 0.06mA in the second, low power, mode. (CX-0635C.0003 (test results).). Nortek did not contest that the 223 Accused Products have two (2) modes of energy consumption

operation. (*See, e.g.*, Tr. (Toliyat) at 995:16-996:20 (citing Mr. Fitzgibbon's voltage test results); CX-0635C (test results); Section VIII.A.3(d), *supra.*).

However, based on Mr. Dillon's testimony and documentary evidence in support, Nortek persuasively contended that the obstacle detectors of 223 Accused Products are not "operat[ing]" in any way in the second mode. (RRBr. at 55.). Mr. Dillon, the designer of the obstacle detectors in the accused products, testified that the obstacle detector has two components, an emitter mounted on one side of the garage door, and the detector mounted on the opposite side of the garage door. (Tr. (Dillon) at 785:5-17.). Mr. Dillon explained that the emitter generates a burst of infrared energy every , a fixed timing interval generated by the circuit itself. (*Id.* at 786:5-25, RX-0479C (schematic of the photobeam emitter).). Mr. Dillon testified that the emitter requires to operate, and does not generate any infrared output when the circuit is supplied less than . (Tr. (Dillon) at 787:18-25, RX-0479C.). With respect to the infrared beam detector, Mr. Dillon explained that the detector receives bursts of infrared energy from the emitter and . (Tr. (Dillon) at 788:10-20, RX-0480C (schematic of the infrared bean detector).). He testified that the circuit requires to operate, and when it is supplied less than , it cannot detect the bursts of infrared energy from the emitter. (Tr. (Dillon) at 788:21-789:1, RX-0480C.).

Although Dr. Toliyat also opined that the 223 Accused Products do not practice this aspect of limitations 1[h] and 21[h] because the accused obstacle detectors cannot detect obstacles in sleep mode (Tr. (Toliyat) at 993:5-9 ("when the beams are off . . . it's not working), Nortek's argument "that the claimed 'obstacle detector' must always be energized to a level sufficient to perform 'work' or perform its ordinary obstacle detecting functions" was

specifically rejected. (*Markman* Order, App. A at 4.). That does not mean, however, that any amount of power, no matter how miniscule, corresponds to a device that is in fact "operating."

Here, Mr. Dillon explained that the emitter circuit is not designed to perform ***any*** function when it receives less than [redacted], and there is ***nothing*** in the entire circuit schematic of the obstacle detector emitter that is operating when the circuit is receiving less than less than a 10th of a milliamp of current (0.1mA).

> Q. Is there any function that that emitter is designed to perform when it's receiving less than that [redacted] minimum?
>
> A. No, there's not.
>
> Q. If you can zoom out to the entire schematic, is there anything in their schematic that would tell you that that emitter is operating when it receives less than a 10th of a milliamp of current?
>
> A. No, nothing could work.

(Tr. (Dillon) at 788:1-9, RX-0479C.)

Mr. Dillon also confirmed that the detector circuit in RX-0480C is not designed to perform ***any*** function when it is supplied with less than [redacted]. (Tr. (Dillon) at 789:2-5, RX-0480C.). Additionally, Mr. Dillon testified that there is ***nothing*** in the entire circuit schematic of the obstacle detector infrared detector circuit that is operating when the circuit is receiving less than 10 milliamps of current.

> Q. Is there anything in that schematic in RX-480C that would tell you based on your 30 years of experience as an electrical engineer that that circuit is doing anything when it's receiving less than a 10th of a milliamp of current?
>
> A. No.

(Tr. (Dillon) at 789:6-11; RX-0480C.).

He confirmed the same for all components of the photobeam system.

> Q. So is there any component or feature whatsoever of the photobeam system that's

designed to operate with less than a 10th of milliamp of current?

A. No.

(Tr. (Dillon) at 789:12-15, RX-0479C, RX-0480C.).

Mr. Dillon also testified unequivocally that there is no difference in the obstacle detector's performance when restarting (i.e., turning the beam on and detecting obstacles) with either zero power, or less than a 10th of a milliamp before full power is restored. (Tr. (Dillon) at 791:2-9.).

Thus, the 0.06mA and 1.93V power levels the obstacle detectors are supplied with in the second, sleep mode indicate that they are not "operating" in any way.

Dr. Subramanian did not explain what the obstacle detector in the LDCO850 was purportedly doing in the second mode. He merely offered conclusory assertions that the obstacle detectors were "operating" in the second state because there was other circuitry in the obstacle detector system in addition to the beam. (Tr. (Subramanian) at 478:8-479:11, 486:2-8.). However, he never identified what part of that circuitry was purportedly operating in the second mode or what that circuitry was purportedly doing. (*Id.* at 486:2-8, 672:5-13, 706:11-707:1.).

In its Initial Post-Hearing Brief, CGI cited to speculation from Mr. Fitzgibbon, CGI's Director of Intellectual Capital, that the obstacle detectors are in a "sleep mode" and "[y]ou have to have something awake." (CBr. at 66 (citing Tr. (Fitzgibbon) at 177:6-24, 187:18-21.). However, in the cited testimony, Mr. Fitzgibbon was discussing the '223 patent and CGI's products, not Nortek's products. (Tr. (Fitzgibbon) at 177:6-24, 187:18-21.).

For the foregoing reasons, CGI has failed to meet its burden of proving by a preponderance of evidence that the 223 Accused Products practice this aspect of limitation [h] of claims 1 and 21 of the '223 patent.

***ii. "the operating power used in one of the energy usages is less than the power used by the other energy usage"/"the second energy usage is lower than the first energy usage"***

As discussed above with respect to the "first" and "second mode[s] of energy consumption operation" recited in limitations 1[c]/21[c], and a "plurality of operating modes" having "different energy usages recited in limitations 1[f]/21[f], test results confirm that in the second, low power mode, the obstacle detector consumes 1.93V and 0.06mA, which is less than the 8.27V and 25.3mA shown to be used in the first, full power, mode. (CX-0635C.0003 (test results); Sections VIII.A.3(d), (g), *supra.*). Nortek did not dispute this aspect of the claim limitations.

For these reasons, CGI has proven by a preponderance of evidence that the 223 Accused Products meet these limitations of claims 1 and 21 of the '223 patent.

## B. Technical Prong of Domestic Industry

### 1. Technical DI Overview: CGI Failed to Prove That the 223 DI Products Practice Claim 1 of the '223 Patent

For the reasons discussed below, the 223 DI Products do not practice claim 1 of the '223 patent. Similar to its non-infringement arguments, Nortek only disputed limitations [e], [f], and [h] of claim 1. (RPBr. at 70-76; RRBr. at 70-89.).

Evidence adduced in this Investigation failed to demonstrate that the 223 DI Products have an "obstacle detector operates using a second energy usage" in the second mode of energy consumption operation.

Thus, it is a finding of fact that: (i) CGI has failed to meet its burden of proving by a preponderance of evidence that the 223 DI Products practice claim 1 of the '223 patent; and (ii) CGI has not satisfied the technical prong of the DI requirement.

### 2. Representative DI Products

The 223 DI Products are CGI's GDO products that can be connected to obstacle detectors, which CGI calls "The Protector System" utilize a low-power sleep mode to save AC power during periods of inactivity.[51] (CX-0134 (8355W Installation Guide) at 19 (illustrating the operation of the protector system), 29 ("For energy efficiency the garage door opener will enter sleep mode when the door is fully closed..."); Tr. (Fitzgibbon) at 181:14-16 ("Q. What is the protector system? A. The protector system is Chamberlain's name for the photobeam system.").).

During the evidentiary hearing, Mr. Fitzgibbon and Dr. Subramanian offered testimony that with respect to the Protector System feature, the LiftMaster 8355W is representative of all of the 223 DI Products. (Tr. (Fitzgibbon) at 188:21-189:3 ("[T]he upper portion identifies the Wi-Fi operator and it's the 8355W. And then all the other products that are based on the same basic design."), 180:24-186:2 (explaining protector system), 195:1-197:5 (explaining representative relationship); CX-0134 (8355W Installation Guide) at 19 (describing low power mode); Tr. (Subramanian) at 376:9-379:12 (explaining representativeness analysis); 499:21-500:21 ("Q. And have you done the correlation of the represented 8355W against all of the represented products in the same way for the '223 patent as you've already explained with respect to these same exhibits for the '404 patent? A. Yes, I have . . . I concluded it was indeed representative, based on that analysis."); CDX-0003.0002-3 (representative products charts).).

Specifically, Mr. Fitzgibbon explained that using CGI's product database, he identified all of CGI's products that implement the Protector System feature. (Tr. (Fitzgibbon) at 194:8-25

[51] The 223 DI Products and their respective installation guides are listed in Section V.B, *supra*.

(explaining how he collected information about the different product user guides).). Mr. Fitzgibbon also testified that he reviewed each manual to determine which products they described, and which specific circuit board was contained in each operator. (*Id.* at 195:1-23; *see also, e.g.*, CX-0134C (8355W Installation Guide) at 41 (identifying 050ACTWF Logic Board).). Mr. Fitzgibbon explained that once he identified the specific circuit board, he was able to cross-reference the relevant bill of material to determine the corresponding circuit board schematic, the specific processor included on each circuit board, and the specific firmware version that an operator uses. (Tr. (Fitzgibbon) at 195:24-197:5 (explaining how the information shown in CGI's bills of materials (CX-0232C, CX-0233C, CX-0234C, CX-0235C, CX-0236C, CX-0237C, CX-0239C) illustrate the processor, firmware (CX-0943C), and relevant schematic for each operator); *see, e.g.*, CX-0232C (BOM) at row 201 [redacted], row 202 (identifying [redacted]), row 38 ([redacted]); *see also* CDX-0003.2-3.).

Dr. Subramanian testified that using the information Mr. Fitzgibbon provided, he conducted an extensive review of each of the firmware versions present in the 223 DI Products and confirmed that the source code that implements the Protector System feature across all of the 223 DI Products is substantially identical. (Tr. (Subramanian) at 379:2-12 ("I looked at it on a limitation by limitation basis and then went and looked for those limitations or the corresponding functionality in all the represented documents as well."), 500:1-10 (same analysis with respect to '223 patent).).

**3. CGI's DI Products Do Not Practice Claim 1 of the '223 Patent**

**a) 1[pre]: "A movable barrier operator apparatus comprising"**

Nortek did not contest that the 223 DI Products practice the preamble of claim 1. All the

223 DI Products are GDOs (movable barrier operators) with the ability to decrease power to the connected obstacle detectors in a low power state. (CX-0134C (8355W Installation Guide) at 1; Tr. (Subramanian) at 500:24-501:4.).

Accordingly, CGI has proven by a preponderance of evidence that the 223 DI Products meet the preamble of claim 1 of the '223 patent.

**b) 1[a]: "a power supply that operably couples to at least one source of alternating current"**

The 223 DI Products practice limitation 1[a] of claim 1, which Nortek did not dispute. The 223 DI Products include a power supply capable of connecting to at least one source of alternating current (e.g., a wall outlet). (CX-0134C (8355W Installation Guide) at 23 (connection to AC power supply); CX-0160C (Hardware Specification) at [redacted] (AC power connection); Tr. (Subramanian) at 501:5-502:3 (describing AC power connection shown in CX-0160C).

Thus, CGI has proven by a preponderance of evidence that the 223 DI Products meet limitation 1[a] of claim 1 of the '223 patent.

**c) 1[b]: "an obstacle detector"**

Nortek did not contest that the 223 DI Products practice limitation 1[b] of claim 1. The 223 DI Products include a "Protector System," i.e., two infrared photobeam sensors, that can detect obstacles in the path of the movable barrier and cause a reversal in movement to prevent the device from harming a person or other object. The photobeam sensors include a "sending" sensor and a "receiving" sensor that are mounted on either side of the garage door opening. (CX-0134 (8355W Installation Guide) at 19 (illustrating safety sensors), 24 (same); CX-0206C (Product Requirements Specification) at 11 [redacted]; Tr. (Subramanian) at 502:4-15

(describing presence of obstacle detectors).

For these reasons, CGI has proven by a preponderance of evidence that the 223 DI Products meet limitation 1[b] of claim 1 of the '223 patent.

**d) 1[c]: "a movable barrier operator which includes a controller, the movable barrier operator operably coupled to the power supply, receives operating power from the power supply and has at least a first and a second mode of energy consumption operation and being further configured and arranged to"**

The 223 DI Products practice limitation 1[c] of claim 1, which Nortek did not refute. The representative LiftMaster 8355W contains the 050ACTWF logic board running the PIC18F67J11 family processor, which is powered by a power supply. (CX-0134C (8355W Installation Guide) at 41 ; CX-0232C (Bill of Materials ("BOM")) at row 201 ; Tr. (Subramanian) at 502:16-503:8 (describing logic board, processor as operably coupled to the power supply).). The firmware . (CX-0943C (Source Code) at 1106 ( defined), 383-420 ( ); Tr. (Subramanian) at 503:20-504:14 ( ).).

The . (Tr. (Subramanian) at 504:15-505:8 (discussing effect of ); CX-0943C (Source Code) at 409 line 612 ( ).). The . (Tr. (Subramanian) at 504:15-505:8 (discussing effect of ); CX-0943C (Source

Code) at 409 lines 617, 602 ( ).). Dr. Subramanian explained that the test results Mr. Fitzgibbon recorded demonstrate that the controller is operating in the first and second modes of operation. (Tr. (Subramanian) at 505:9-506:6 (explaining test data), 507:3-23 (same); CX-0638C ( ); CDX-0004.0127 (test results); CX-0134C (8355W Installation Guide) at 19 (describing obstacle detector sleep mode).).

For the foregoing reasons, CGI has proven by a preponderance of evidence that the 223 DI Products meet limitation 1[c] of claim 1 of the '223 patent.

**e) 1[d]: "selectively open and close a corresponding movable barrier"**

The 223 DI Products practice limitation 1[d] of claim 1, which Nortek did not dispute. The 223 DI Products are capable of opening and closing a connected garage door in response to commands issued by a user, for example, via a wall station. (CX-0134C (8355W Installation Guide) at 1, 25-26 (showing operator configured to move the door open and closed); Tr. (Subramanian) at 506:10-18 (explaining same); Tr. (Fitzgibbon) at 208:23-209:3 (describing testing while connected to a door).).

Thus, CGI has proven by a preponderance of evidence that the 223 DI Products meet limitation 1[d] of claim 1 of the '223 patent.

**f) 1[e]: "develop an obstacle detector operating mode control signal from the controller as a function of movable barrier operator system state information that indicates whether the barrier is open or closed, the obstacle detector operating mode control signal being operable to directly control the energy usage of the obstacle detector, the control signal from the controller developed as a result of the state information, the state information selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state**

**information and combinations thereof"**

*i. "develop an obstacle detector operating mode control signal from the controller as a function of movable barrier operator system state information that indicates whether the barrier is open or closed"/"the control signal from the controller developed as a result of the state information, the state information selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof"*

The 223 DI Products practice these aspects of limitation 1[e]. Dr. Subramanian explained that the logic board (controller) in the 223 DI Products can transmit an "obstacle detector operating mode control signal," i.e., . (Tr. (Subramanian) at 510:18-23 (explaining that ); CX-0943C (Source Code) at 317 ( ). The . (Tr. (Subramanian) at 509:14-510:8 (explaining use of ); CX-0943C (Source Code) at 459.). The . (CX-0160C (Hardware Specification) at (diagram showing ); Tr. (Subramanian) at 508:5-509:13 (describing schematics).

The obstacle detector operating mode control signal, , is developed "as a function of . . . state information" generated . (Tr.

(Subramanian) at 510:9-512:3 (explaining [redacted]); CX-0943C (Source Code) at 317, 320 (functions controlling [redacted]).). [redacted]. (Tr. (Subramanian) at 511:20-21 (explaining that the [redacted]); CX-0943C (Source Code) at 320, 312 ([redacted]).). [redacted]. (Tr. (Subramanian) at 511:2-5 [redacted]; CX-0943C (Source Code) at 317 ([redacted]).

In other words, the [redacted] is "developed as a result of" both motor and time state information and the signal is "develop[ed] as a function of . . . state information that indicates whether the barrier is open or closed" because the calls to the functions that control the value of the [redacted] are dependent upon whether the door is closed and the time elapsed since the last motor activity. (Tr. (Subramanian) at 510:9-512:3 (explaining [redacted]), 511:18-24 [redacted].).

In particular, [redacted]

. (*See* CX-0943C.0317 lines 441-445 . Since the only time the IR beam can be "off" is when the door is closed, it follows that the beam can only transition from "off" to "on" when the door receives a command while the door is closed, which would be reflected by the state machine. As such, the obstacle detector operating mode control signal is developed only when state information "indicates" that the barrier is closed. (Tr. (Subramanian) at 511:18-24.).

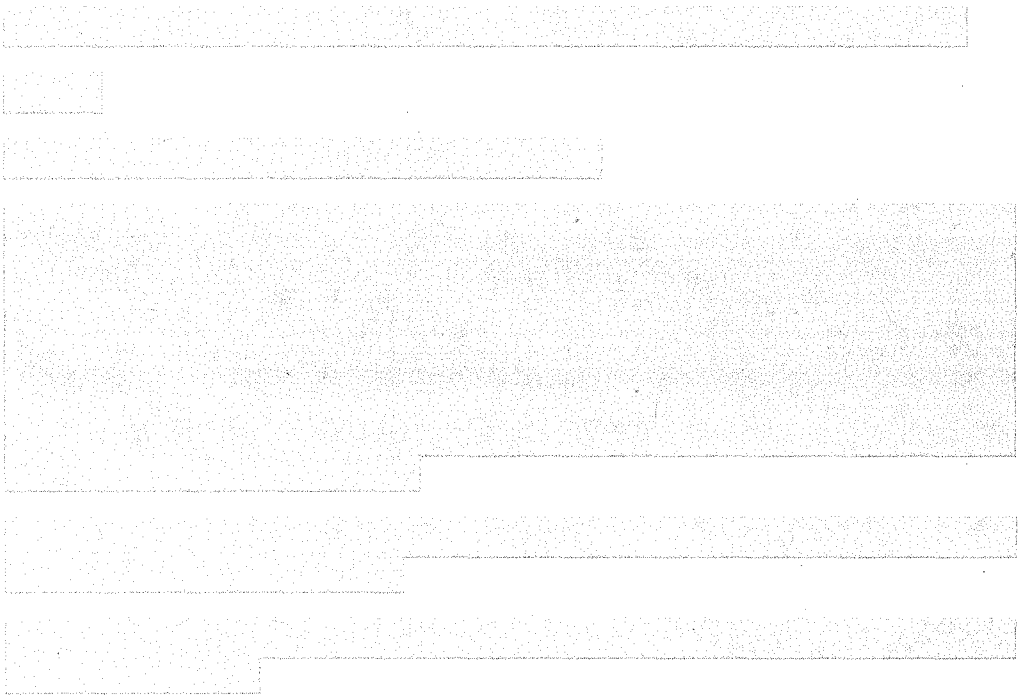
Nortek did not rebut any of CGI's arguments but rather disparaged the sufficiency of CGI's evidence. (RRBr. at 86-89.). Namely, Nortek contended that CGI's analysis of whether this aspect of limitation 1[e] is satisfied "is filled with functions never analyzed or even mentioned by Dr. Subramanian during his testimony" and are "unsupported attorney argument. (*Id.* at 87-88.). Although Dr. Subramanian may have not discussed every function, as Nortek noted, his testimony along with the source code CGI identified sufficiently demonstrate that the 223 DI Products develop an obstacle detector operating mode control signal as a function of the claimed "state information."

Accordingly, CGI has proven by a preponderance of evidence that the 223 DI Products meet these aspects of limitation 1[e] of claim 1 of the '223 patent.

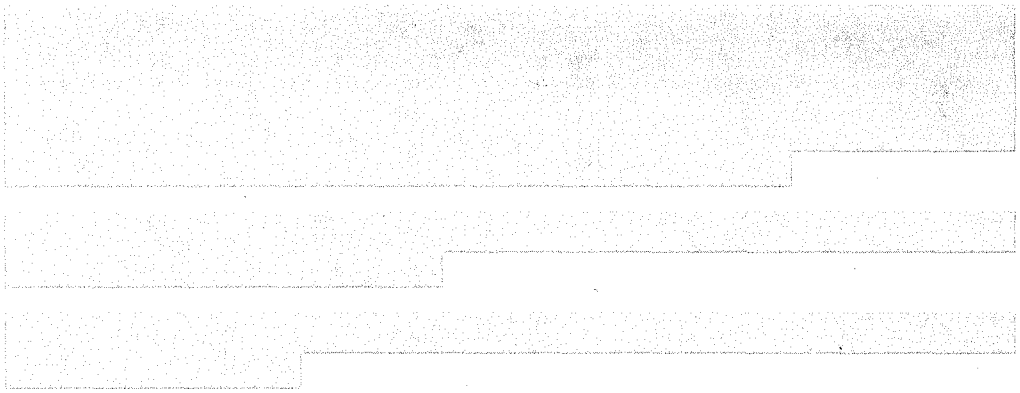
***ii. "the obstacle detector operating mode control signal being operable to directly control the energy usage of the obstacle detector"***

The 223 DI Products practice this aspect of limitation 1[e], which Nortek did not explicitly refute. Dr. Subramanian testified that the

.



* * *



(Tr. (Subramanian) at 508:10-509:5, 509:21-510:8; CX-0160C at ).

As Dr. Subramanian testified, the represents a dedicated connection between the obstacle detector and the control board. (*Id.* at 508:18-20.). Thus, any change to that connection via the directly, and exclusively, affects the obstacle detector. (*Id.* at 509:5, 509:21-510:8.).

Nortek did not present any rebuttal arguments with respect to this aspect of limitation

1[e]. (RRBr. at 70-89.). Thus, any argument on this part of limitation 1[e] is waived under Ground Rule 10.1.[52]

Accordingly, CGI has proven by a preponderance of evidence that the 223 DI Products meet this aspect of limitation 1[e] of claim 1 of the '223 patent.

**g) 1[f]: "the obstacle detector operably coupled to the power supply and to the movable barrier operator, receives operating power from the power supply, and has a plurality of operating modes, wherein at least some of the operating modes have different energy usages, and wherein the obstacle detector is directly responsive to the movable barrier operator obstacle detector operating mode control signal such that"**

***i. "the obstacle detector operably coupled to the power supply and to the movable barrier operator, receives operating power from the power supply, and has a plurality of operating modes, wherein at least some of the operating modes have different energy usages"***

The 223 DI Products practice this aspect of limitation 1[f], which Nortek did not contest. As discussed above in Sections for limitations 1[a]-1[c], the obstacle detector in the 223 DI Products is coupled to the GDO and its power supply through wires that transmit power and signals that control whether the obstacle detector is on or in low power mode. (CX-0160C (Hardware Specification (Native)) at [redacted] (diagram showing [redacted]); Tr. (Subramanian) at 512:9-25 ("[W]e see clearly that there is power that's provided to this obstacle detector, because you can see that there is a power supply that comes in[.]").).

Voltage and current measurements taken at the obstacle detector in each mode demonstrate the plurality of operating modes with different energy usages. (Tr. (Subramanian)

[52] In the context of limitation 1[f], Nortek only contended that the representative LiftMaster 8355W is not "directly responsive to the movable barrier operator obstacle detector operating mode control signal," as required by the claim 1. (*See* RRBr. at 73-77.).

at 513:1-8 (explaining test data), 507:3-12 (same); CX-0638C (test data showing [redacted]); CDX-0004.0127 (demonstrative showing test results); CX-0943C (Source Code) at 317-320 ([redacted]); *see also* Sections VIII.A.3(h)-(i), *infra*, addressing limitations 1[g]-[h].).

Accordingly, CGI has proven by a preponderance of evidence that the 223 DI Products meet this aspect of limitation 1[f] of claim 1 of the '223 patent.

***ii. "wherein the obstacle detector is directly responsive to the movable barrier operator obstacle detector operating mode control signal such that"***

Similar to its non-infringement argument with respect to this limitation, Nortek contended that the 223 DI Products do not practice this aspect of limitation 1[f] because the obstacle detector cannot be directly responsive to the obstacle detector operating mode control signal. (RRBr. at 73.). Nortek premised its argument on the fact that the obstacle detector operating mode control signal in the 223 DI Products is not connected to the obstacle detectors.

In the representative LiftMaster 8355W, CGI identified the [redacted] as the alleged obstacle detector operating mode control signal. (CBr. at 78-79; Tr. (Subramanian) at 508:5-510:23.). As Nortek noted, it is undisputed that the [redacted]. (RRBr. at 73-74 (citations omitted).).

However, as discussed in Section with respect to infringement of this aspect of limitation 1[e], nothing in the claim language or the specification of the '223 patent restricts the scope of "directly responsive" to the obstacle detector and the movable barrier operator obstacle detector

operating mode control signal being directly wired to one another.

As Dr. Subramanian testified, the [redacted] represents a dedicated connection between the obstacle detector and the control board. (*Id.* at 508:18-20.). As a result, any modification to that connection via the [redacted] directly affects the obstacle detector. (Tr. (Subramanian) at 509:5, 509:21-510:8.).

Thus, CGI has proven by a preponderance of evidence that the 223 DI Products meet this aspect of limitation 1[f] of claim 1 of the '223 patent.

**h) 1[g]: "during the first mode of energy consumption operation, the obstacle detector operates using a first energy usage"**

The 223 DI Products practice limitation 1[g], which Nortek did not dispute. As explained above for limitations 1[e] and 1[f], if the value of [redacted], the obstacle detector operates in a full power mode. (Sections VIII.B3(f)-(g).). Test data for the representative LiftMaster 8355W in full power mode showed a voltage of [redacted] and current of [redacted] at the obstacle detector and a total power of [redacted] drawn from the power supply. (CX-0638C (test data); CDX-0004.0127 (demonstrative showing test results); Tr. (Subramanian) at 514:5-18.). This energy usage corresponds to the "first mode of energy consumption operation." (Tr. (Subramanian) at 514:5-18.).

For these reasons, CGI has proven by a preponderance of evidence that the 223 DI Products meet limitation 1[g] of claim 1 of the '223 patent.

**i) 1[h]: "during the second mode of energy consumption operation, the obstacle detector operates using a second energy usage, wherein the operating power used in one of the energy usages is less than the power used by the other energy usage"**

***i. "during the second mode of energy consumption operation, the obstacle detector operates using a second energy usage"***

CGI contended that the 223 DI Products practice this aspect of limitation 1[h]. (CBr. at 83.). Dr. Subramanian testified that although the obstacle detector's infrared (IR) beam is turned off in the second mode, Dr. Subramanian explained that the obstacle detector circuitry itself is still "operating" within the meaning of claim 1 because it is still purposefully consuming some power. (Tr. (Subramanian) at 505:4-8, 1147:9-12.). However, as Nortek noted, Dr. Subramanian did not identify what components are operating or what function they are performing, and merely stated that [redacted] (Tr. (Subramanian) at 486:2-8, 509:1-13; 706:11-707:13.).

More importantly, one of CGI's documents describing the hardware specification of the main printed board circuity of the 223 products indicate that the [redacted]. (RX-0250C, [redacted] (a duplicate of CX-0148C relied on by Dr. Subramanian in his 223 DI Products analysis; *see* CDX-0004.0119); *see also* Tr. (Fitzgibbon) at 263:16-22 (RX-0250 is a hardware specification for Wi-Fi garage door operators).). Specifically, a description of [redacted]. (RX-0250C at [redacted].). Notably, the description states that the [redacted]

(*Id.* (emphasis added).). Dr. Subramanian also described this circuit as being controlled with the from the microcontroller. (*Id.*; Tr. (Subramanian) at 513:21-25 (microcontroller bit determines whether IR_Power signal is on or off).).

Other CGI documents also explain that the power to the obstacle detectors is turned "off" or "disconnected" to save power. For example, CX-0160C shows the

. (CX-0160C, (relied on by Dr. Subramanian in his 223 DI Products analysis; *see* CDX-0004.0119 and Tr. (Subramanian) at 508:10-509:13).). This description states that the

(CX-0160C at ); *see also* RX-0960C.0003 (showing ; JX-0018C.0024 (Fitzgibbon Dep. Tr. (Oct. 26, 2018)) at 54:15-18 (Fitzgibbon testimony that ).). The document explains that the (i.e., the (CX-0160C at (emphasis added).).

Moreover, a

(RX-0983C (a duplicate of CX-0206C relied on by Dr. Subramanian; *see* CDX.0004.119); (JX-0018C.0056, 71 (Fitzgibbon Dep. Tr. (Oct. 26, 2018)) at 243:10-244:22, 181:18-182.21, 183.3-5; Tr. (Fitzgibbon) at 217:7-10 ( ), 220:8-19 (CX-0206 is

[redacted],

220:19-221:1 ("Q. How, if at all, is the disclosure in this document relevant to the Wi-Fi GDOs? A. Again, [redacted]).).

Furthermore, this aspect of limitation 1[h] requires the obstacle detector to consume some power, i.e., has a second energy usage. (Tr. (Toliyat) 1005:7-23 (obstacle detector is not "operating using a second energy usage" as required by claim 1 if the energy usage is zero).). CGI's primary evidence that the obstacle detector "operates using a second energy usage" "during the second mode of energy consumption operation" is Mr. Fitzgibbon's power consumption calculation based on current and voltage measurements taken of the obstacle detector of the LiftMaster 8355W. (CBr. at 85-87.). According to CGI, this power consumption calculation, that is [redacted], establishes that "the obstacle detector operates using a second energy usage." (*Id.*; Tr. (Subramanian) at 505:9-10, 514:5-13; CDX-0004.0127C; CX-0638C; RX-0735C.).

However, as Dr. Toliyat explained, these voltage and current measurement values do not take into account the accuracy range of the Fluke multimeter Mr. Fitzgibbon used to take these measurements.[53] (Tr. (Toliyat) at 1000:3-7, 1019:21-1020:6.). Dr. Toliyat performed his own calculations to determine the accuracy of Mr. Fitzgibbon's current and voltage measurements of the LiftMaster 8355W obstacle detectors. (*Id.* at 1000:3-17.). He carried out the accuracy calculations using information from the datasheet of the Fluke multimeter Mr. Fitzgibbon used

[53] Dr. Subramanian acknowledged that he did not perform an accuracy calculation when he analyzed the LiftMaster 8355W data in preparing his report. (Tr. (Subramanian) at 1177:8-14.).

and the Mr. Fitzgibbon applied to configure the Fluke 87. (Tr. (Toliyat) at 999.24-1000:7, 1004:2-17; RDX-1001C.0161, RX-0753C.0001-2; Tr. (Subramanian) at 676.5-9 (admitting that Mr. Fitzgibbon used the 0.01mA range of the multimeter).)

Dr. Toliyat's calculations showed that the range of current consumption of the obstacle detector could be between . (*Id.* at 1006:10-14 ( ), 1004:18-21.). Since the power consumption is the product of voltage and current (P = I * V), if the current can be . (Tr. (Toliyat) at 1004:24-25, 1024:4-7.).

Dr. Subramanian agreed that Dr. Toliyat performed these calculations correctly, and only disputed that the . (Tr. (Subramanian) at 1178:1-10 ("I don't have a problem with his calculation. . . . [T]he methodology itself is sound to me. Q. So the only thing you've eliminated is that the accuracy range ? A. Correct.").). Dr. Subramanian did not address Dr. Toliyat's conclusion that the . (*Id.* at 1143:14-1146:20.)

Because the actual current can fall anywhere in the range that Dr. Toliyat calculated, , CGI has failed to demonstrate that the LiftMaster 8355W has an "obstacle detector operates using a second energy usage" in the second mode of energy consumption operation. (*Id.* at 1005:18-23.).

For the reasons discussed above, CGI has failed to prove by a preponderance of evidence that the 223 DI Products meet this aspect of limitation 1[h] of claim 1 of the '223 patent.

***ii. wherein the operating power used in one of the energy usages is less than the power used by the other energy usage"***

Nortek did not contest that the 223 DI Products practice this aspect of limitation 1[h]. , the obstacle detector operates in a low power mode. During that low power mode, test data showed . (CX-0638C (test data); CDX-0004.0133 (demonstrative showing test results); Tr. (Subramanian) at 514:5-18.). This energy usage corresponds to the claimed "second mode of energy consumption operation." (Tr. (Subramanian) at 514:5-18.). Dr. Toliyat did not dispute that the 223 DI Products have a low power state (when the IR beam is off) and that the energy usage in the low power state is "less than" the energy usage in the full power state. (Tr. (Toliyat) at 999:14-23 ("Q. So let's go to the next slide. So you found that the LiftMaster product used even less power in the low state than the Nortek products; right? A. That's correct. Q. So in the low power state, how much power was the Chamberlain obstacle detector using? A. It's . . . .")).[54]

Thus, CGI has proven by a preponderance of evidence that the 223 DI Products meet this aspect of limitation 1[h] of claim 1 of the '223 patent.

[54] While Nortek and Dr. Toliyat did not dispute that the energy usage in the second mode is less than the first mode, Dr. Toliyat testified that the measurement technique Mr. Fitzgibbon used was problematic. (Tr. (Toliyat) at 999:25-1003:3.).

## C. Invalidity

### 1. Invalidity Overview:[55] Nortek Failed to Prove That the '223 Patent Is Invalid

Nortek asserted that the claim term "obstacle detector operating mode control signal" developed by the controller, recited in limitations 1[e]/21[e], fails to satisfy the written description requirement of 35 U.S.C. §112. (RBr. at 46-47.). Nortek also argued that claims 1 and 21 are rendered obvious in view of Nortek's prior art OSCO CRS-D system ("OSCO system" or "CRS-D"). (RBr. at 49.).

For the reasons discussed below, neither claim 1 nor claim 21 is invalid for lack of written description support. There is adequate disclosure in the '223 patent that would convey to one of ordinary skill in the art that the patentee was in possession of the claimed "obstacle detector operating mode control signal."

Nor are claims 1 and 21 obvious in light of the OSCO system. The OSCO system does not: (i) "operate" in a second mode; (ii) is not "operably coupled to at least one source of alternating current" and "operating power"; and (iii) does not "develop an obstacle detector operating mode control signal" required by claims1 and 21. With respect to the missing elements listed in (i) and (iii) above, Nortek offered no explanation why the OSCO system would render obvious these deficiencies.

Thus, it is a finding of fact that Nortek failed to meet its burden of proving by clear and

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[55] In its Response to the Complaint, Nortek alleged that "[a]ll asserted claims of the Asserted Patents are invalid for failure to meet one or more of the requirements set forth in Title 35 of the United States Code, including Sections 101, 102, 103, 112, and/or 116." (Resp., Affirmative Defenses at ¶¶ 3, 8.). In its Pre-Hearing Brief, Nortek did not raise any arguments that the '223 patent was invalid under 35 U.S.C. § 116. Thus, any argument on this issue is deemed abandoned or withdrawn under Ground Rule 7.2. Additionally, in its Initial Post-Hearing Brief, Nortek failed to address any allegations that the '223 patent is invalid under 35 U.S.C. §§ 101 and 102. Accordingly, any argument on these issues are deemed waived under Ground Rule 10.1.

convincing evidence that claims 1 and 21 of the '223 patent are invalid.

### 2. Claims 1 and 21 of the '223 Patent Are Not Invalid for Inadequate Written Description Support

The first paragraph of Section 112 says: "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same. . . ." 35 U.S.C. § 112. To comply, a patent applicant must "convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the [claimed] invention." *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991) (emphasis omitted).

As an initial matter, in accordance with the Scheduling Order (Order No. 4 (July 3, 2018)), on April 5, 2019, each of the Parties filed, *inter alia*, a Pre-Hearing Brief ("Initial Pre-Hearing Brief"). (Doc. ID No. 672425 (Apr. 5, 2019) (CGI); Doc. ID No. 672362 (Apr. 5, 2019).). On April 25, 2019, CGI filed a corrected Pre-Hearing Brief ("Corrected Pre-Hearing Brief").[56] (Doc. ID No. 674052 (Apr. 25, 2019).). In these Pre-Hearing Briefs, CGI included rebuttal argument to Nortek's invalidity contention with respect to written description. (*See* CGI's Initial Pre-Hearing Brief at 86; CGI's Corrected Pre-Hearing Brief at 85.).

On June 6, 2019 and June 7, 2019, in response to an oral Order issued during a teleconference held on May 31, 2019, CGI and Nortek each filed a revised Pre-Hearing Brief ("Revised Pre-Hearing Brief"), respectively.[57] (Doc. ID No. 677991 (June 6, 2019) (CGI); Doc.

[56] On April 19, 2019, CGI filed an unopposed motion for leave to file a corrected Pre-Hearing Brief, which was granted. (Motion Docket No. 1118-029 (Apr. 19, 2019); Order No. 24 (Apr. 22, 2019).).

[57] Nortek's Revised Pre-Hearing Brief contains red-lined edits.

ID No. 677997 (June 7, 2019) (Nortek); Doc. ID No. 690968 (Oct. 10, 2019).). CGI also filed a red-lined version of its Revised Pre-Hearing Brief. (Doc. ID No. 677996 (June 7, 2019).). In its Revised Pre-Hearing Brief, CGI deleted all arguments rebutting Nortek's contention that the asserted claims of the '223 patent do not satisfy the written description requirement.[58] (CGI's Revised Pre-Hearing Brief at 85-92.).

The Revised Pre-Hearing Briefs the Parties filed on June 6, 2019 and June 7, 2019 effectively replaced the previously filed versions and became the only versions upon which the Parties could rely. Since CGI's Revised Pre-Hearing Brief does not include any rebuttal argument on the issue of written description for the '223 patent, any argument on this issue is deemed abandoned or withdrawn under Ground Rule 7.2. *See, e.g.*, *Certain Automated Media Library Devices*, Inv. No. 337-TA-746, Revised Comm'n Op. at 14-16 (Jan. 9, 2013). However, this waiver has no practical effect here because Nortek failed to meet its burden and prove by clear and convincing evidence that the term at issue lacks written description support. In event the Commission disagrees with this finding, the following analysis is provided.

Specifically, Nortek contended that the claim term "obstacle detector operating mode control signal" developed by the controller, recited in limitations 1[e]/21[e], is unsupported and therefore fails to satisfy the written description requirement of 35 U.S.C. §112. (RBr. at 46-47.). Nortek relied on its expert's, Dr. Fernald's, testimony that the "signals" CGI identified do not reach the obstacle detector "such that it could ***directly*** respond accordingly and change its modes." (*Id.* at 47 (citing Tr. (Fernald) at 1090:9-18.). Because he could not find a description of such a signal, Dr. Fernald opined that the claim term is invalid. (Tr. (Fernald) at 1090:9-

[58] This section is stricken through in the red-lined version of CGI's Revised Pre-Hearing Brief. (Doc. ID No. 677996 at 98-99.).

1091:25.).

During cross-examination of Dr. Fernald, CBI's counsel confronted Dr. Fernald with the *Markman* Order and suggested that, because "obstacle detector operating mode control signal" was construed, the claim term had automatically met the written description requirement. (Tr. (Fernald) at 1114:14-1115:10.). Nortek correctly noted that while written description and definiteness both stem from §112, they are distinct requirements for patentability drawn from separate legislative provisions. The second paragraph of §112 requires a patent to contain "one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 902 (2014). The first paragraph of §112 expressly requires that the specification "shall contain a written description of the invention . . . in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same . . . ." *Ariad Pharms.*, 598 F.3d at 1343.[59] Thus, CGI's "rebuttal argument" presented during Dr. Fernald's cross-examination has been no weight.

With that said, contrary to Nortek's contention, the specification of the '223 patent discloses developing a signal to control the mode of the obstacle detector. For example, the specification describes the following embodiment:

> Referring now to FIG. 1, a movable barrier operator system can include, for example, an operator controller 5 that serves to interact with a variety of other components of the operator system. Such controllers 5 are well known in the art and usually comprise a programmable platform (such as a microprocessor, microcontroller, programmable gate array, or the like) . . . . An ***obstacle detector***

[59] Consequently, courts routinely decide definiteness questions (e.g., at the *Markman* stage) while reserving questions about written description and enablement. *See, e.g., Blackberry Ltd. v. Typo Prod. LLC*, 2014 WL 6603126, *2 (N.D. Cal. Nov. 20, 2014); *Exergen Corp. v. Brooklands, Inc.*, 2014 WL 4049879, *7 n.6 (D. Mass. Aug. 15, 2014) ("This court's role is limited to construing the language of the claims. In doing so, it passes no judgment on enablement, written description, anticipation, obviousness, patentable subject matter, or any other grounds of invalidity not expressly discussed in this opinion.").

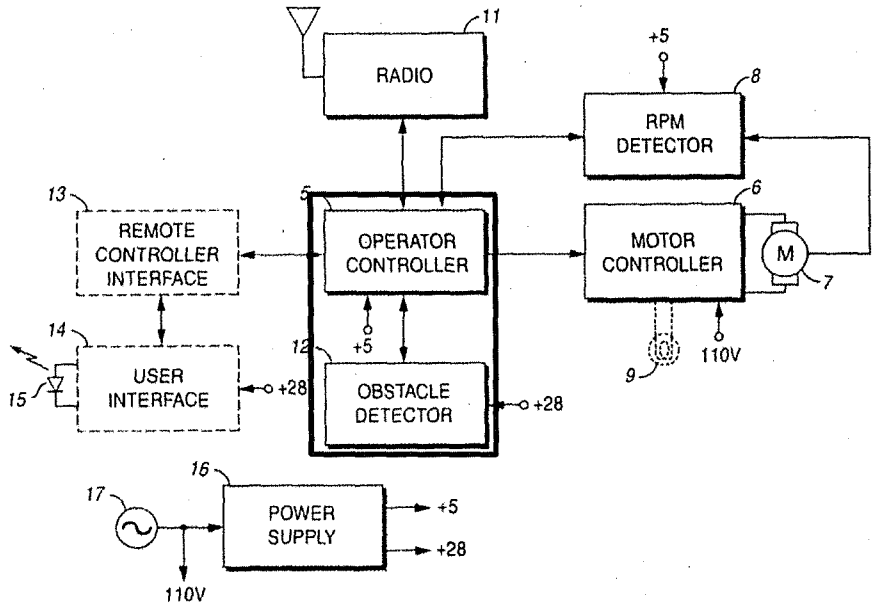
> ***12 of choice couples to the operator controller 5*** and serves primarily to detect when an obstacle lies in the path of the moving barrier.
>
> * * *
>
> Once the movable barrier has moved to a fully closed position, however, and further has remained in that position for a predetermined period of time (such as, for example, five minutes), ***this information as received 50 by the operator controller 5 can be used to select instead a second mode of energy consumption operation 54***. In this embodiment, ***pursuant to the second mode of energy consumption operation, one pair 12B of the photobeam elements can be switched off, thus saving 50% in energy utilized to power the photobeam operation***.
>
> * * *
>
> The operator controller 5 can be configured to toggle itself between an ordinary mode of operation and a so-called sleep mode of operation. During a sleep mode of operation, the processing platform that comprises the operator controller 5 can power down significant portions of its relevant circuitry and then only intermittently re-power such circuitry to respond to any system needs that may have arisen in the meantime. As another example, significant portions of the processing platform can be powered down and left powered down. ***A remaining portion of the platform can serve to receive signals that indicate when processing requirements now exist and to interrupt and awaken the remaining circuitry to tend to the task at hand***.

(JX-0001 at 3:13-19 (emphasis added), 6:17-27 (emphases added), 6:60-7:5 (emphasis added).).

Nortek contended that while the "photobeam elements may be switched off in a different operating mode (JX-1 at 6:17-27), this passage says nothing about any signal to the obstacle detector to change operating state." (RBr. at 47.). Nortek is incorrect. "The form and presentation of the description can vary with the nature of the invention[.]" *In re Skvorecz*, 580 F.3d 1262, 1269 (Fed. Cir. 2009); *see also In re Hayes*, 982 F.2d at 1534 (noting that the adequacy of the description depends on content, rather than length); *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1352 (Fed. Cir. 2010) (en banc) ("Specifically, the level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology.")

When read in its entirety, as shown in the quoted text above, the specification discloses "an operator controller 5 that serves to interact with a variety of other components of the operator system" and is coupled to, *inter alia*, an obstacle detector, which in one embodiment, upon receiving state information of the movable barrier, selects a second mode of energy consumption (i.e., sleep mode), which in turn, switches off the photobeam elements. (JX-0001 at 3:13-19, 6:17-27.). The '223 patent also teaches that the operator controller can receive signals to "wake up" the associated circuity from sleep mode to the first, full power mode of energy consumption. (*Id.* at 6:60-7:5.). Additionally, Figure 31 below shows a line passing between operator controller 5 and obstacle detector 12 over which such a signal would travel.

**Figure 31: Figure 1 of the '223 Patent**




(*Id.* at Fig. 1 (annotated).).

Nortek cited *Rivera v. Int'l Trade Comm'n*, 857 F.3d 1315, 1322 (Fed. Cir. 2017) for the proposition that the knowledge of a person of ordinary skill cannot be used to "teach limitations

that are not in the specification." (RBr. at 49.). That is not the case here. Rather, the '223 patent describes using a controller to adjust the operating mode of various components, including the obstacle detector, as well as signals that are used to effect those adjustments.

For the foregoing reasons, Nortek has failed to prove by clear and convincing evidence that claims 1 and 21 are invalid based on lack of written description support for the claim term "obstacle detector operating mode control signal," recited in limitations 1[e]/21[e].

**3. Obviousness**

Nortek asserted that claims 1 and 21 are obvious in light of Nortek's prior art OSCO CRS-D system. (RBr. at 49.). Former Nortek employee and former engineer at Operator Specialty Company ("OSCO"), Mr. Kevin Ward,[60] testified that OSCO was a door and gate operator company. (Tr. (Ward) at 557:21-25, 558:5-16.). Mr. Ward explained that in or around October 2001, OSCO began developing operator products with direct current (DC) motors including a "sleep mode" wherein components like photoeye obstacle detectors would be shut off while the operator was not running in order to save power. (*Id.* at 558:5-16, 576:4-577:20; RX-0081.).

However, as CGI pointed out, Mr. Ward testified that: (i) the CRS-D completely shuts off the power to the obstacle detectors (Tr. (Ward) at 600:24-601:18), which means it does not "operate" in a second mode as claims 1 and 21 require; (ii) its alleged "sleep mode" only occurs when there is no AC power (Tr. (Ward) at 597:18-25), which means it does not teach the claims' "operably coupled to at least one source of alternating current" and "operating power"

[60] Nortek identified Mr. Kevin Ward as a fact witness to testify about, *inter alia*, the factual background of the OSCO system. (RPSt. at 2.). Mr. Ward worked at Nortek Security & Control, LLC for approximately 19 years. (Tr. (Ward) at 557:21-25.). He also worked in the engineering department of OSCO. (*Id.* at 558:9-16.).

requirements; and (iii) it cuts all power to all accessories without differentiation (Tr. (Ward) at 601:19-602:8), and thus does not produce the "obstacle detector operating mode control signal" required by claims1 and 21. (JX-0016C (Ward Dep. Tr. (Oct. 16, 2018)) at 105:7-11, 97:1-4, 108:16-110:4.). Thus, the CRS-D fails to teach these elements of claims 1 and 21. Nortek also failed to provide explanation why the missing elements would be rendered obvious in the context of the CRS-D.

**a) Nortek failed to show that the CRS-D "operates using a second energy usage" during a "second mode of operation"**

The CRS-D system's obstacle detector does not "operate[] using a second energy usage" during a "second mode of energy consumption operation," as required by limitations 1[f]/21[f] and 1[h]/21[h].

Both Parties' experts agreed that an obstacle detector is not "operating" under the plain meaning of that term if it is not receiving at least some power. (Tr. (Subramanian) at 670:19-671:25 ("it's not operating if it has a zero energy usage, I agree with that statement"); Tr. (Toliyat) at 1005:21-23 ("Q. If the second -- if the energy usage is zero, is this claim limitation met? A. No, it is not."). Thus, "operating" in the claims of the '223 patent requires the obstacle detector to receive some non-zero level of energization. (Tr. (Subramanian) at 670:19-671:25; Tr. (Toliyat) at 1005:21-23.).

Mr. Ward testified unequivocally that when the CRS-D was in "sleep mode," its obstacle detectors received "no power . . . whatsoever," which both experts agreed does not practice claims 1 and 21. (JX-0016C (Ward Dep. (Oct. 16, 2018)) at 105:7-17 ("Q. Sleep mode means no power to the obstacle detectors whatsoever; is that right? . . . A. Correct. Q. And that's true in all OSCO gate operators that you're aware of; is that right? . . . A. Yes."); Tr. (Ward) at

601:6-18); *see also* Tr. (Subramanian) at 675:12-16; Tr. (Toliyat) at 1005:2-23.).

Without any evidentiary support, Nortek offered only attorney argument that the distinction between drawing some power and no power is "meaningless." (RBr. at 53.). After arguing that the limitation is not satisfied if energy usage is zero in its attempts to challenge domestic industry and infringement, Nortek cannot credibly contend that the difference is "meaningless" in this context. *See, e.g.*, *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001) ("claims must be . . . given the same meaning for purposes of both validity and infringement analyses").

Accordingly, Nortek has failed to prove by clear and convincing evidence that the CRS-D obstacle detector "operates" in a second mode.

**b) Nortek failed to show that the CRS-D includes an obstacle detector that "operably couples to at least one source of alternating current" and receives "operating power" when in a "second mode of energy consumption operation."**

The CRS-D system does not have an "obstacle detector" that is "operably coupled to at least one source of alternating current" during a "second mode of energy consumption operation," as required by limitations 1[a]/21[a], 1[f]/21[f], and 1[h]/21[h].

Claims 1 and 21 recite, *inter alia*, "a ***power supply*** that operably couples to at least one source of ***alternating current***" (1[a]/21[a]); "the ***obstacle detector operably coupled to the power supply*** and to the movable barrier operator, ***receives operating power from the power supply***" (1[f]/21[f]); and during the second mode of energy consumption operation, the obstacle detector operates using a second energy usage, wherein the ***operating power*** used in one of the energy usages is less than the power used by the other energy usage" (1[h]/21[h]). (JX-0001 at cl. 1, 21 (emphases added).).

Based on the limitations quoted above, claims 1 and 21 require that the "operating power" used in the first and second modes of energy consumption operation must be AC power supplied from the claimed "power supply that operably couples to at least one source of alternating current." (Tr. (Subramanian) at 1166:12-1167:14.). Thus, an obstacle detector that receives only direct current (DC), such as from a battery, during a second mode of energy consumption operation does not meet the claims' requirement to "operably couple to at least one source of alternating current" (AC). (Tr. (Subramanian) at 1166:12-1167:14.).

As Mr. Ward explained, the CRS-D sleep mode is only activated when AC power has been lost and the operator is running on DC power (i.e., a battery backup). (Tr. (Ward) at 597:18-25 ("Q. And so at the time the sleep mode is engaged, there is no AC power to the unit; correct? A. The -- that is correct. Q. And at that point in time, the unit is running off of DC power; right? A. Correct. Q. DC power from the battery; right? A. Yes."); *see also* Tr. (Fernald) at 1138:11-18 (acknowledging that OSCO only enters sleep mode in the absence of AC power).). Mr. Ward also confirmed that when the CRS-D is connected to AC power, the system is incapable of entering sleep mode at all. (JX-0016C (Ward Dep. (Oct. 16, 2018)) at 97:1-4 ("[S]leep mode in the OSCO gate operators would ***only*** occur when there's an absence of AC power[.]") (emphasis added).). Because batteries are sources of DC power (and not AC power), the CRS-D power supply is not "operably coupled to at least one source of alternating current" while in the "second mode of energy consumption operation."

Nortek presented attorney argument that "operably coupled does not mean that AC power must be flowing constantly." (RBr. at 54.). Not only is this argument unsupported in the record, it contradicts the plain meaning of the term "operably couples." A power supply that "operably couples" to a source of alternating current must be "coupled" to that source in order to "operate"

by receiving that AC power. *See, e.g.*, *CIF Licensing, LLC v. Agere Sys., Inc.*, 565 F. Supp. 2d 533, 548 (D. Del. July 10, 2008) (construing "operably coupled" to mean "whose input is derived from the output of another stage or structure"). If only a physical connection were required, the term "coupled" would not need to be modified by the term "operably."[61] Nortek's argument would render the term "operably" meaningless, in violation of a primary canon of claim construction. *See, e.g.*, *Wasica Finance GmbH v. Cont'l Auto. Sys., Inc.*, 853 F.3d 1272, 1288 n.10 (Fed. Cir. 2017) ("It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous.").

Nortek's argument that "the requirement for the obstacle detector to receive operating power from the power supply does not say that the power must be alternating current or that such power must be received throughout operations in both modes" is similarly unavailing. Claims 1 and 21 both require the obstacle detector to be "operably coupled to the power supply," to "receive[] operating power from the power supply," and to "operate[]" in each of the two modes. (*See* Tr. (Subramanian) at 1166:24-1167:14.). Because the "operating power" used in the two modes originates from the "power supply that operably couples to at least one source of alternating current," the power supply must "operably couple" to the source of alternating current (i.e., receive AC power) while providing "operating power" to the obstacle detector in the "second mode." *Id.*

Accordingly, Nortek has failed to prove by clear and convincing evidence that the CRS-D obstacle detector is "operably coupled to at least one source of alternating current" during a

[61] Notably, Nortek's brief omitted the word "operably" when arguing this point. (RBr. at 54 ("the only reference to alternating current in claims 1 and 21 simply states that the power supply must be ***coupled*** to such a source") (emphasis in original).).

"second mode."

**c) Nortek failed to show that the CRS-D uses the claimed "obstacle detector operating mode control signal."**

The CRS-D does not generate or use the claimed "obstacle detector operating mode control signal," as required by limitations 1[e] and 21[e].

Dr. Toliyat acknowledged that the obstacle detector operating mode control signal must "directly" (not incidentally) control the obstacle detector's energy usage. (Tr. (Toliyat) at 985:8-14 ("the claim requires the obstacle detector operating mode control signal being operated to directly control the energy usage. So the control signal has to control the energy usage of the obstacle detector."). The CRS-D cannot meet this requirement because, as Dr. Fernald confirmed, there is "no signal [in the CRS-D] that is specific to putting just the obstacle detectors into sleep mode." (Tr. (Fernald) at 1138:19-1140:17.). Rather, as Mr. Ward explained, the CRS-D uses a single signal to remove power to all accessories at the same time. (Tr. (Ward) at 583:12-19 ("Q. What accessories could the sleep mode turn off power to? A. Any accessory that was wired to the 24-volt DC plus and 24-volt DC minus terminals on the terminal strip."), 600:16-20 (the sleep mode "would turn off power to the accessories wired to the 24-volt DC plus and 24-volt DC minus terminals").).

Nortek asserted that any control signal that changes the energy usage of an obstacle detector (even if only incidentally) meets the claim limitation. (RBr. at 51-52.). Nortek's position contradicts the requirements of claims 1 and 21. If a signal that shuts down all accessories simultaneously could satisfy the limitation, as Nortek contended, then the phrase "obstacle detector operating mode" that precedes the words "control signal" would be superfluous. *See, e.g., Wasica Finance*, 853 F.3d at 1288 n.10.

Nortek's argument also contradicts the stated objective of the '223 patent to control the energy usage of individual components. (JX-0001 at 6:38-42 (the controller can "control[]" the operating mode of the obstacle detector "while simultaneously assuring that the operability and efficacy of the overall system is not unduly compromised").). Thus, OSCO's approach of shutting off all power to every component is contrary to the '223 patent's explanation of its claimed invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (the specification is "the single best guide to the meaning of a disputed term").

For the foregoing reasons, Nortek has failed to prove by clear and convincing evidence that the CRS-D generates or uses the claimed "obstacle detector operating mode control signal."

**4. CGI Failed to Show Secondary Considerations**

For the reasons set forth above, Nortek has not shown by clear and convincing evidence that claims 1 and 21 are invalid as obvious. Because the evidence is insufficient to demonstrate that the '223 patent is invalid under 35 U.S.C. § 103, an analysis of the secondary considerations of nonobviousness is unnecessary. However, in the event that the Commission disagrees with the finding, the following discussion is provided.

CGI contended that objective indicia including industry skepticism, long-felt need, industry praise, and commercial success confirm that the '223 patent claims are not obvious. (CRBr. at 39-40.). The evidence CGI presented is support of its arguments are not persuasive.

With respect to skepticism, CGI simply relied on Mr. Fitzgibbon's testimony that before the '223 patent, those in the industry were skeptical that an AC-power saving solution like the '223 patent would work because it was not clear that the obstacle detectors could be made operational quickly enough to ensure safety. (CRBr. at 38 (citing Tr. (Fitzgibbon) at 180:15-19).). CGI provided no evidence in support of this testimony. Moreover, in response to the

following question with regard whether "that skepticism [was] in the industry or just something internal to Chamberlain," he stated that it was "[p]robably more internal to Chamberlain," which strongly suggests that any purported skepticism was from the relevant industry. (*Id.* at 180:20-23.).

CGI's assertions of industry praise is based on Mr. Fitzgibbon's testimony with respect to a single news article that describes Mr. Fitzgibbon and not any of the asserted patents. (Tr. (Fitzgibbon) at 224:3-226:17; CX-0537 (news article).). There is no mention of the '223 patent in the article at all.

In addition, CGI's commercial success arguments failed to tie any sales to the feature claimed by the '223 patent. Not only is the patent much more specific than the very general desire for energy efficiency, but the ability to save power by turning off a photobeam was already known in the art. Notably, Mr. Sorice acknowledged that CGI may have other patents directed to energy savings beyond the '223 patent. (Tr. (Sorice) at 136:3-25.). Thus, mere recitations of "green products," "energy conservation," and the "Protector System," cannot be assumed to refer to the '223 patent. (*Id.*).

For example, CX-0730C contains one line that discusses "[r]esidential suppliers . . . striving to create energy-efficient, green products." However, this has no bearing on the '223 patent and does nothing to distinguish the '223 patent from any other patents directed at "energy efficiency." (CX-0730C.). Similarly, Mr. Sorice testified about CX-0018C, a presentation to Home Depot where he suggested that the percentages of respondents who favored the statement "want energy efficiency" indicated demand for the '223 patent. (Tr. (Sorice) at 143:1-23, CX-0018.0009.). However, on cross Mr. Sorice acknowledged the percentages in that document differed widely from his real-world experience: the lowest rated proposition in CX-0018C was

"worry about the garage door being opened after you left the house," yet Mr. Sorice repeatedly testified that is the most compelling feature about MyQ. (Tr. (Sorice) at 143:1-23.).

Thus, in the event the Commission finds claims 1 and 21 invalid, it is a finding of fact that CGI failed to meet its burden of production to show secondary considerations.

## IX. U.S. PATENT NO. 6,741,052

### A. Direct Infringement

#### 1. Infringement Overview: CGI Proved That the 052 Accused Products Satisfy Claim 1 of the '052 Patent

As shown below in Chart 2, CGI contended that the 052 Accused GDO Products (052 Original GDO Products, 052 Alternative GDO Products, and 052 Private Label Products), 052 Products Under Development, and 052 Accused Gate Operator Products (052 Original Gate Operator Products and 052 Alternative Gate Operator Products) (collectively, "052 Accused Products") satisfied claim 1 of the '052 patent. (CBr. at 5-6.). CGI also asserted that Nortek's LDCO850 product is representative of the 052 Accused GDO Products and 052 Products Under Development and that Nortek's BGU product is representative of the 052 Accused Gate Operator Products. (*Id.* at 93.).

As explained below, CGI has proven by a preponderance of the evidence only that the 052 Original Gate Operator Products satisfy claim 1 of the '052 patent.

## Chart 2: CGI's Depiction of the 052 Accused Products

| Set of Products | Subset of Products | Infringing Products | Claims Practiced | Representative Product |
|---|---|---|---|---|
| '052 Accused GDO Products | '052 Original GDO Products | LDCO850, LDCO852, LDCO800, Amarr840, Amarr860, MM9545M, MM9434K, MM9333H. | 1 | LDCO850 |
| | '052 Private Label Products CX-0707C at 105-106 | **Private Label Versions of LDCO800:** *800N, Megacode, DC Operator; 800N, Mega, DC Oper, Pvt, Lbl; 800N, Mega, DC Oper. Pvt Lbl;* 800N, MEGA, DC OPER "ASSA ABLOY"; 800N, Megacode, DC Operator, Pvt; GD DEPOT LDCO; DGD Private Label DC Opener. | 1 | LDCO850 |
| | | **Private Label Versions of LDCO850:** Smart DC Megacode Oper 1 Led Light; AFS LDCO850 PVT; DGD LDCO850. | | |
| | | **Private Label Versions of LDCO852:** *8428.90.0290; DGD LDCO852; Smart DC LDCO852 No Batt.* | | |
| | | **Private Label Version of Amarr840:** Ent840 1 Led GDO. | | |
| | | **Private Label Versions of Amarr860:** Ent860 3 Led GDO; PDS Ultra 900. | | |
| | '052 Alternative GDO Products | LDCO850A, LDCO852A, LDCO800A, Amarr840A, Amarr860A, MM9434KA, MM9545MA, MM9333HA. | 1 | LDCO850 |
| '052 Products Under Development | '052 Products Under Development | MM371W, MM372W, MM571W, MM572W, TS571W. | 1 | LDCO850 |
| '052 Accused Gate Operator Products | '052 Original Gate Operator Products | BGU, BGU-D, BGUS, BGUS-D, SG, SG-D, VS-GSLG, GSLG-A, HSLG, SLR, SLC, SLD, SWG, SWR, SWC, SWD, TYM-VS2, TYM 1000, TYM 2000. | 1 | BGU |
| | '052 Alternative Gate Operator Products | BGUA, BGU-DA, BGUSA, BGUS-DA, SGA, SG-DA, VS-GSLGA, GLSG-AA, HSLGA, SLRA, SLCA, SLDA, SWGA, SWRA, SWCA, SWDA, TYM-VS2A, TYM-1000A, TYM-2000A. | 1 | BGU |

(CDX-0004.0138 (introduced during the testimony of Dr. Subramanian).).

### 2. Specific Requirements of Asserted Claim 1

Claim 1 is the sole asserted claim of the '052 patent. (*Id.* at 2.). Claim 1 requires an "apparatus for use with a movable barrier" with two distinct modes "of operation": a "first mode" and a "second mode." (JX-0003 ('052 patent), cl. 1.). Within this apparatus, a "barrier movement control unit" with a "processor" is "configured to automatically determine at least one force threshold during" the claimed "first mode of operation." (*Id.*). Claim 1 also requires that the "at least one force threshold" is "for use by the barrier movement control unit when controlling the motor in a second mode of operation[.]" (*Id.*). The '052 patent explains that examples of these "first mode" and "second mode" elements are found in the prior art:

> During the learning mode 20, the barrier movement control unit 15 moves 21 the movable barrier 11, typically from a first position to a second position (for example, from a closed position to an open position). While moving the movable barrier 11, the barrier movement control unit 15 detects 22 forces that work in opposition to the movement of the movable barrier 11. This force (or these forces) are quantified and the results are then used to determine 23 one or more force thresholds for

subsequent use during normal operations.

(*Id.* at 3:30-39.).

What is purportedly not found in the prior art is the last element of claim 1, which requires "a user manipulable force threshold modification control" providing "force threshold modification information for use by the barrier movement control unit when controlling the motor in the second mode of operation." (*Id.*, cl. 1.). As the '052 patent explains, the shortcomings of the prior art "are at least partially met through provision of the post-automatically determined user-modifiable activity performance limit[.]" (*Id.* at 1:38-41.).

The '052 patent also discloses that "[i]n all of these [disclosed] embodiments . . . a user can readily adjust already automatically determined thresholds that control or influence the operation of the barrier movement control unit 15." (*Id.* at 5:46-51.). "This modification can occur immediately after the thresholds are initially determined . . . . or anytime thereafter." (*Id.* at 4:28-30.). "Similarly, the modified threshold value(s) can be determined once, stored, and used thereafter during the operating mode 40 or calculated anew . . . " (*Id.* at 4:30-33.).

### 3. All of the 052 Accused Products Satisfy the First Three Elements ([p] – [b]) of Claim 1

CGI divided claim 1 into five elements ([p] – [d]), as shown below in Figure 32. (CBr. at 95.). CGI has proven by a preponderance of the evidence that all of the 052 Accused Products satisfy elements [p] - [b]. (*See id.* at 95-96, 111-12, 117-18.). Nortek did not dispute CGU's evidence with respect to elements [p]-[b], and this has waived any such argument pursuant to Ground Rule 10.1. (RRBr. at 90-119.).

**Figure 32: Reproduction of Claim 11 from CGI's Initial Post-Hearing Brief**

1[p] An apparatus for use with a movable barrier comprising:

[a] at least one motor operably coupleable to the movable barrier:

[b] a barrier movement control unit operably coupled to the at least one motor, which barrier movement control unit includes:

[c] a processor operably coupled to receive information regarding at least some forces acting upon the movable barrier when the movable barrier is moving and being arranged and configured to automatically determine at least one force threshold during a first mode of operation for use by the barrier movement control unit when controlling the motor in a second mode of operation: and

[d] a user manipulable force threshold modification control having an output that provides force threshold modification information for use by the barrier movement control unit when controlling the motor in the second mode of operation.

**052 Accused GDO Products.** CGI has proven by a preponderance of the evidence that each of the 052 Accused GDO Products satisfies element [p]. Each of the 052 Accused GDO Products is an apparatus for use with a movable barrier, as shown below in Figure 33. (Tr. (Subramanian) at 395:18-24; *see also id.* at 396:5-7 ("Q. Now, does Dr. Toliyat dispute this limitation is met? A. Not to my knowledge, no."); CX-0866 (LDCO850 Manual) at 1.).

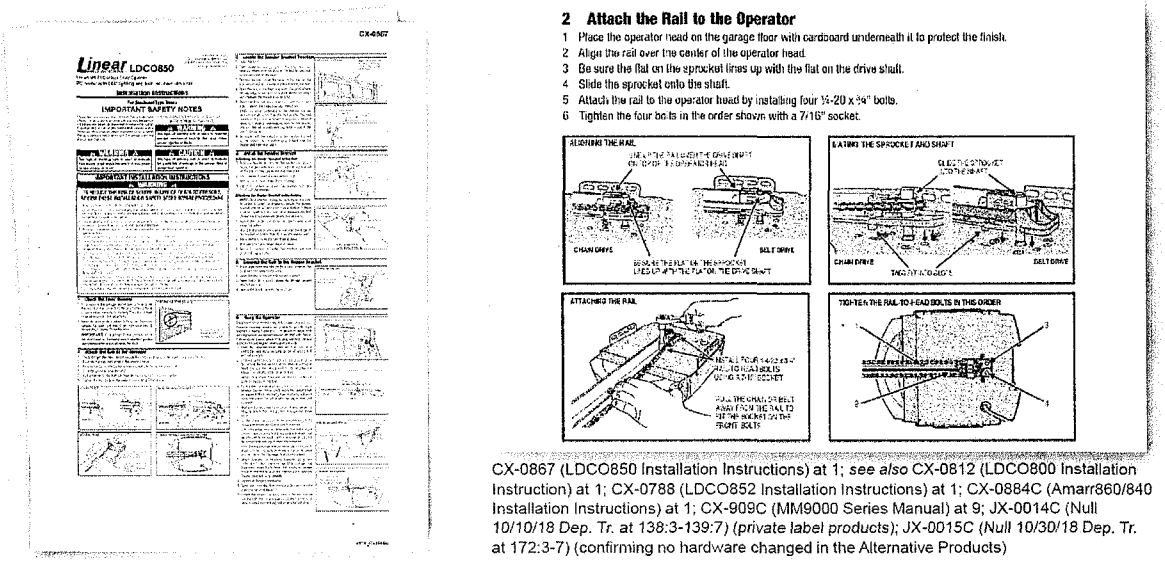
**Figure 33: CGI's Depiction of LDCO850 Representative Product Satisfying Element [p]**


CX-0866 at 1; *see also* CX-0922 (LDCO800 Homeowner's Manual) at 1; CX-0790C (Amarr 860/840 Homeowner's Manual) at 1; CX-0870 (LDCO852 Homeowner's Manual) at 1; CX-909C (MM9000 Series Manual) at 1; JX-0014C (Null 10/10/18 Dep. Tr. at 138:3-139:7) (private label products); JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products)

(CDX-0004.0144 (introduced during the testimony of Dr. Subramanian).).

CGI has proven by a preponderance of the evidence that each of the 052 Accused GDO Products satisfies element [a]. Each of the 052 Accused GDO Products contains an electric motor that is operably coupled to a garage door ("movable barrier"), as shown below in Figure 34. (Tr. (Subramanian) at 396:11-397:10, 397:5-7 ("The corresponding information is also present in the other manuals."); CX-0867 (LDCO850 Installation Instructions) at 1-4 (explaining how the motor operates in connection with the movable barrier); CX-0712C (Nortek's Responses to RFA Nos. 338, 339) at 154-55 (admitting that 052 Accused GDO Products "each include a motor" that is "capable of moving a movable barrier").).

**Figure 34: CGI's Depiction of LDCO850 Representative Product Satisfying Element [a]**




CX-0867 (LDCO850 Installation Instructions) at 1; *see also* CX-0812 (LDCO800 Installation Instruction) at 1; CX-0788 (LDCO852 Installation Instructions) at 1; CX-0884C (Amarr860/840 Installation Instructions) at 1; CX-909C (MM9000 Series Manual) at 9; JX-0014C (Null 10/10/18 Dep. Tr. at 138:3-139:7) (*private label products*); JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products)

(CDX-0004.0147 (introduced during the testimony of Dr. Subramanian).).

CGI has proven by a preponderance of the evidence that each of the 052 Accused GDO Products satisfies element [b]. Each of the 052 Accused GDO Products contains a main control board ("barrier movement control unit"), as shown below in Figure 35. (Tr. (Subramanian) at 397:15-398:17 ("Q. . . . What are you showing here? A. . . . ), 398:10-20 ("Q. . . . [D]oes Dr. Toliyat even dispute this limitation? A. No he does not.").). The main control board in the 052 Accused GDO Products is . (CX-0794C (LDCO850 Schematic) at 5 ( ); JX-0009C (Chiaravalloti Dep. Tr.) at 167:22-168:4 ( ); CDX-0004.0149 (introduced during the testimony of Dr. Subramanian).).

**Figure 35: CGI's Depiction of LDCO850 Representative Product Satisfying Element [b]**

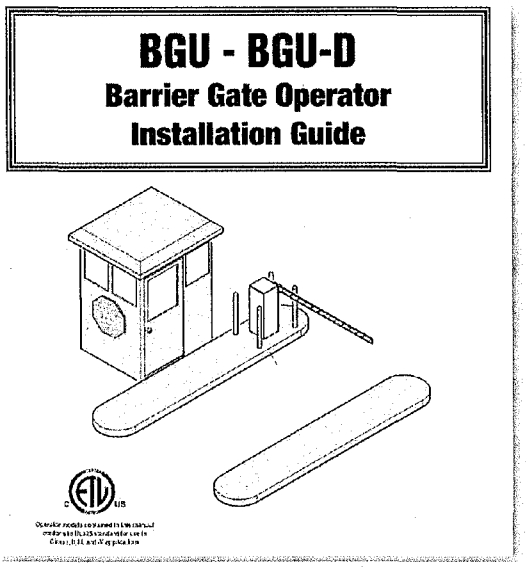
(CDX-0004.0149 (introduced during the testimony of Dr. Subramanian).).

**052 Products Under Development.** CGI has proven by a preponderance of the evidence that the 052 Products Under Development operate in the same manner as the 052 Accused GDO Products for purposes of assessing infringement of the '052 patent (notwithstanding that the former are gate operators and the latter are GDOs). (JX-0014C (Null Dep. Tr. (October 10, 2019)) at 219:25-220:5 ( ); *id.* at 221:2-21 (same); Tr. (Subramanian) at 425:24-426:2 ("Q. Is there any difference in the relevant hardware between the products under development and the original accused GDOs that we've already examined? A. No, there is not."); Tr. (Toliyat) at 972:18-973:13 (his "opinion with respect to noninfringement [of LDCO850 is] applicable to [052 Products Under Development]").). As a result, the limitation-by-limitation discussion of the 052 Accused GDO Products herein applies to the 052 Products Under Development.

**052 Accused Gate Operator Products.** CGI has proven by a preponderance of the

evidence that each of the 052 Accused Gate Operator Products satisfies element [p]. Each of the 052 Accused Gate Operator Products is an apparatus for use with a movable barrier, in this case, a gate, as shown below in Figure 36. (Tr. (Subramanian) at 428:8-429:1 ("Q. Does Dr. Toliyat dispute that the BGU products practice the preamble? A. No he doesn't."); CX-0807 (BGU, BGU-D Installation Guide) at 1; CX-0637C (Test Results) at 1-2.).

**Figure 36: CGI's Depiction of BGU Representative Product Satisfying Element [p]**

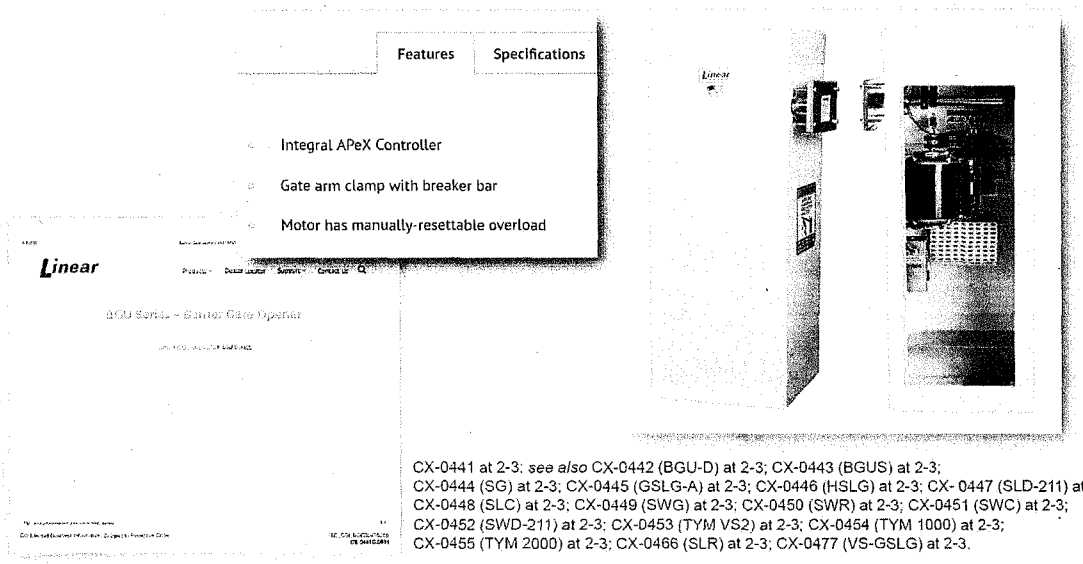



CX-0807; *see also* CX-0809 (BGUS, BGUS-D); CX-0808 (SG, SG-D); CX-0806 (VS-GSLG); CX-0804 (GSLG-A); CX-0805 (HSLG); CX-0810 (SLR, SLC, SLD); CX-0815 (SWG); CX-0811 (SWR, SWC, SWD); CX-0813 (TYM-VS2); CX-0814 (TYM 1000, TYM 2000); JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products)

(CDX-0004.0170 (introduced during the testimony of Dr. Subramanian).).

CGI has proven by a preponderance of the evidence that each of the 052 Accused Gate Operator Products satisfies element [a]. Each of the 052 Accused Gate Operator Products contains an electric motor that is operably coupled to a gate, as shown below in Figure 37. (CX-0712C (Nortek Responses to RFA Nos. 338-39) at 154-55 (admitting that 052 Accused Gate Operator Products "each include a motor" that is "capable of moving a movable barrier"); Tr. (Subramanian) at 431:7-8 ("Q. Does Dr. Toliyat even dispute that? A. I don't believe so, no.").).

**Figure 37: CGI's Depiction of BGU Representative Product Satisfying Element [a]**

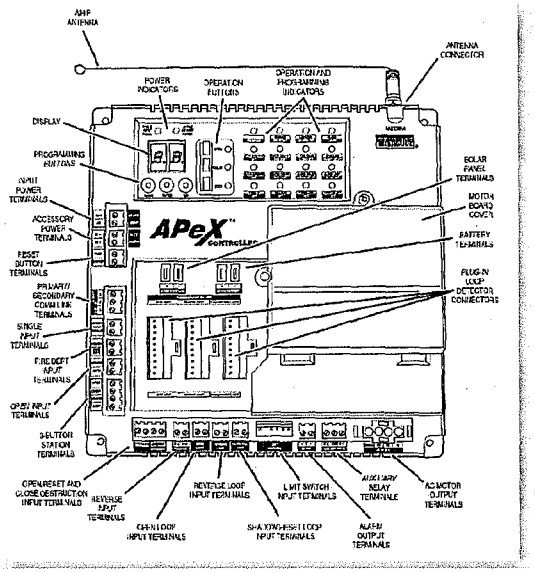



CX-0441 at 2-3; *see also* CX-0442 (BGU-D) at 2-3; CX-0443 (BGUS) at 2-3; CX-0444 (SG) at 2-3; CX-0445 (GSLG-A) at 2-3; CX-0446 (HSLG) at 2-3; CX- 0447 (SLD-211) at 2-3; CX-0448 (SLC) at 2-3; CX-0449 (SWG) at 2-3; CX-0450 (SWR) at 2-3; CX-0451 (SWC) at 2-3; CX-0452 (SWD-211) at 2-3; CX-0453 (TYM VS2) at 2-3; CX-0454 (TYM 1000) at 2-3; CX-0455 (TYM 2000) at 2-3; CX-0466 (SLR) at 2-3; CX-0477 (VS-GSLG) at 2-3.

(CDX-0004.0173 (introduced during the testimony of Dr. Subramanian).).

CGI has proven by a preponderance of the evidence that each of the 052 Accused Gate Operator Products satisfies element [a]. Each of the 052 Accused Gate Operator Products contains a controller ("barrier movement control unit") that is operably coupled to the electric motor, as shown below in Figure 38. (CX-0807 (BGU, BGU-D Installation Guide) at 9 (controller with "motor board cover" and "AC motor output terminals"); *id.* at 14 ("operator can monitor its motor current."); Tr. (Subramanian) at 429:2-12 (noting that page 9 of CX-0807 shows "a motor board cover, that's the board that actually performs the motor control," and "AC motor output terminals," which "are the terminals that will actually feed to the motor").).

**Figure 38: CGI's Depiction of BGU Representative Product Satisfying Element [b]**




CX-0807 at 9, *see also* CX-0809 (BGUS, BGUS-D) at 9; CX-0808 (SG, SG-D) at 9; CX-0806 (VS-GSLG) at 10; CX-0804 (GSLG-A) at 9; CX-0805 (HSLG) at 9; CX-0810 (SLR, SLC, SLD) at 9; CX-0815 (SWG) at 10; CX-0811 (SWR, SWC, SWD) at 10; CX-0813 (TYM-VS2) at 10; CX-0814 (TYM 1000, TYM 2000) at 10; JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products).

(CDX-0004.0175 (introduced during the testimony of Dr. Subramanian).).

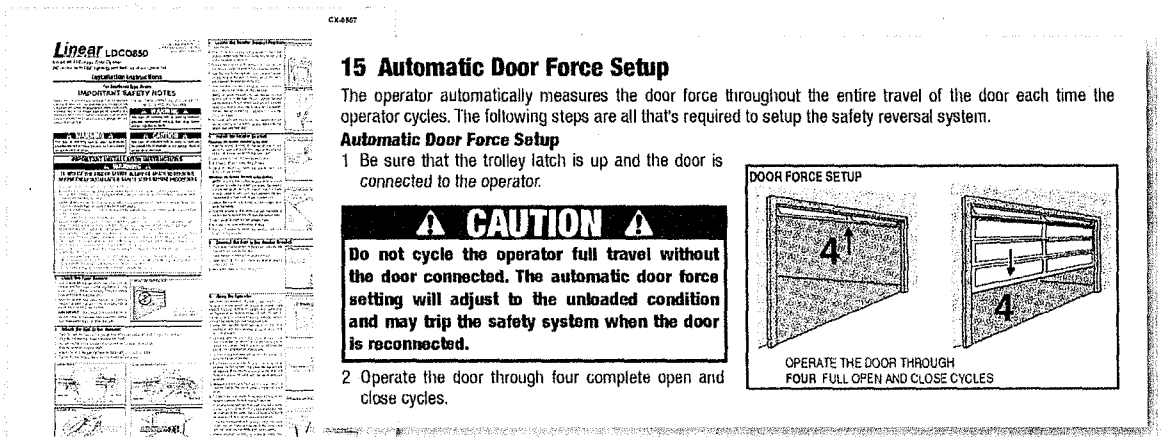
Based on the evidence discussed above, CGI has proven that each of the 052 Accused Products satisfies elements [p] – [b] of claim 1 of the '052 patent. The infringement disputes raised by the Parties pertain to elements [c] and [d] addressed below. The main dispute between the Parties with respect to the '052 patent was whether the 052 Accused Products were configured to operate in the two claimed modes or, alternately, to operate in only one mode. (Tr. (McNamara) at 1014:2-17 ("[I]t really comes down to three issues that I am seeing a major dispute on: The modes, one or two, and how that is viewed.").).

#### 4. Operation of the 052 Accused GDO Products (052 Original GDO Products, 052 Alternative GDO Products, and 052 Private Label Products) and 052 Products Under Development

Nortek product manuals make clear that each of the 052 Original GDO Products includes an "Automatic Door Force Setup" procedure. (*See* CDX-0004.0152 (introduced during the testimony of Dr. Subramanian).). As shown below in Figure 39, this two-step procedure allows

a user to "setup the safety reversal system," referenced below in Figure 39. (CX-0867 (LDCO850 Installation Instructions) at 3; Tr. (Subramanian) at 394:5-8 ("Q. What is Nortek's name for its smart force feature like the '052? A. Well, what it calls it is the automatic door force set-up specifically.").). The first step is making "sure that the trolley latch is up and the door is connected to the operator." (CX-0867 (LDCO850 Installation Instructions) at 3.). The second step is "operat[ing] the door through four complete open and close cycles." (*Id.*).

**Figure 39: CGI's Depiction of "Automatic Door Force Setup" in the LDCO850 Representative Product, Which Purportedly Satisfies "First Mode" Claim Limitation**



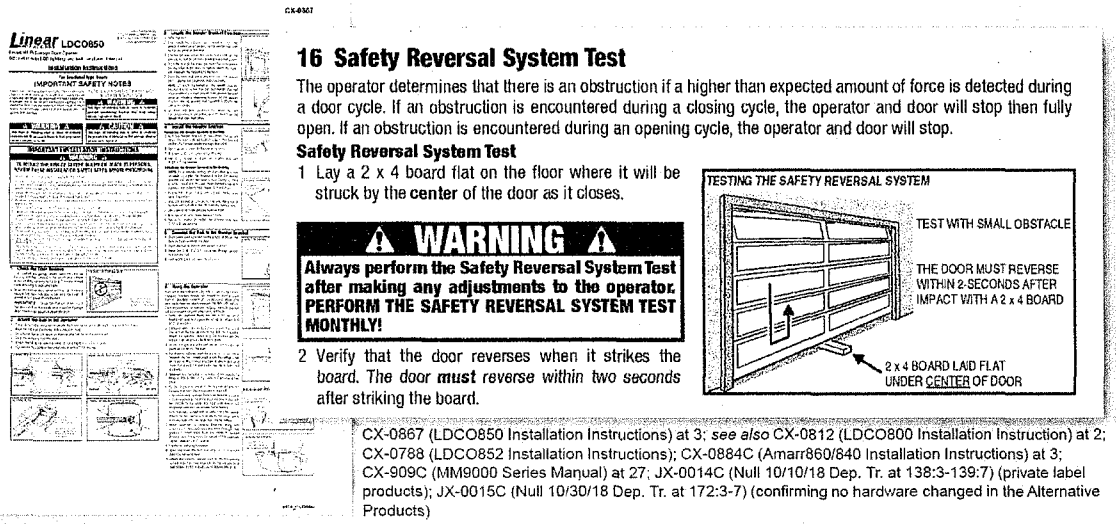

CX-0867 (LDCO850 Installation Instructions) at 3; *see also* CX-0812 (LDCO800 Installation Instruction) at 2; CX-0788 (LDCO852 Installation Instructions); CX-0884C (Amarr860/840 Installation Instructions) at 3; CX-909C (MM9000 Series Manual) at 26; JX-0014C (Null 10/10/18 Dep. Tr. at 136:3-139:7) (private label products); JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products); JX-0014C (Null 10/10/18 Dep. Tr. at 185:8-11, 191:5-12)

(CDX-0004.0152 (introduced during the testimony of Dr. Subramanian).).

According to CGI, these first four open and close cycles are the claimed "first mode" and the claimed "second mode" starts in the fifth cycle. (CBr. at 90-91 (citing Tr. (Subramanian) at 410:24-411:9 ("Q. What do you identify as the first mode of operation in the Nortek accused '052 products? A. What I identify as the first mode of operation in the Nortek GDOs is the first four cycles of the [automatic door force] set-up."), 412:4-13 ("Q. So, for example, the fifth time, would that be . . . the second mode? A. Yes. . . . [T]he fifth one is specifically the second mode

with respect to the claim."), 662:11-17 (explaining that the first four cycles after setup can refer to the first four cycles upon the first installation or the first four cycles after a "hard reset")).).

**Figure 40: CGI's Depiction of "Safety Reversal System" in the LDCO850 Representative Product, Which Causes the Operator to Reverse (if closing) or Stop (if opening) When There is a "Higher Than Expected Amount of Force" Detected**




CX-0867 (LDCO850 Installation Instructions) at 3; *see also* CX-0812 (LDCO800 Installation Instruction) at 2; CX-0788 (LDCO852 Installation Instructions); CX-0884C (Amarr860/840 Installation Instructions) at 3; CX-909C (MM9000 Series Manual) at 27; JX-0014C (Null 10/10/18 Dep. Tr. at 138:3-139:7) (private label products); JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products)

(CDX-0004.0153 (introduced during the testimony of Dr. Subramanian).).

Nortek's non-infringement arguments target how the [redacted] (RRBr. at 90-94.). [redacted]

[redacted]. (Tr. (Null) at 837:3-838:21 ([redacted]), 958:2-12; RX-1688C (Source Code) at lines 3101-3162.).

Immediately after installation or a hard system reset, [redacted]. (*See, e.g.*, JX-0014C (Null Dep. Tr. (October 10, 2018)) at 207:21-208:16 [redacted]

.). The

.[62] (Tr. (Subramanian) at 412:4-13, 413:3-19

, 418:14-420:20 (describing source code as listed on CDX-0004.0156C), 1150:22-11:51:5

, 1152:18-1153:12 (discussing Nortek's RDX-1001C.0056, which excerpts lines 3100-62 of

).).

Likewise,

. (*See id.*; Tr. (Null) at 836:15-17 (

.). The LDCO850 Installation Instructions corroborate Mr. Null's testimony by stating that the "operator automatically measures the door force throughout the entire travel of the door each time the operator cycles." (CX-0867 (LDCO850 Installation Instructions) at 3.). In other words, motor current values are continuously updated over time with each open/close door cycle, presumably to account for changing conditions. (RRBr. at 91 ("In this way, the accused GDOs continually maintain safe obstruction detection which accounts for changes in the

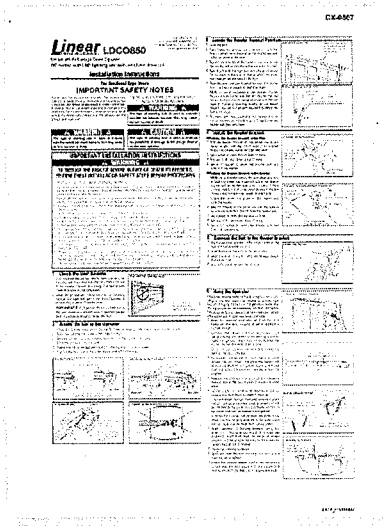
[62] In the LDCO850 representative product, it appears that

. (CX-0945C at NRTK_ITC-SRC00119-24, 133, lines 2885-2920, 3083-85, 3102-31, 5689.).

necessary operating current without any further user intervention.").).

As explained below in more detail, [redacted] described below in Figure 41, [redacted]. (CX-0867 (LDCO850 Installation Instructions) at 3; Tr. (Subramanian) at 417:11-18 (describing the [redacted]).). The [redacted] (JX-0014C (Null Dep. Tr. (October 10, 2018)) at 215:24-216:12 ([redacted]); CX-0867 (LDCO850 Installation Instructions) at 3 [redacted] (emphasis omitted)); Tr. (Subramanian) at 699:23-700:1 (confirming the same).).

**Figure 41: CGI's Depiction of "Adjusting the Force Factor" in the LDCO850 Representative Product, Which Purportedly Satisfies the "User Manipulable Force Threshold Modification Control" Claim Limitation**




**17 Adjusting the Force Factor (Installation Option, Normally Not Used)**

The operator uses the peak force measured during each of the last four complete cycles plus a "force factor" to *calculate the maximum allowed force setting for the current door cycle. If the calculated maximum force setting* is exceeded during the current door cycle, the operator reacts to the obstruction. As door hardware conditions change over time with weather and wear, the calculation of the maximum door force setting using the four cycle running average will compensate for the current conditions of the installation.

**The door force is preset for the lowest amount of pressure on an obstacle to detect an obstruction. THE FACTORY SETTING IS OPTIMIZED FOR MOST INSTALLATIONS.**

**Changing the Force Factor Setting**

As an installation option, the operator's "force factor" can be adjusted to change the amount of pressure exerted on an obstacle before the operator reacts to the obstruction.

1 Press both the UP and DOWN buttons for three seconds. The red and green indicators and operator's light will flash twice.

2 Use the UP or DOWN buttons to set the force factor. Pressing the UP button increases the force factor, pressing the DOWN button decreases the force factor.

| *FORCE FACTOR INDICATOR TABLE* | |
|---|---|
| GREEN ON | LOW FORCE FACTOR |
| RED & GREEN ON | MEDIUM FORCE FACTOR |
| RED ON | HIGH FORCE FACTOR |

3 After selecting the force factor, press the LEARN button to store the setting and exit setup. The red and green indicators and the operator's light will flash two times. (If the force factor is not set within one minute, the operator will return to normal operation at its previous force factor setting.)

4 After changing the force factor setting, perform the Safety System Reversal Test.

CX-0867 (LDCO850 Installation Instructions) at 3; *see also* CX-0812 (LDCO800 Installation Instruction) at 2; CX-0788 (LDCO852 Installation Instructions); CX-0884C (Amarr860/840 Installation Instructions) at 3; CX-909C (MM9000 Series Manual) at 29; JX-0014C (Null 10/10/18 Dep. Tr. at 138:3-139:7) (private label products); JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products)

(CDX-0004.0155 (introduced during the testimony of Dr. Subramanian).).

In terms of

as shown below in Figure 42. (RRBr. at 91; *see also* Tr. (Null) at 832:5-834:19 (describing ), 835:20-23, 836:15-17 ( ); 955:4-16, 956:4-957:12 ( ); RX-1688C (Source Code) at lines 3101-3162 (specifying function); RX-1689C (Source Code) at lines 4145, 4188 ( ).).

**Figure 42: Nortek's Depiction of**

(RDX-1001C.0057 (introduced during the testimony of Dr. Toliyat).).

. (RRBr. at 93; Tr.

(Null) at 837:3-838:21 ( ),
958:2-12; RX-1688C (Source Code) at lines 3101-3162; RX-1690C ( )
at 1; RDX-1001C.0059 (introduced during the testimony of Dr. Toliyat).).

**Figure 43: Nortek's Depiction of**

(RDX-1001C.0059 (introduced during the testimony of Dr. Toliyat).).

The
. (Tr. (Null) at
837:3-838:21 ( ), 958:2-12;
RX-1688C ( ) at lines 3101-3162; RDX-1001C.0056 (introduced

---

63
. (Tr. (Null) at 838:22-840:12
( ).).

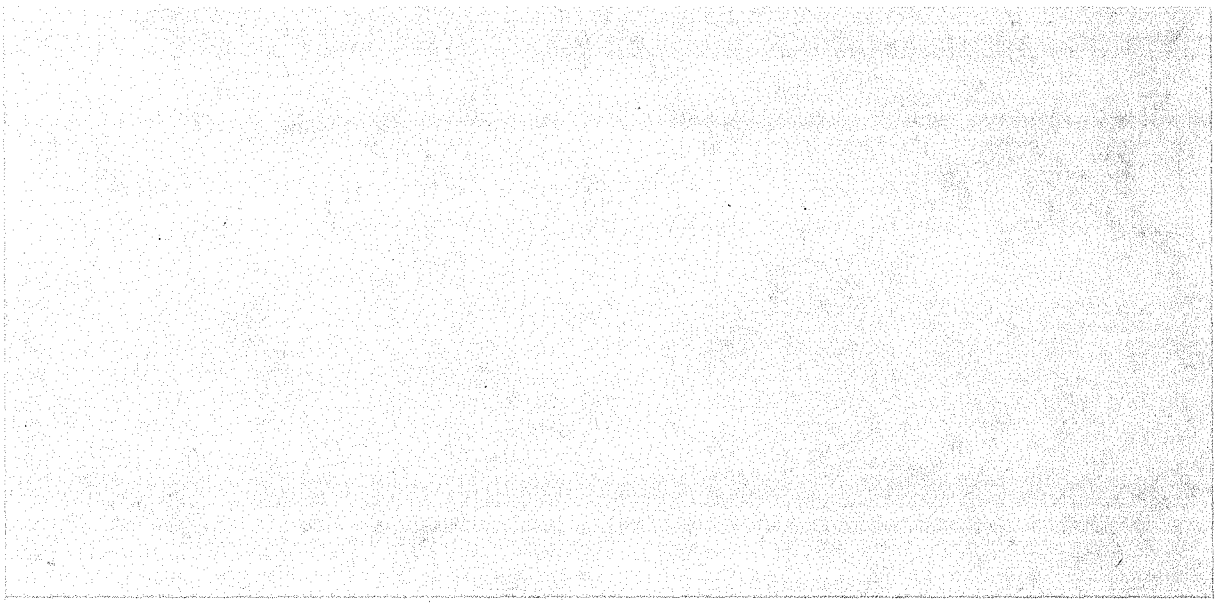
during the testimony of Dr. Toliyat).). A

. (*Id.*; Tr. (Subramanian) at 419:4-16, 645:25-646:2

; CX-0945C (Source Code), NRTK_ITC-SRC00285-88 at lines 266-401

, NRTK_ITC-SRC00297 at lines 295-340 (same).).

**Figure 44: Nortek's Depiction of**



(RDX-1001C.0056 (introduced during the testimony of Dr. Toliyat).).

In the LDCO850A product,

. (CX-0945C (Source Code), NRTK_ITC-SRC00713-14 at lines 3102-46; Tr. (Subramanian) at 423:9-424:4.). The LDCO850A

. (*Id.*).

By contrast, as explained above, the LDCO850

. The LDCO850 and LDCO850A .

However,, .[64] As shown below in Figure 45, the LDCO850 and LDCO850A

. (*See* Tr. (Subramanian) at 422:9-25

; JX-0015C (Null Dep. Tr. (October 30, 2019)) at 240:15-24

(objections omitted); CDX-0004.0156, 58-59 (introduced during the testimony of Dr. Subramanian).). Perhaps the

the issue as a

[64] By way of clarification, element [d] of claim 1 of the '052 patent does not specify when the "user manipulable force threshold modification control" must provide "force threshold modification information." (JX-0003 ('052 patent), cl. 1.).

non-infringement argument in post-Hearing Briefing. (RRBr. at 90; Ground Rule 10.1.).

**Figure 45: CGI's Depiction of**

(CDX-0004.0156, 58-59 (introduced during the testimony of Dr. Subramanian).).

As explained above, the 052 Products Under Development operate in the same manner as the 052 Accused GDO Products for purposes of the '052 patent. Dr. Subramanian confirmed this by performing an analysis of the MM371W source code. (Tr. (Subramanian) at 425:20-427:3 ("Q. And is your analysis of the source code the same as for the original products? A. Yes. Q. Does it infringe for the same reasons? A. Yes.").).

As shown below in Figure 46, the . (CX-0945C, NRTK_ITCSRC00231-32 at lines 1954-2023.). The . (*Id.*). The . (*Id.*). The . (*Id.*, NRTK_ITC-SRC00221-34 at lines 1134-2253, NRTK_ITC-SRC00236 at lines 214-17.). The

. (*Id.*, NRTK_ITC-SRC00231-32 at lines 1954-2023; CX-0945C, NRTK_ITC-SRC00221-34 at lines 1134-2253.).

**Figure 46: CGI's Depiction of Calculating a User-Modifiable Force Threshold in the 052 Products Under Development and How the Calculation is Equivalent to the Corresponding Calculations Performed in the LDCO850 and LDCO850A Products**

(CDX-0004.0165 (introduced during the testimony of Dr. Subramanian).).

### 5. Operation of the 052 Accused Gate Operator Products

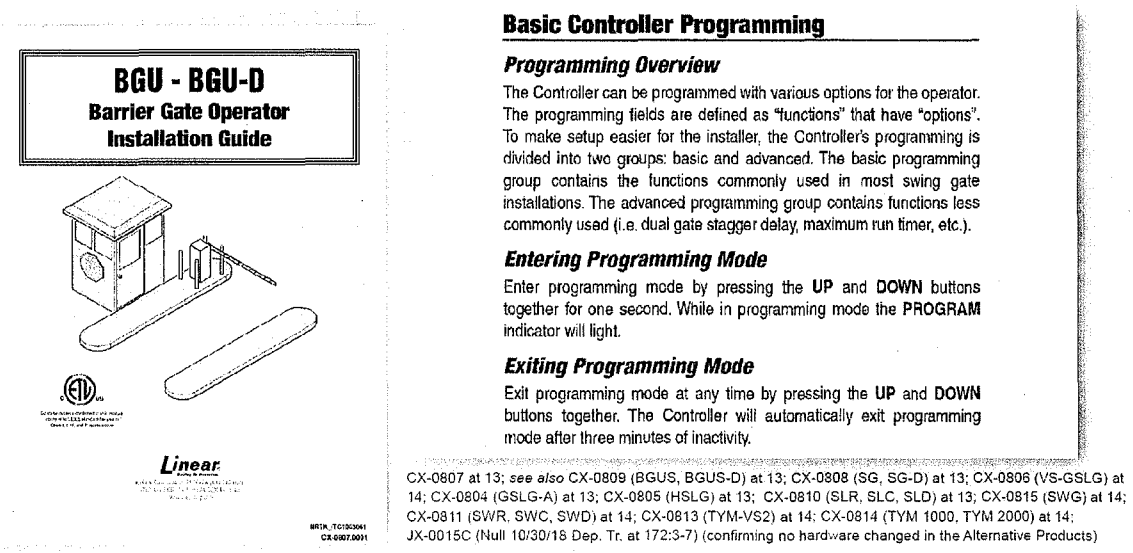
#### a) Operation of the 052 Original Gate Operator Products

As shown below in Figure 47, each of the 052 Original Gate Operator Products includes a distinct "Programming Mode" that includes a "Maximum Close Direction Current Setting" function that automatically determines a "threshold," which, if exceeded during normal operation, will cause the barrier to reverse. (CX-0807 (BGU, BGU-D Installation Guide) at 13-14 (describing "Entering Programming Mode," a "Maximum Close Direction Current Setting" functionality within programming mode, and "Exiting Programming Mode"); *see also* Tr. (Subramanian) at 435:5-6 ("One of the functions in this mode is actually . . . automatically determining the current.").). The "threshold" value does not represent not an absolute current

threshold value, as was the case in the 052 Accused GDO Products and 052 Products Under Development, but instead corresponds to relative changes (or deltas/differentials) in the current values observed over short periods of time during the course of a gate open or close. (CX-0807 (BGU, BGU-D Installation Guide) at 14 ("measur[ing] the motor load used during closing" and "the range above and below the average motor current during the run"); Tr. (Ward) at 563:15-564:1 (floating minimum), 574:3-576:3 (explaining relationship between ), 684:14-16, 685:1-3 (explaining that the ); Tr. (Null) at 842:15-22 ; JX-0016C (Ward Dep. Tr.) at 79:6-13.).[65]

[65] The fable about the boiling frog is a good way to understand this distinction. As the fable goes, if you throw a frog in a pot of boiling water, it will hop right out. Yet, if you put the frog into a pot of tepid water and slowly warm it, the frog will stay put and get cooked. In other words, the frog has a relative temperature sensing mechanism (like the current sensing mechanism found in the 052 Original Gate Operator Products) and not an absolute temperature sensing mechanism (like the current sensing mechanism found in the 052 Accused GDO Products and 052 Products Under Development).

**Figure 47: CGI's Depiction of the Programming Mode Found in the 052 Original Gate Operator Products**




CX-0807 at 13; *see also* CX-0809 (BGUS, BGUS-D) at 13; CX-0808 (SG, SG-D) at 13; CX-0806 (VS-GSLG) at 14; CX-0804 (GSLG-A) at 13; CX-0805 (HSLG) at 13; CX-0810 (SLR, SLC, SLD) at 13; CX-0815 (SWG) at 14; CX-0811 (SWR, SWC, SWD) at 14; CX-0813 (TYM-VS2) at 14; CX-0814 (TYM 1000, TYM 2000) at 14; JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products)

CX-0807 at 14; *see also* CX-0809 (BGUS, BGUS-D) at 14; CX-0808 (SG, SG-D) at 14; CX-0806 (VS-GSLG) at 15; CX-0804 (GSLG-A) at 14; CX-0805 (HSLG) at 14; CX-0810 (SLR, SLC, SLD) at 14; CX-0815 (SWG) at 15; CX-0811 (SWR, SWC, SWD) at 15; CX-0813 (TYM-VS2) at 15; CX-0814 (TYM 1000, TYM 2000) at 15; JX-0015C (Null 10/30/18 Dep. Tr. at 172:3-7) (confirming no hardware changed in the Alternative Products)

(CDX-0004.0178, 82 (introduced during the testimony of Dr. Subramanian).).

As shown below in Figure 48, during Programming Mode the 052 Original Gate Operator Products, as the gate travels through its open and close cycles, the user sees in real time the motor current represented as a "load number" between 0 and 99. (CX-0807 (BGU, BGU-D

Installation Guide) at 14; Tr. (Null) at 843:2-844:3.). At the end of Programming Mode, the relative current "threshold" value, automatically determined by the system, reflects not how much current the motor used at any given time but instead how much that current fluctuated or varied during the open or close.[66] (CX-0807 (BGU, BGU-D Installation Guide) at 13-14; JX-0011C (Dillon Dep. Tr.) at 114:20-115:1 ("Q. The BGU gate operator measures a series of values, performs a calculation, and then it outputs a value . . . at the completion of the closing of the . . . gate by the BGU gate operator . . . without human input; correct? A. Yes."), 116:22-117:8 (same); RX-0750C (video of operation).).

[66] During the Programming Mode, the motor continually measures current and calculates a differential . (CX-0945C (source code) at NRTK_ITC-SRC00370-375, lines 1424-1648.).

(*Id.* at NRTK_ITC-SRC00371-372, lines 1435-1519.).

(*Id.* at NRTK_ITCSRC00372- 375, lines 1520-1639.)

**Figure 48: Nortek's Depiction of "Programming Mode" in the 052 Original Gate Operator Products**

(RDX-1001C.0079 (introduced during the testimony of Dr. Toliyat).).

That differential "threshold" value is "recommended" the user on a display. (Tr. (Null) at 844:9-21 ("Q. Is a different value displayed at the end of the . . . close cycle as part of the maximum close direction current setting? A. Yes, it is. Q. And what . . . value is displayed there? A. At the end of the close, it will show a . . . recommended delta on the screen for the threshold."); Tr. (Subramanian) at 437:2-10 ("automatically determined" by the processor).). The user can then manually adjust the displayed differential value using "+" and "-" buttons on the operator, or just use this "recommended" value, to set a value for normal operation, as described above in Figure 48. (CX-0807 (BGU, BGU-D Installation Guide) at 14; Tr. (Subramanian) at 435:16-436:6, 437:24-438:2 ("If you press enter at that point, the value gets stored."); Tr. (Null) at 844:9-21 ("Q. And what can the user do with that recommended value? Q. They can press enter to store it . . . or they can change it, press plus or minus and adjust it to

where they want it.").).[67]

The source code confirms Mr. Null's and Dr. Subramanian's explanations of the operation of the 052 Original Gate Operator Products. (CX-0945C ( )[68], NRTK_ITC-SRC00370-75 at lines 1424-1648 (the ), NRTK_ITC-SRC00345-46 at lines 2877-2904, 2906-33 ( ); CX-0945C ( ), NRTK_ITC-SRC00346, 348-57 at lines 2906-33, 3070-3531 ( ), NRTK_ITC-SRC00363-70, 370-75 at lines 1036-1409, 1424-1648 (the ).).

The

[67] To be clear, , as shown above in Figure 48 and the corresponding video, RX-0750C. . (RX-0926.0014; RX-0750C at 0:20; RDX-1001C.0088; Tr. (Toliyat) at 965:12-966:22.).

(CX-0945C (source code) at NRTK_ITC-SRC00329, lines 1037-1048; RX-0750C at 0:26; Tr. (Toliyat) at 966:20-22.). The (RX-0926C.0013 (describing ); RX-0750C at 0:28, 1:25; JX-0016C (Ward Dep. Tr.) at 72:9-73:7; Tr. (Toliyat) at 965:12-966:22.).

[68] CGI has accused gate operators with and without PWM control. "PWM control" is short for "pulse width modulation control," a technology in gate operators that use a DC motor.

. (Tr. (Subramanian) at 438:3-9 (

), 442:18-444:4 (

); CX-0945C (Source Code), NRTK_ITC-SRC00370-75 at lines 1424-1648 (

.).

. (CX-0945C (Source Code) at NRTK_ITC-SRC00363, lines 1036-1049.).

. (*Id.* at NRTK_ITC-SRC00361-362, lines 944-965.).

. (*Id.* at NRTK_ITC-SRC00367, lines 1222-1231.).

. (*Id.* at NRTK_ITCSRC00367- 370, lines 1251-1409.).

. (*See* Tr. (Ward) at 562:19-564:1.).[69]

[69] In the 052 Original Gate Operator Products, current used by the motor (current load) is not saved during Programming Mode or from one run to the next in normal operation. (*See* JX-0011C (Dillon Dep. Tr.) at 192:10-194:7.). That is because, as explained above, the system makes its "threshold" determination not based on an absolute current threshold, but instead based only on real-time changes in current.

**b) Operation of the 052 Alternative Gate Operator Products**

The 052 Alternative Gate Operator Products operate in a similar manner to the 052 Original Gate Operator Products. (Tr. (Subramanian) at 444:11-445:22.). In the 052 Alternative Gate Operator Products, Nortek made no hardware changes. (Tr. (Null) at 845:20-23 ("Q. . . . So are there hardware differences between a BGU and a BGUA? Q. There is not."); JX-0015 (Null Dep. Tr. (October 30, 2019)) at 172:2-3 ("No hardware changed.").). Moreover, the source code changes in the 052 Alternative Gate Operator Products affect only what is displayed to the user. (JX-0015 (Null Dep. Tr. (October 30, 2019)) at 120:24-121:5 ("Q. I see. So in the redesigned code everything's the same as in the old code except for what's displayed to the user at the end of the closing in . . . programming mode, correct? A. I believe so, yes.").).

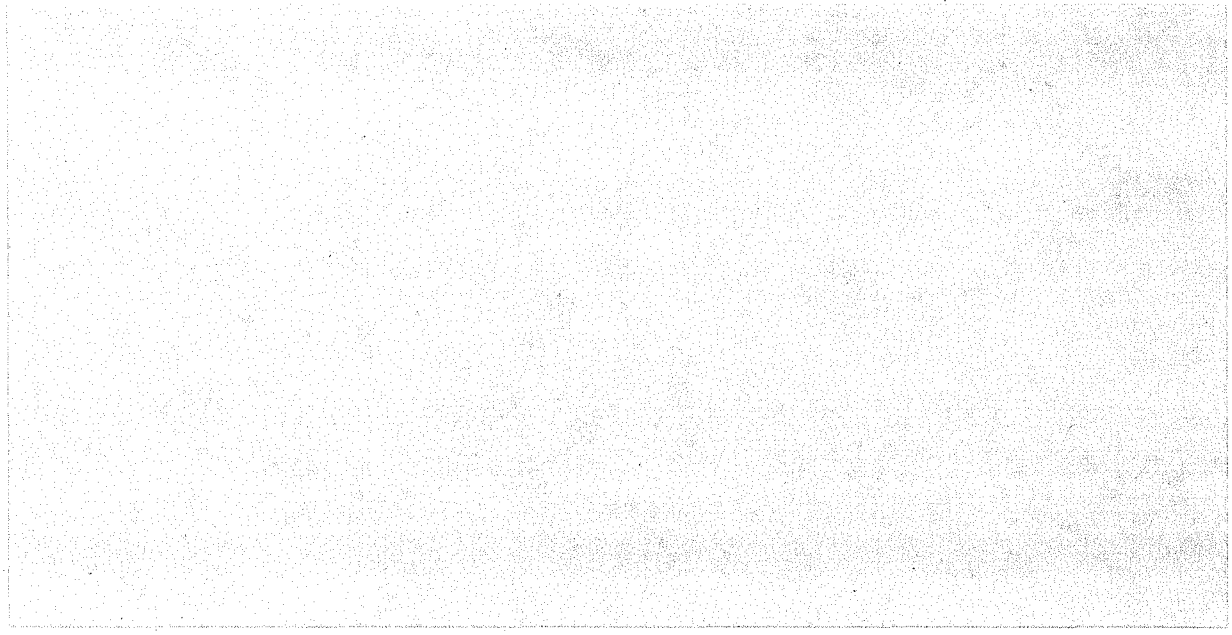
At the beginning of Programming Mode, the user can manually set an initial "threshold" value,[70] without the benefit of the system's automated determination of that value. (RX-0751C (video of operation).). During Programming Mode, the system still , as was the case in the 052 Original Gate Operator Products, but that , as explained below. (JX-0015C (Null Dep. Tr. (October 30, 2019)) at 121:24-124:23 .). Moreover, during Programming Mode, the 052 Alternative Gate Operator Products still display

[70] It appears that the user can also bypass this step and utilize the system's default "threshold" value. (Tr. (Subramanian) at 437:11-16 ("Yeah, it starts from -- if it's the first time you install it, it actually doesn't have a value in there. So it's a default number."), 444:11-445:3; CBr. at 127.).

. (Tr. (Subramanian) at 682:13-19 ("Q. The value displayed on the display of the BGUA during a close is a force and not a delta; correct? A. Correct.").).

However, the operation of the 052 Gate Operator Products and 052 Alternative Gate Operator Products differ at the end of Programming Mode, as shown below in Figure 49. There, in the 052 Alternative Gate Operator Products, the user is shown, and given the opportunity to modify, not the "threshold" value automatically calculated by the system, but instead the "threshold" value manually set by the user at the beginning of Programming Mode (or, alternately, the system default threshold value unchanged by the user). (*See* Tr. (Toliyat) at 968:6-13 (asserting that 052 Alternative Gate Operator Products do "not show[] any delta" and instead "only show[] whatever [an installer] put[s] in"); RX-0751C (video of operation).).

**Figure 49: Nortek's Depiction of "Programming Mode" in the 052 Alternative Gate Operator Products**



(RDX-1001C.0079 (introduced during the testimony of Dr. Toliyat).).

However, in the 052 Alternative Gate Operator Products, the user is not completely in the

dark in terms of setting an accurate "threshold" value. During Programming Mode, as the gate travels through its open and close cycles, the user sees in real time the current load of the motor and, by watching how those numbers change (flit up and down) over time, can ascertain a differential "threshold" value. (JX-0015 (Null Dep. Tr. (October 30, 2019)) at 126:16-25 ("Q. And then the installer's supposed to set that value that's displayed to the value that the installer thinks is appropriate based on the values that were displayed while the gate was closing and any additional adjustment . . . that the installer wants to make; is that right? A. While . . . you're in programming mode at the end of the run, the installer can do that."), 131:10-17 ("Q. And the goal of calculating those values as the door closes in programming mode in the redesigned products is to help the installer set the reversal threshold at a safe level at the end of the day, correct? A. Yeah.").). For example, if the current fluctuates between the numbers 48 and 52, the user can ascertain that the system would have automatically calculated a "threshold" of about 4 and can modify that figure to 5 or 6 to build in a detection cushion that will accommodate changes in the gate system over time without jeopardizing safety.

The source code confirms this operation for the 052 Alternative Gate Operator Products with a DC motor with PWM control. (CX-0945C, NRTK_ITC-SRC00345-46 at lines 2877-2904, NRTK_ITC-SRC00346 at lines 2906-33, NRTK_ITC-SRC00348-357 at lines 3070-3531, NRTK_ITC-SRC00370-75 at lines 1424-1648 (describing the same operation as for 052 Original Gate Operator Products with a DC motor with PWM control); CDX-0004.0184-86C.). The

. (CX-0945C, NRTK_ITC-SRC01040-44 at lines 1424-1648, NRTK_ITC-SRC01094-95 at lines 2903-26, NRTK_ITCSRC00345-46 at lines 2877-2904, NRTK_ITC-SRC00346 at lines 2906-33, NRTK_ITCSRC00348-57 at lines 3070-3531, NRTK_ITC-SRC00370-75 at lines 1424-1648; Tr. (Toliyat) at 968:25-970:1 ( ).).

Source code confirms this operation for the 052 Alternative Gate Operator Products without DC motors with PWM control. (CX-0945C, NRTK_ITC-SRC00346 at lines 2906-33, NRTK_ITC-SRC00348-57 at lines 3070-3531, NRTK_ITC-SRC00363-70 at lines 1036-1409, NRTK_ITC-SRC00370-75 at lines 1424-1648 (describing the same operation as for 052 Original Gate Operator Products without a DC motor with PWM control); CDX-0004.0185C, 87C.).

The

. (*Id.*, NRTK_ITC-SRC01040-44 at lines 1424-1648, NRTK_ITCSRC01094-95 at lines 2903-26, NRTK_ITC-SRC00346 at lines 2906-33, NRTK_ITC-SRC00348-57 at lines 3070-3531, NRTK_ITC-SRC00363-70 at lines 1036-1409, NRTK_ITC-SRC00370-75 at lines 1424-1648.).

### 6. CGI Has Proven By a Preponderance of the Evidence That, of the 052 Accused Products, Only the 052 Original Gate Operator Products Satisfy Claim 1 of the '052 Patent

As explained above, the dispute between the Parties lies in whether the 052 Accused

Products satisfy elements [c] and [d] of claim 1. These elements require that the claimed "processor" within the "barrier movement control unit" automatically determine at least one force threshold[.]" (JX-0003 ('052 patent), cl. 1.). These elements also require at least two modes of operation. (*Id.*). The processor must be configured to "determine" a "force threshold" in the "first" mode for use in the "second" mode. (*Id.*). The "barrier movement control unit" must also contain a "user manipulable force threshold modification control" that provides "force threshold modification information" for use in the "second" mode. (*Id.*).

Broadly speaking, Nortek made three (3) non-infringement arguments with respect to the 052 Accused Products. (*See* RRBr. at 90.). First, Nortek argued that the 052 Accused Products do not have the claimed "first mode" and "second mode" of operation. (*Id.*). Second, Nortek contended that the 052 Accused Products do not determine a "force threshold" during what CGI has identified as the "first mode." (*Id.*). Third, Nortek asserted that, in detecting obstructions, the 052 Accused Products measure and set thresholds based on current, not force. (*Id.*).

Nortek's arguments appear to be based on Nortek's reading of the scope of claim 1 of the '052 patent. In Nortek's view, claim 1 is limited to an apparatus configured with a narrow "first mode": a "learning mode" in which absolute *(not relative or differential)* "force thresholds" (*not current thresholds*) are learned and *finalized* for subsequent use in the "second mode." (RRBr. at 89-92, 109 (and downstream non-infringement arguments).). Nortek also contended that claim 1 required a narrow "second mode": a *purely* "operational mode" in which *no additional "force threshold" "learning*" can occur and in which measured motor "force" (*not current*) during an open or close event is compared to a *finalized, absolute* (not relative or differential) "force threshold" (*not current threshold*) previously set during the "first mode," for the purpose of stopping/reversing barrier movement if the measured motor "force" (*not current*) exceeds the

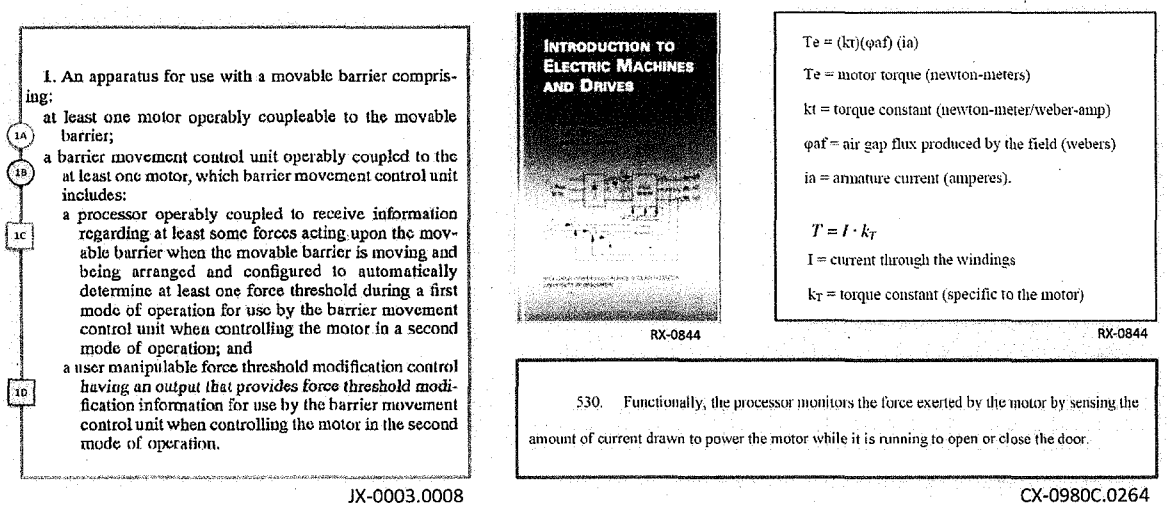
*absolute (not relative or differential)* "force threshold" (*not current threshold*). (*Id.*).

The *Markman* Order made clear that claim 1 is not so limited. For example, the *Markman* Order explained that "'[f]orce threshold' does not relate merely to an analysis of the magnitude of force that must be exceeded to effect a stopping or reversal of the movable barrier, but more generally contemplates any threshold related to force." (*Markman* Order, App. A at 3.). That should have ended that matter.

It was clear then, as it is now, that Nortek sought to limit the scope of claim 1 to specific embodiments disclosed in the specification of the '052 patent. (*See, e.g.*, JX-0003 ('052 patent) at 3:23-39, 4:23-36, Figs. 2, 4.). That is not appropriate. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (as a general rule, particular examples or embodiments discussed in the specification are not to be read into the claims as limitations).

As an initial matter, there is no legitimate dispute that the 052 Accused Products contain "barrier movement control units" with "a processor operably coupled to receive information regarding at least some forces acting upon the movable barrier when the movable barrier is moving[.]" (RRBr. at 90, 99-104 (not disputing, and thus waiving under Ground Rule 10.1 any argument to the contrary, that current is "information regarding" force here and that 052 Accused Products satisfy this portion of element [c] of claim 1).). As shown below in Figure 50, even Nortek admits that current is information regarding force. (RRBr. at 101 ("At best, there may be a correlation between force and current when all other variables are held constant[.]").).

**Figure 50: Nortek Recognizing a Mathematical Relationship Between Current and Force**




(RDX-1001C.0070 (introduced during the testimony of Dr. Toliyat).).

All of the 052 Accused GDO Products include "a processor" such as the Atmel XMEGA32E5 processor that runs the accused firmware. (CX-0480 (photograph showing Atmel XMEGA32E5 processor); CX-0898C (Bill of Materials listing a processor); Tr. (Null) at 862:7-1 (GDOs use processors).). The accused processor is operably coupled to receive *information regarding* at least some forces acting upon the movable barrier when the movable barrier is moving because it receives information about the current used by the motor as the barrier moves. (Tr. (Subramanian) at 400:17-21 (concluding that this portion of claim 1[c] is met); CX-0859C (Schematic) at 1 (showing the processor's connection to the motor and other components); CX-0867 (LDCO850 Installation Instructions) at 3 ("The operator automatically measures the door force throughout the entire travel of the door each time the operator cycles.").). Information about the amount of current used by the motor as the barrier moves clearly *relates to* forces acting upon the barrier as it moves. (Tr. (Subramanian) at 400:22-401:3 (concluding that

"current information" satisfies this portion of claim 1[c]). "[T]he processor actually has sense pins within it, and those sense pins are used to measure the current in the motor," and "there is a knowable and predictable relationship between current and force[.]" (Tr. (Subramanian) at 399:23-401:18; *see also id.* at 405:2-406:5 (motor current is related to force), 406:22-407:3.).

Likewise, each of the '052 Accused Gate Operator Products contains a "controller" which includes a processor. (Tr. (Subramanian) at 432:5-9 ("Q. Can you tell us whether the control unit here includes a processor? A. Yes, it does. Q. Is that true for all of the products? A. Yes."); *see also* CX-0807 (BGU, BGU-D Installation Guide) at 9.). The processor is operably coupled to receive *information regarding* at least some forces acting upon the movable barrier when the movable barrier is moving. (CX-0807 (BGU, BGU-D Installation Guide) at 14 ("measur[ing] the motor load used during closing" and "the range above and below the average motor current during the run"); Tr. (Subramanian) at 436:7-437:1 (explaining how "Maximum Close Direction Current Setting" satisfies requirement to receive information regarding at least some forces acting upon the movable barrier when the movable barrier is moving).).

The processor continually receives information about the motor current as the barrier is moving, and motor current is information related to the force. (CX-0807C (BGU, BGU-D Installation Guide) at 14 ("Maximum Close Direction Current Setting" in which "the operator can monitor its motor current"); Tr. (Subramanian) at 400:17-21, 400:22-401:3 ("current information" satisfies this portion of claim 1[c]), 405:2-406:1 ("in a motor, the current is unquestionably related to force"); CX-0859C (schematic showing the processor's connection to the motor and other components) at 1.). As Dr. Subramanian explained, "the processor actually has sense pins within it, and those sense pins are used to measure the current in the motor." (Tr. (Subramanian) at 399:23-401:18.).

### a) The 052 Accused Products Exhibit a "First Mode of Operation" and "Second Mode of Operation"

Nortek argued that none of the 052 Accused GDO Products[71] infringed because each implemented a "single-mode approach" whereby measured motor current values are continuously updated over time with each open/close door cycle. (RRBr. at 91 ("In this way, the accused GDOs continually maintain safe obstruction detection which accounts for changes in the necessary operating current without any further user intervention.").). "[C]ontinually performing the 'Automatic Door Force Setup' procedure" "on every cycle of operation[.]" (*Id.* at 92.).

However, Nortek's assertion that each 052 Accused GDO Product "executes the same set of operations on every single cycle" is not supported by the record. (RRBr. at 91.). The [redacted], as explained in detail above. (*See, e.g.*, JX-0014C (Null Dep. Tr. (October 10, 2018)) at 207:21-208:16 [redacted]; Tr. (Subramanian) at 412:4-13, 413:3-19 [redacted], 418:14-420:20 (describing source code as listed on CDX-0004.0156C), 1150:22-11:51:5 [redacted]

---

71 [redacted] (Tr. (Subramanian) at 438:3-9 [redacted]); CX-0945C (Source Code), NRTK_ITC-SRC00370-75 at lines 1424-1648 ([redacted]).

, 1152:18-1153:12 (

); JX-0011C (Dillon Dep. Tr.) at 93:6-14 ("Q. So as far as the manual's concerned for the . . . BGU . . . there's a programming mode for the product . . . and then there's a distinct normal operation; is that right? A. Yes. In the manual. Yes.").).

Moreover, Nortek's "single-mode" argument is not supported by the '052 patent. Nothing in claim 1 or the specification of the '052 patent forbids: (1) the claimed "first mode" from distinguishing itself only on the basis of ; or (2) the claimed "second mode" from engaging in ongoing learning to improve performance. (*See, generally*, JX-0003 ('052 patent).). To the contrary, the specification of the '052 patent recognizes, albeit obliquely, the need for ongoing, automated learning: "automatically determined threshold values of various kinds are often not optimally determined (either initially or over time due to changing circumstances)" and if "settings for the thresholds are known to vary in a particular way," they "can be further modified automatically as a function of that parameter." (*Id.* at 4:38-43, 5:5-8.). Moreover, claim 1 does not require the "second mode" to last for a certain number of cycles or even more than one cycle. (*Id.*, cl.1.). In other words, claim 1 is satisfied by a system that (*Id.*).

As shown below in Figure 51, Nortek has a special name for the first four cycles after installation or a hard system reset: "Automatic Door Force Setup." As Nortek conceded, the "instruction provided to setup the safety reversal system in the installer instructions" requires

operation of "the door through four complete open and close cycles[.]" (CX-0867 (LDCO850 Installation Instructions) at 3.). Thus, Nortek's use of a special name and [redacted] for only the first four cycles after installation or a hard system reset, and not for the myriad cycles that may occur thereafter before a subsequent installation or reset, flies in the face of its argument that the first four cycles do not constitute a "first" "Door Force Setup" mode. The preponderance of the evidence proves that this "first" "Door Force Setup" mode is distinct from a "second mode" in which default values are not used to calculate "door force" thresholds.

**Figure 51: Nortek's LDCO850 Installation Instructions Distinguishing the First Four GDO Cycles from Subsequent GDO Cycles**

## 15 Automatic Door Force Setup

The operator automatically measures the door force throughout the entire travel of the door each time the operator cycles. The following steps are all that's required to setup the safety reversal system.

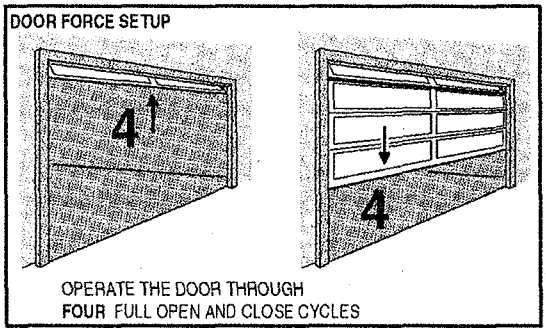
**Automatic Door Force Setup**

1 Be sure that the trolley latch is up and the door is connected to the operator.

**⚠ CAUTION ⚠**

**Do not cycle the operator full travel without the door connected. The automatic door force setting will adjust to the unloaded condition and may trip the safety system when the door is reconnected.**

2 Operate the door through four complete open and close cycles.




(CX-0867 (LDCO850 Installation Instructions) at 3.).

It appears that Nortek is correct about one thing: the industry has changed since the '052 patent application was filed. In particular, companies like CGI and Nortek are utilizing what Nortek describes as "a 'smarter' current sensing algorithm that continually measures the forces required [to move a barrier], ensuring that the devices can detect an obstruction safely regardless of whether they are set up and operated properly by the installer or user." (RRBr. at 90.). Such

an algorithm is found in the 052 Accused GDO Products and the 052 DI Products. Yet, the presence of continuous sensing does not obviate the need for or preclude the existence of an initial "Setup" or "Programming" mode, as shown by the "modern" products discussed herein.

**b) With the Exception of the 052 Original Gate Operator Products, CGI Failed to Prove That the 052 Accused Products Automatically Determine a Current "Threshold" During the "First Mode" of Operation for Use in the "Second Mode"**

Nortek argued that the 052 Accused GDO Products [redacted] (RRBr. at 90.). [redacted]. (CX-0867 (LDCO850 Installation Instructions) at 3; Tr. (Subramanian) at 417:11-18 (describing the [redacted]).). This is potentially a problem for CGI under Nortek's interpretation of claim 1 as requiring that a final "force threshold" be determined during a "first mode" for use in a "second mode." (JX-0003 ('052 patent), cl. 1.).[72]

Dr. Subramanian appeared to waiver on this issue at the Hearing. He identified "normal operation" as "second mode" and explained that "after those first four cycles . . . it becomes normal operation," and that "by the end of the fourth, the fifth one is specifically the second mode . . . ." (Tr. (Subramanian) at 412:4-13.). Dr. Subramanian subsequently switched gears during cross-examination, claiming that the "transition from the first mode to the second mode happens [redacted]

[72] By way of clarification, this interpretation by Nortek of claim 1 is too narrow. Element [c] of claim 1 requires only the determination of "at least one force threshold" during a "first mode" "for use" in a "second mode." (JX-0003 ('052 patent), cl. 1.). Nothing in claim 1 requires the calculation of a finalized "force threshold" value during the "first mode." (*Id.*).

(*Id.* at 644:23-645:5; *see also id.* at 645:6-15 ("Q: So the transition between the first mode to the second mode happens between the fourth and fifth run, correct? A: No, that's not actually the case…"), 665:7-16 ("Q. . . . your testimony was that .). In other words, Dr. Subramanian attempted to move the goalposts on what constitutes the "first mode."[73]

It is clear from the evidence that, in the 052 Accused GDO Products, a final current "threshold" is literally determined not during the "first mode," but instead at the beginning of the "second mode." CGI appeared to treat this final current "threshold" as the claimed "force threshold." Indeed, Dr. Subramanian asserted that the . (Tr. (Subramanian) at 695:21-696:6 ( ), 696:24-697:4 ( ). In post-Hearing briefing, CGI argued that the [74] Thus, CGI has failed to offer evidence

[73] This argument was not disclosed in CGI's Pre-Hearing Brief and, thus, is waived pursuant to Ground Rule 7.2.

[74] CGI did not argue that the were each "at least one force threshold" determined during a "first mode of operation" for use during a "second mode of operation" and has thus waived any such argument pursuant to Ground Rule 10.1. (CBr. at 95-112.).

that the 052 Accused GDO Products literally satisfy element [c] of the '052 patent by determining a "force threshold" during the "first mode of operation." CGI also did not argue, and thus waived any argument under Ground Rule 10.1, that element [c] was satisfied under the doctrine of equivalents[75] based on the fact, as Dr. Subramanian testified, that [redacted] (*Id.* at 655:3-5 [redacted].).

Nonetheless, CGI has proven by a preponderance of the evidence that the 052 Original Gate Operator Products automatically determine a current "threshold" during the "first mode" of operation for use in the "second mode" of operation. As discussed in detail above, the [redacted]. (Tr. (Subramanian) at 438:3-9 ([redacted]), 442:18-444:4 ([redacted]); CX-0945C (source code), NRTK_ITC-SRC00370-75 at lines 1424-1648 ([redacted]

[75] CGI argued that the 052 Accused GDO Products satisfied element [c] under the doctrine of equivalents. In particular, CGI asserted that the 052 Accused GDO Products perform "substantially the same function of automatically determining at least one threshold in substantially the same way—by receiving information relating to the forces exerted on a movable barrier during operation and using it to determine a threshold for a subsequent operation—to achieve substantially the same result of ensuring that a movable barrier operator uses a learned threshold during a subsequent operation." (CBr. at 107-08.). However, CGI made this argument in response to Nortek's argument that the 052 Accused GDO Products operated in only one mode, not in response to Nortek's conceptually distinct argument that, if the 052 Accused GDO Products were found to operate in two modes, such Products performed the claimed "threshold" determination at the beginning of the second mode. (RRBr. at 95 ("The accused GDOs do not infringe even if the ALJ and the Commission accepts Chamberlain's incorrect characterization of the first four runs as a 'first mode,' because the current threshold in any given cycle is only determined in the beginning of the same cycle rather than in a different mode of operation").).

.). There is no evidence in the record that the 052 Original Gate Operator Products' "current sensing algorithm" resembles the "current sensing algorithm" used in the 052 GDO Products in terms of continuous measurement of "information regarding at least some forces acting upon the movable barrier" for the purpose of continuously updating the claimed "force threshold." (RRBr. at 109 ("The accused APeX gate operators (both the previous versions and the current 'A' products) rely on a current sensing algorithm which is substantially different … from the current sensing features in the Accused GDOs").). Instead, as explained above, in the 052 Accused Gate Operator Products (Original and Alternative), it appears that the

.

However, CGI has failed to prove by a preponderance of the evidence that the 052 Alternative Gate Operator Products automatically determine a current "threshold" during the "first mode" of operation for use in the "second mode" of operation. That is because, in the 052 Alternative Gate Operator Products, the user is shown, and given the opportunity to modify, not the "threshold" value *automatically* determined by the system, but instead the "threshold" value manually set by the user at the beginning of Programming Mode (or, alternately, the system default threshold value unchanged by the user). (*See* Tr. (Toliyat) at 968:6-13 (asserting that 052 Alternative Gate Operator Products do "not show[] any delta" and instead "only show[] whatever [an installer] put[s] in"); RX-0751C (video of operation).). Thus, CGI has failed to prove that the 052 Alternative Gate Operator Products satisfy element [c] of claim 1 of the '052 patent.

**c) In the 052 Accused Products, Determined Current "Thresholds" Are "Force Thresholds"**

According to Nortek, the 052 Accused Products do not infringe because they measure

current, not force. (RRBr. at 101-104, 113.). Nortek argued that "Chamberlain was aware at the time that it filed the application for the '052 Patent that both force sensors and other measures of resistance existed. ... However, Chamberlain chose to specifically claim force sensing and thresholds based on force in the '052 Patent, and should be held to that choice." (*Id.* at 101 (citing in support of this claim only attorney argument from Nortek's opening statement, found at Tr. (Bernstein) at 79:4-80:14, 82:20-83:11).). In other words, Nortek attempted to draw a bright line between current and force in view of the '052 patent.

However, as the Court observed during the Hearing, the evidence does not support Nortek's clear-cut current/force distinction. (Tr. (Judge McNamara) at 1013:4-7 ("The mathematics is about current. But there's a relationship between force threshold and current. It's a common concept in electrical engineering.").). Indeed, Nortek's own post-Hearing briefing conflated current and force: "current sensing algorithm that continually measures the forces required in one mode of operation." (RRBr. at 90.).

Likewise, Nortek's corporate representatives recognized that motor current was directly proportional to the force used to move a barrier. (Tr. (Ward) at 602:16-603:8 ("Q. Sir, by theory and operation, increased current gives you increased force; right? A. By theory and operation, yes. Q. Decreased current gives you decreased force; right? A. That is correct. Q. And that is a relationship between current and force; right? A. Yes, it is. Q. And it's a relationship that is well known in this field; right? A. Yes."); Tr. (Null) at 882:4-8 ("Q. The amount of current measured by the LDCO850 during automatic door force set-up is proportional to the magnitude of force required to move the door in a given direction; correct? A. That is correct under certain circumstances."); JX-0011C (Dillon Dep. Tr.) at 147:16-21 (recognizing that changing a value of current will change "the amount of force that will cause the gate to reverse").).

Indeed, Nortek's own documents referred to "current" and "force" interchangeably. (*See* CX-0807 (BGU, BGU-D Installation Guide) at 14 ("If the close current load exceeds the programmed maximum load range number, the gate arm will stop, reverse, and travel to the full open position. . . . [A] minimal force will activate a reversal should an obstruction occur . . . ."); CX-0867 (LDCO850 Installation Instructions) at 3 ("operator automatically measures the door force throughout the entire travel of the door each time the operator cycles" and "operator determines that there is an obstruction if a higher than expected amount of force is detected during a door cycle" in an accused product that performs this function by measuring current).).

Dr. Subramanian reiterated this view: "the processor actually has sense pins within it, and those sense pins are used to measure the current in the motor," and "there is a knowable and predictable relationship between current and force," such that "current is . . . commonly accepted as being a perfect representation of force." (Tr. (Subramanian) at 399:23-401:18, 405:2-406:5 (motor current is information related to force), 406:22-407:3 (same).). According to Dr. Subramanian, it is "a little bit of a strawman to worry about whether [the relationship between current and force in a motor] linear or quadratic or exponential" because there are "curves" for a motor that allow a user to "know for a given motor, for this much current, this is the amount of torque. And then the torque converts to force." (*Id.* at 405:2-22; 406:22-407:3.).

Nortek relied heavily on the testimony of Dr. Toliyat in support of its current versus force distinction. Dr. Toliyat testified that the relationship between current and force in devices with DC motors, such as the 052 Accused GDOs, is captured by "a simplified equation" that treats as constant a variable (k) that is not constant under *all* operating conditions. (Tr. (Toliyat) at 953:6-954:3 ("[I]s the relationship between torque and current understood or known for DC motors? A. There is a simplified equation, which is torque equals kT times I, but for people in the field,

they know it's not."), 952:4-15 ("[C]an you briefly provide your opinions as to whether that -- whether there is a relationship, and as it applies to ... DC motors? A. ... What is shown in here, torque of a DC machine. At the top it shows the torque is equal to a so-called torque constant, the flux and the current ... [T]he majority of undergraduate, people who are not as much in this field, they take the equation, lower equation, which is torque equals kT times i. They take as a constant. And that, I have spent 30-plus years of my life to determine that k during all those operating condition [sic], because it's not constant.").).

Dr. Toliyat also testified that a person of ordinary skill would not agree that there is a predictable relationship between current and force in devices with AC motor products at issue in this investigation, such as some of the accused 052 Accused Gate Operators and 052 DI Products. (Tr. (Toliyat) at 952:17-23: ("Q. Is there a predictable relationship between force and current for AC motors? A. There isn't really a relationship. We hope -- we are working, hopefully one day we will be able to find it out, that we can determine the torque or the force accurately, and in all conditions."); *see, e.g.*, RX-0844.177 (showing no equation for torque as a function of current in induction AC motors).)

Yet, Dr. Toliyat spoke in generalities, not specifics. He did not say that, in the context of the 052 Accused Products and 052 DI Products, motor current was not a reliable proxy for applied force. Dr. Toliyat instead testified that motor current was not a reliable proxy for applied force across the entire spectrum of DC and AC motor operating conditions. Moreover, Dr. Toliyat provided no explanation for the interchangeable use of "force" and "current" in, for example, Nortek's technical documents. Instead, he conceded that three (3) Nortek engineers testified that force and current are directly related. (Tr. (Toliyat) at 1042:24-1044:11.). Thus, Dr. Toliyat's testimony on this issue is entitled to little weight and has been given little weight.

Dr. Subramanian's explanation was thorough and grounded in the patent and products.

Based on the analysis above, the weight of the evidence proves that, in the 052 Accused Products, motor current is a reliable proxy for (not merely an equivalent of) applied force. Indeed, CGI did not raise a doctrine of equivalents argument on this issue.

Nortek also made a related argument that "even if the Commission considers current to be force, the differential 'overcurrent' value [used in the 052 Gate Operator Products] is not a threshold of either force or current; it is a threshold of the difference in current." (RRBr. at 113.). According to Nortek, in the 052 Gate Operator Products, the absolute "current threshold is only determined in real time during normal operation; the only value saved from one run to the next is the differential." (*Id.* at 110.). Here, Nortek interpreted "force threshold" too narrowly as limited only to an absolute "force threshold" and not a relative/differential "force threshold." Nothing in claim 1 or the specification of the '052 patent limits "force threshold" in this way. (*See, generally*, JX-0003 ('052 patent).). Furthermore, the *Markman* Order rejected Nortek's position: "'[f]orce threshold' does not relate merely to an analysis of the magnitude of force that must be exceeded to effect a stopping or reversal of the movable barrier, but more generally contemplates any threshold related to force." (*Markman* Order, App. A at 3.).

**d) Only the 052 Original Gate Operator Products Satisfy Claim 1**

As set forth above, all of the 052 Accused Products feature "force threshold" safety mechanisms that measure motor current and compares it to an absolute or relative (differential) current threshold to determine whether to stop or reverse a gate or door. All of the 052 Accused Products satisfy elements [p], [a], and [b] of claim 1 of the '052 patent. Likewise, as set forth above in the detailed descriptions of how the 052 Accused Products operation, each such Product satisfies element [d] of claim 1 in terms of providing a way for a user to "force threshold

modification information" for use in the "second mode of operation."[76]

However, as shown below in Table No. 6, only the 052 Original Gate Operator Products also satisfy element [c] of claim 1. As set forth above, all of the 052 Accused Products satisfy the portion of element [c] requiring "a processor operably coupled to receive information regarding at least some forces acting upon the movable barrier when the movable barrier is moving[.]" (JX-0003 ('052 patent), cl. 1.). However, for most of the 052 Accused Products, CGI has failed to prove that a "processor" is "arranged and configured to *automatically* determine at least one force threshold *during a first mode* of operation for use by the barrier movement control unit when controlling the motor in a second mode of operation[.]" (*Id.* (emphasis added).).

**Table No. 6: Summary of Findings With Respect to Whether the 052 Accused Products Satisfy Claim 1 of the '052 Patent**

| | **"First Mode of Operation" and "Second Mode of Operation"** | **Automatically Determine a Current "Threshold" During the "First Mode" for Use in the "Second Mode"** | **Determined Current "Thresholds" Are "Force Thresholds"** |
|---|---|---|---|
| **052 Original GDO Products** | **Yes** | **No**<br>Current "threshold" identified by CGI determined at beginning of "second mode" | **Yes** |

[76] Nortek suggests that such information must be provided during the "second mode of operation." (RRBr. at 119 ("It is undisputed that when the user adjusts the overcurrent value in the setup function, the '+' and '-' buttons merely increment or decrement the value by 1 at a time, and the only value saved in the 'open current' or 'close current' programming process is the final value, which is only saved within the setup process that Chamberlain identifies as the 'first mode.'").). Here, Nortek misreads the claim language, which requires only that the "modification information" be "used," not provided, "in the second mode." (JX-0003 ('052 patent), cl. 1.).

| | | | |
|---|---|---|---|
| | | (no DOE) | |
| **052 Alternative GDO Products** | **Yes** | **No**<br>Current "threshold" identified by CGI determined at beginning of "second mode" (no DOE) | **Yes** |
| **As discussed above, analysis for the 052 Private Label Products and 052 Products Under Development is covered by the analysis of the 052 GDO Products.** | | | |
| **052 Original Gate Operator Products** | **Yes** | **Yes** | **Yes** |
| **052 Alternative Gate Operator Products** | **Yes** | **No**<br>Current "threshold" determination not automatic | **Yes** |

### 7. CGI's Representative Product Analysis is Sound

Nortek characterized "Dr. Subramanian's representativeness opinions for the '052 Patent" as "unreliable because his testimony lumped together the accused GDOs and gate operators … despite the fact that these two classes of products have completely separate and unrelated current sensing algorithms and many of the exact issues disputed differ significantly between them[.]" (RRBr. at 106.). For the 052 Products Under Development (which are gate operators), Nortek asserted that "Dr. Subramanian did not discuss the specific operation of these products at all other than to assert that the same opinions with respect to the GDOs [, occupying a different product category,] applied to them[.]" (*Id.*). Nortek also averred that, "[a]lthough Chamberlain attempted to introduce a 'corrected' demonstrative exhibit with source code citations," Dr. Subramanian did not "testify about source code on the record. (*Id.*).

Tellingly, Nortek did not give examples of where Dr. Subramanian representative opinions were technically inaccurate. It appears that there is no evidence that Dr. Subramanian misclassified any 052 Accused Products as represented by the LDCO850 or BGU. Faced with this dearth of evidence, Nortek attempted to discredit Dr. Subramanian's representative product analysis by once again questioning his credibility: "[a]s discussed previously regarding the '404 Patent, Chamberlain's theories that the LDCO850 is representative of any other product rely entirely on conclusory assertions that Dr. Subramanian reviewed and compared documents and source code, which are not credible for the same reasons." (RRBr. at 106.). This tack fails for the same reasons stated above in the context of the '404 patent, namely that, absent a few apparently isolated and honest mistakes,[77] Dr. Subramanian was a knowledgeable and compelling witness whose credibility survived Nortek's attacks.

### B. For the '052 Patent, CGI Satisfied the Technical Prong of Domestic Industry

As shown below in Figure 52, the 052 DI Products are CGI gate and commercial door operator products that can automatically determine reversal force thresholds and allow users to modify those thresholds via a potentiometer[78] on the control board. (CX-0116 (HCTDCU Installation Guide) at 17-18 ("Force Adjustment" functionality), 24 (user interface for force adjustment); Tr. (Fitzgibbon) at 207:4-25 (force adjustment in the '052 DI Products), 204:15-22 ("Q. And is there a relationship between these buttons and the force adjustment concepts we

[77] For example, in the context of the '052 patent, Dr. Subramanian asserted during the Hearing that the LDCO850 GDO calculates a force threshold at the end of each up or down cycle. (Tr. (Subramanian) at 1153:13-1154:1). However, as discussed above, that is not correct. Instead, the LDCO850 GDO calculates a force threshold at the beginning of each up or down cycle. (Tr. (Null) at 835:20-836:10 (function called once per cycle), 833:1-4, 835:8-13 (identifying function calls in source code); RX-1688C, lines 4145, 4183.).

[78] A potentiometer is a variable resistor. (Tr. (Subramanian) at 466:11-12, 1168:23-24.).

talked about earlier? A. Again, when you've initially install [sic] it and set your open and close limits, you walk through a procedure that learns the forces that are necessary for operation. And then again, you have the same ability in control 8 to post-automatically adjust it.").).

**Table No. 7: CGI's 052 DI Products, Including Its HCTDCU Representative Product**

| Board | Products | Processor | Firmware | Schematic |
|---|---|---|---|---|
| K1D6761-1CC | CSW200101U; CSW200501U; SL3000101U; SL3000501U; SL585101U; SL585103U; SL585105U; SL585151U; SL585501U; SL585503U; SL595101U; SL595103U; SL595105U; SL595151U; SL595203U; SL595205U; CSW200101U; SL3000101UL; SL3000501UL; SL595101UL; SL595103UL; SL595105UL; SL595151UL; SL595203UL; SL595205UL; CSW200101UL; CSW200501UL | | | |
| K1D8052-1CC | LA400DC; LA400DCS; LA400PKGU; LA412DC; LA412DCS; LA412PKGU; LA500DC; LA500DCS; LA500PKGU; LA4001PKGDC; LA4121PKGDC; LA5001PKGDC | | | |
| K1D8059-1CC | RSL12VDC; RSW12VDC; CSL24VDC; CSW24VDC | | | |
| K1D8389-1CC | CSL24U; HCTDCU; HCTDCUL; RSL12U; RSW12U; CSL24UL; CSW24U; CSW24UL; RSL12UL; RSW12UL; LA400PKGUL; LA400DC; LA400DCS; LA412PKGUL; LA500PKGUL | | | |

(CDX-0004.0194 (introduced during the testimony of Dr. Subramanian).).

### 1. CGI's DI Representative Product Analysis is Sound

CGI alleged that its LiftMaster HCTDCU is representative of all the 052 DI Products in terms of operation. (CBr. at 134.). Mr. Fitzgibbon and Dr. Subramanian offered unrebutted testimony to this effect during the Hearing. (Tr. (Fitzgibbon) at 208:17-22 ("Q. And the force adjustment features that we just walked through for the HCT, do you have those in mind? A. Yes. Q. Have you found each of those in each of the manuals for each of the represented products? A. Yes, I have."); Tr. (Subramanian) at 455:11-456:18.).

Mr. Fitzgibbon explained that he used CGI's product database to identify all CGI products with a "Force Adjustment" feature and that he reviewed product manuals to determine which products they described and which circuit board was contained in each operator. (Tr.

(Fitzgibbon) at 194:8-25, 209:13-23; *see also* CX-0116C (HCTDCU Installation Guide) at 42 (identifying K1D8389-1CC Control Board).). Mr. Fitzgibbon also testified that, once he identified the specific circuit boards at issue, he was able to cross-reference the relevant bills of material to determine the corresponding circuit board schematics, the specific processor included on each circuit board, and the specific firmware version that was used by the operator, as shown above in Table No. 7. (Tr. (Fitzgibbon) at 196:1-197:5; *see also* CX-0341C at 7 ( ).). Dr. Subramanian explained that, using the information provided by Mr. Fitzgibbon, he reviewed firmware present in the 052 DI products and confirmed that Force Adjustment source code across all of the 052 DI Products is substantially identical. (Tr. (Subramanian) at 379:2-12, 455:3-456:13; *see also* Tr. (Fitzgibbon) at 209:24-210:5.).

Nortek argued that the HCTDCU, which uses at DC motor, is not representative of 052 DI Products that use AC, as opposed to DC, motors. (RRBr. at 127.). While Nortek acknowledged that "there may be a correlation between force and current when all other variables are held constant" in products using DC motors, Nortek contended that there is "no relationship" between current and force in products using AC motors. (*Id.* at 109, 127 (citing Tr. (Toliyat) at 952:17-23).). This AC versus DC motor distinction was rejected above in the context of infringement of the '052 patent and is rejected here for the same reasons. As was the case for the 052 Accused Products, the weight of the evidence proves that, in all of the 052 DI Products, motor current is a reliable proxy for applied force. Notably, a specification for the Centerpiece Firmware used in the 052 DI Products explicitly states that

(CX-0231C at 112-113.).

### 2. Operation of the LiftMaster HCTDCU Representative Product

The HCTDCU representative product features an "Initial Limits and Force Adjustment" procedure referenced in Figure 52 below. (CX-0116 (HCTDCU Installation Guide) at 17.). A user initiates the "Initial Limits and Force Adjustment" procedure by simultaneously pressing the SET OPEN and SET CLOSE buttons on the control board. (*Id.* (labeled "1").). Consequently, [redacted]. (CX-0943C (Source Code) at 824, 864-875 (source code); Tr. (Subramanian) at 622:4-11 (describing initial setup).).

Next, new travel limits are set according to steps 1-5 shown below in Figure 52. (CX-0116 (HCTDCU Installation Guide) at 17 (listing steps).). Once those limits are set, in step 6, during the next open and close cycle, the 052 DI Products automatically determine a [redacted] which "automatically sets the force." (CX-0116 (HCTDCU Installation Guide) at 17 ("Cycle the gate/door open and close."); CX-0231C (Firmware Specification) at 113 [redacted]; Tr. (Subramanian) at 462:24- 463:14 (describing automatic determination of a [redacted]).).

**Figure 52: Installation Guide for the HCTDCU Representative Product Showing the Procedure for Setting "Initial Limits and Force Adjustment"**

### INTRODUCTION

Your operator is designed with electronic controls to make travel limit and force adjustments easy. The adjustments allow you to program where the gate/door will stop in the open and close position. The electronic controls sense the amount of force required to open and close the gate/door. The force is adjusted automatically when you program the limits but should be fine tuned using the REVERSAL FORCE dial on the control board (refer to Fine Tune the Force section) to compensate for environmental changes. The limit setup LEDs (located next to the SET OPEN and SET CLOSE buttons) indicate the status of the limits, refer to the table to the right.

The limits can be set using the control board (below) or a remote control (refer to Limit Setup with a Remote Control in the Programming section). Setting the limits with a remote control requires a 3-button remote control programmed to OPEN, CLOSE, and STOP.

***NOTE:*** *The Test Buttons on the control board will not work until the limits have been set.*

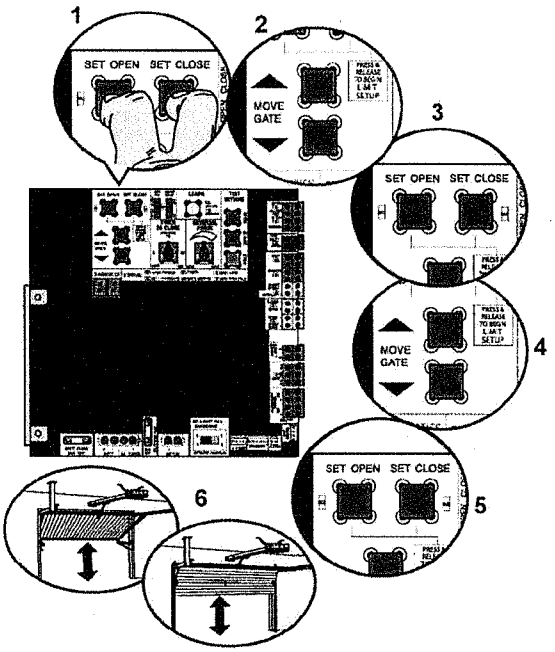
| LIMIT SETUP LEDS | | | |
|---|---|---|---|
| **SET OPEN LED** | **SET CLOSE LED** | **OPERATOR MODE** | **EXPLANATION** |
| OFF | OFF | NORMAL MODE | Limits are set. |
| BLINKING | BLINKING | LIMIT SETTING MODE | Limits are not set. |
| BLINKING | ON | LIMIT SETTING MODE | Open limit is not set. |
| ON | BLINKING | LIMIT SETTING MODE | Close limit is not set. |
| ON | ON | LIMIT SETTING MODE | Limits are set. |

### INITIAL LIMITS AND FORCE ADJUSTMENT

**The gate/door MUST be attached to the operator before setting the limits and force.**

1. Press and release the SET OPEN and SET CLOSE buttons simultaneously to enter limit setting mode.
2. Press and hold one of the MOVE GATE buttons to move the gate/door to the open or close limit.
3. Press and release the SET CLOSE or SET OPEN button depending on which limit is being set.
4. Press and hold one of the MOVE GATE button to move the gate/door to the other limit.
5. Press and release the SET CLOSE or SET OPEN button depending on which limit is being set.
6. Cycle the gate/door open and close. This automatically sets the force.

**When limits are set properly the operator will automatically exit limit setting mode.**




(CX-0116 (HCTDCU Installation Guide) at 17.).

According to CGI, in the 052 DI Products, the claimed "first mode" ends following step 6. (CBr. at 138-39.). CGI asserted that the claimed "second mode" comprises subsequent runs during which the [redacted] can be modified using a potentiometer and used to control the motor during normal operation of the door or gate. (*Id.* (citing Tr. (Subramanian) at 464:12-14 ("Q. So in the DI products, the normal operation, that's the second mode? A. Yes.").).

. (CX-0943C (Source Code) at 737, lines 616-617 ( ), 775-781 ( ), 953-59 ( ).). . (*Id.* at 824 ). . (*Id.* at 955-57 ( ).). . (*Id.* at 847-60; Tr. (Subramanian) at 462:12-20 .). The ).

The has two characteristics critical for evaluating whether the 052 DI Products practice claim 1 of the '052 patent. First, the . (Tr. (Toliyat) at 980:6-17 (the ); RDX-1001.0103; CX-0231C.0114 (explaining ).). According to CGI, this is analogous to "Automatic Door Force Setup" used in Nortek's 052 Accused GDO Products and 052 Products Under Development. (CBr. at 138.). Second, a final

"force threshold" in the 052 DI Products is not the [redacted] but instead is [redacted]. (CX-0231C (Firmware Specification) at 114; Tr. (Subramanian) at 463:25-464:23 (describing calculation and adjustment of the reversal force threshold during a second mode of operation); RX-0712C (Source Code) at 113.). In other words, a final "force threshold" in the 052 DI Products is calculated during the "second mode" [redacted].

This final "force threshold" calculation may be adjusted by user input. As shown below in Figure 53, the HCTDCU Installation Guide explains that "[i]f the gate/door stops or reverse before reaching the fully open or closed positions, increase the force by turning the force control slightly clockwise." (CX-0116 (HCTDCU Installation Guide) at 18.).

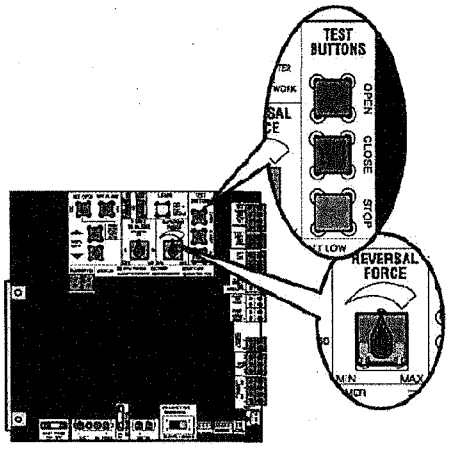
**Figure 53: Installation Guide for the HCTDCU Representative Product Showing the Procedure for "Fine Tun[ing] the Force" by a User**

**FINE TUNE THE FORCE**

The REVERSAL FORCE DIAL on the control board is used for fine tuning *the force in cases where wind or environmental changes may affect the* gate/door travel.

Based on the length and weight of the gate/door it may be necessary to make additional force adjustments. The force setting should be high enough that the gate/door will not reverse by itself nor cause nuisance interruptions, but low enough to prevent serious injury to a person. The force setting is the same for both the open and close gate/door directions.

1. Open and close the gate/door with the TEST BUTTONS.
2. If the gate/door stops or reverses before reaching the fully open or closed position, increase the force by turning the force control slightly clockwise.
3. Perform the "Obstruction Test" after every force setting adjustment (see below).




(CX-0116 (HCTDCU Installation Guide) at 18.).

During normal operation of the 052 DI Products, the [redacted]. (Tr. (Subramanian) at 614:4-10 ([redacted]), 614:11-615:25 ([redacted]); RX-0712C.0113 at line 6409.). In particular, the [redacted]. (Tr. (Subramanian) at 620:4-8; *see also* 613:25-614:3 [redacted].).

### 3. The LiftMaster HCTDCU Representative Product Satisfies Claim 1 of the '052 Patent

CGI is correct that, for the purposes of claim 1, CGI's HCTDCU is analogous to Nortek's LDCO850 and that HCTDCU's "Initial Limits and Force Adjustment" procedure is analogous to the LDCO850's "Automatic Door Force Setup." (*See* CBr. at 138.). As discussed above, both products perform current measurements over every cycle and use measurements from an immediately completed cycle to calculate, at the beginning of the next cycle, a "force threshold" used by an obstruction protection feature. As was the case in the context of the LDCO850 satisfying elements [p] - [b] and [d] of claim 1, here, the HCTDCU satisfies the same elements for the reasons set forth below. However, as discussed below, the HCTDCU (unlike the LDCO850) also satisfies element [c] of claim 1 because, here (unlike in the context of the LDCO850), CGI argued that the [redacted] was a claimed "at least one force threshold" automatically determined during a first mode for use in a second mode." (CBr. at 141-42.).

The 052 DI Products satisfy element [p] because they are apparatuses for moving a barrier such as a gate. (CX-0116 (HCTDCU Installation Guide) at 8 (showing a typical

installation).). The 052 DI Products are configured to be connected to a movable barrier. (*Id.* at 8; CX-0636C ( ); Tr. (Subramanian) at 456:19-457:15 ("[W]hat shows [sic] here is that it can be connected to … an overhead gate [or] a heavy industrial door.").

The 052 DI Products satisfy element [a] because they are motor-driven devices with a motor operably coupled to the movable barrier. (CX-0116 (HCTDCU Installation Guide) at 10-12 (motor coupled to a door via rail); Tr. (Subramanian) at 457:16-458:1 (explaining interaction between rail, trolley, and motor).). When the motor is activated, its drive shaft applies force to a sprocket that moves a trolley attached to a rail and the door arm. (*Id.*).

The 052 DI Products satisfy element [b]. For example, the representative HCTDCU contains a K1D8389-1CC main control board that contains a processor capable of controlling the motor that is coupled to the movable barrier. (CX-0116C (HCTDCU Installation Guide) at 24 (diagram of control board); Tr. (Subramanian) at 455:21-24 .). The motor is coupled to the control board via a cable that attaches directly to both devices. (CX-0116C (HCTDCU Installation Guide) at 41 (illustrating electrical connection to motor); Tr. (Subramanian) at 459:4-21.). The control board is capable of sending commands to the motor that cause the motor to open and close the barrier, and of receiving information about the motor operation. (*Id*; *see also* CX-0231C (Firmware Specification) at 112-114 ( ).).

The 052 DI Products satisfy element [d] because they include a reversal force potentiometer that a user can adjust up or down. (CX-0116 (HCTDCU Installation Guide) at 24; Tr. (Subramanian) at 466:6-14.). The

(CX-231C (Firmware Specification) at 114; Tr. (Subramanian) at 466:15-19.).

. (CX-0231C (Firmware Specification) at 114; Tr. (Subramanian) at 463:25-465:1 (describing calculation and adjustment of the reversal force threshold during a second mode of operation).). As explained above, a

. (*Id.*).

Nortek did not dispute at that the HCTDCU representative product satisfied elements [p]-[b] and [d], and, thus, has waived any such argument pursuant to Ground Rule 10.1.

Instead, Nortek raised three arguments for why the HCTDCU representative product did not satisfy element [c]. (RRBr. at 120.). Each of these arguments mirrors arguments rejected above in the context of alleged infringement of the 052 Accused GDO Products.

First, according to Nortek, there is one mode of operation in the HCTDCU, not a "first mode" and a "second mode," because the

. (RRBr. at 120.). Yet, as explained above in the section addressing operational details,

. Thus, that

Second, Nortek argued that, in the HCTDCU, values are not thresholds, because they are "not used to determine whether a reversal should occur." (RRBr. at

125.). In essence, Nortek asserted that the claimed "force threshold" must be a final "force threshold" and not any of its constituent parts, which may themselves be "force thresholds." Yet, claim 1 requires the determination of "at least one force threshold" in the "first mode," not a final "force threshold." Also, "force threshold" was construed broadly: "'[f]orce threshold' does not relate merely to an analysis of the magnitude of force that must be exceeded to effect a stopping or reversal of the movable barrier, but more generally contemplates any threshold related to force." (*Markman* Order, App. A at 3.). Finally, even applying Nortek's own faulty construction of "force threshold," Nortek is just plain wrong because, as explained above, values are "used to determine whether a reversal should occur." In short, CGI argued, and the evidence proves, that values are "force thresholds" automatically determined during a "first mode" for controlling the motor in a "second mode."

Third, Nortek recirculated its argument that the HCTDCU measures and sets thresholds based on current, not force. As explained above, the preponderance of the evidence proves that motor current is a reliable proxy for (not merely an equivalent of) applied force. Indeed, a

(CX-0231C at 112-113.).

Thus, CGI has proven by a preponderance of the evidence that the 052 DI Products satisfy claim 1 of the '052 patent.

## C. Invalidity

### 1. Invalidity Overview: Nortek Proved That Claim 1 of the '052 Patent Is Obvious[79]

For the reasons set forth below, Nortek has proven by clear and convincing evidence that claim 1 of the '052 patent is invalid as obvious. The record evidence proves that in the context of movable barrier apparatuses, automatic determination of force thresholds was well-known in the art, as was adjustment of force thresholds via user manipulation of potentiometers. The purported novel act of putting the two together was merely a predictable variation on what already existed for the reasons set forth below.

### 2. Prior Art Identified by Nortek

Nortek argued that claim 1 was obvious over a prior art patent, alone or in view of a prior art system and prior art admissions found in the '052 patent. (RBr. at 57.). The prior art patent at the center of Nortek's obviousness argument is U.S. Patent No. 4,625,291 ("Hormann '291"). (RX-1028 (addressed at RBr. at 57-58).). The prior art system is the OSCO system discussed above in the context of the '223 patent. (RBr. at 58.). The priority date for claim 1 of the '052 patent is April 11, 2002, the date its underlying application was filed.[80] (JX-0003 ('052 patent), Cover.). As Nortek noted, both Hormann '291 and the on-sale dates of the OSCO system pre-

[79] In its Response to the Complaint, Nortek alleged that "[a]ll asserted claims of the Asserted Patents are invalid for failure to meet one or more of the requirements set forth in Title 35 of the United States Code, including Sections 101, 102, 103, 112, and/or 116." (Resp., Affirmative Defenses at ¶¶ 3, 11.). In its Pre-Hearing Brief, Nortek did not raise any arguments that the '052 patent was invalid under 35 U.S.C. § 102 or § 116. Thus, any argument on these issues are deemed abandoned or withdrawn under Ground Rule 7.2. Additionally, in its Initial Post-Hearing Brief, Nortek failed to address any allegations that the '052 patent is invalid under 35 U.S.C. § 101 and 112. Accordingly, any argument on these issues are deemed waived under Ground Rule 10.1.

[80] After raising a priority date issue in its Pre-Hearing Brief, CGI dropped the issue in post-Hearing briefing and thus waived any argument on the issue pursuant to Ground Rule 10.1. (CPBr. at 148-49; *see, generally*, CRBr. (failing to address priority date issue for '052 patent).).

date this priority date by more than a year and, thus, are prior art under § 102(b). (RBr. at 56.).

**a) Primary Prior Art: Hormann '291**

Hormann '291 is entitled "Process for Monitoring a Driven Movable Door or the Like." (RX-1028 (Hormann '291), Cover.). There is no dispute that Hormann '291 was not cited or considered during the prosecution of the '052 Patent. (JX-0003 ('052 patent), Cover.). Moreover, during the *inter partes* review of the '052 patent initiated by Nortek,[81] the PTO never considered the validity of the '052 patent in view of Hormann '291.[82] (RBr. at 62-63.).

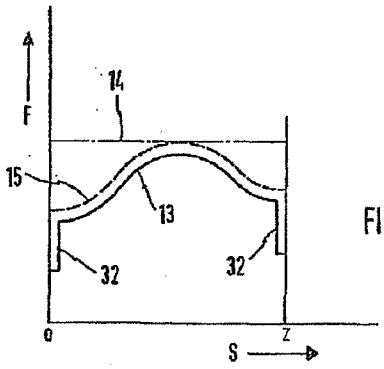
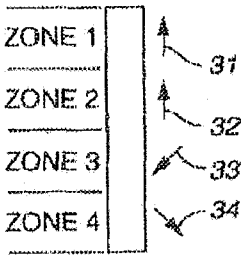
There is considerable overlap in terms of content disclosed in Hormann '291 and the '052 patent. Both address employing "force thresholds" as a safety feature in the context of movable barrier systems. For instance, Hormann '291 focuses on varying "the threshold of the value used for the safety switching of the power drive" "in accordance with the position of a door being driven" or, stated another way, "alter[ing] the threshold value used to switch off or reverse the drive according to the position of the a door along its track." (RX-1028 (Hormann '291) at 2:4-6, 7-9.). The '052 patent raises the same issue: "a plurality of force thresholds can be determined, wherein each force threshold corresponds to a particular zone that the movable barrier 11 traverses[.]" (JX-0003 ('052 patent) at 3:40-43.). This similarity is depicted below in

[81] According to CGI, during this Investigation, Nortek filed a petition for *inter partes* review of the '052 patent in which it offered a combination of two prior art references: U.S. Patent No. 5,218,282 in combination with U.S. Patent No. 6,107,765. (CBr. at 43.). The PTAB denied institution, finding that the combination was "insufficient because it does not provide an adequate reason for a skilled artisan to combine these features as required by independent claim[] 1[.]" *Nortek Security & Control LLC v. Chamberlain Group, Inc.*, IPR2018-01793, 2019 WL 1160804, at *6 (Mar. 1, 2019). (Tr. (Fernald) at 1124:9-1129:3.).

[82] CGI acknowledged that while "Nortek's Post-Hearing Brief merely rehashes an obviousness argument that has already been twice rejected by the Patent Office," "Nortek's current formulation involves different prior art references[.]" (CRBr. at 41.). To be clear, what the PTO has done in the past in terms of assessing obviousness of claims of the '052 patent, in view of completely different prior art references than the ones presented here, has little to no bearing on the analysis set forth herein.

Table No. 7.

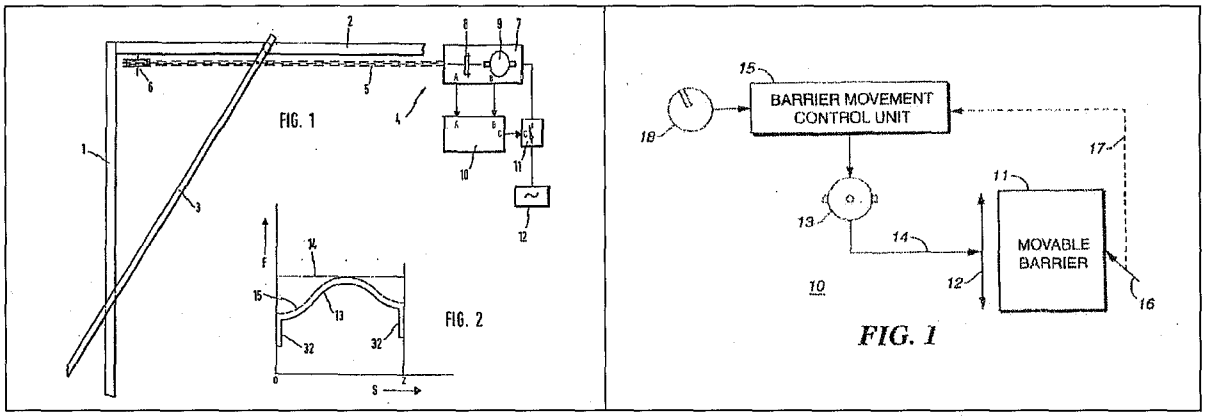
**Table No. 7: Hormann '291 (left) and the '052 Patent (right) Disclosing Force Thresholds That Vary Depending on the Position of the Door as It Proceeds Along Its Track**

| **Fig. 2 in Hormann '291** | **'052 Patent** |
|---|---|
|  FIG. 2 |  *FIG. 3* |
| "Turning now to FIG. 2, a diagram of the drive force F plotted against the door position S is shown. As can be seen in FIG. 2, … one can observe that **the drive force required to adequately move the door varies depending on the position of the door along its track.** Line 13 in FIG. 2 corresponds to the characteristic curve which describes a possible varying drive requirement compared to the instantaneous position of the door as it is moved from an open to a closed, or vice versa, position. The dotted line 15 generally tracks the shape of the curve 13, but indicates a slightly higher force for each position S. The difference between line 15 and line 13 will be described as ΔF. … Line 14 in FIG. 2 illustrates the [non-variable] threshold design used in conventional systems." (RX-1028 (Hormann '291) at 3:12-42 (emphasis added).). | "Referring momentarily to FIG. 3, if desired, a plurality of force thresholds can be determined, wherein **each force threshold corresponds to a particular zone that the movable barrier 11 traverses during controlled movement. … As the movable barrier 11 moves through each zone, different forces can and will typically act upon the barrier 11** in full or partial opposition to the intended direction of movement and/or in correspondence with the intended direction of movement. As depicted in FIG. 3, each of the four zones has a corresponding external force 31-34 acting upon the movable barrier 11. By sensing each force for each zone, a corresponding force threshold can be determined that better corresponds to each zone of movement." (JX-0003 ('052 patent) at 3:40-50 (emphasis added).). |

As shown below in Figure 54, like the '052 patent, Hormann '291's system comprises an overhead garage door driven by a motor (electric motor 9), a drive assembly (drive assembly 7),

control unit (10) coupled to the motor (9) and comprising a processor (e.g., comparator circuits 17 and 31), and sensors to sense torque or power consumption of the motor. (RX-1028 (Hormann '291) at 2:53-3:11, 3:60-63, Figs. 1, 3; RDX-1002C.0028-29; Tr. (Fernald) at 1077:5-14, 1078:16-1079:12.). CGI does not dispute this. (CRBr. at 41-49.).

**Figure 54: Figure 1 of Hormann '291 (left) and Figure 1 of the '052 Patent (Right) Each Showing a Moveable Barrier, a Motor, and a Control Unit, With the Only Relevant Difference Being That Figure 1 of the '052 Patent Discloses a User Control (18) (Shown in Yellow) for User-Directed Force Threshold Adjustment**




(RX-1028 (Hormann '291) at Fig. 1; JX-0003 ('052 patent) at Fig. 1.).

Like the '052 patent, Hormann '291 discloses a movable barrier system that seeks to improve safety by comparing stored and real-time force data. (RX-1028 (Hormann '291) at Abstract; Tr. (Fernald) at 1076:14-23.). As shown below in Figure 55, Hormann '291 teaches a "first mode of operation" or learning mode during which switch 21 is set in the "up" position so that Shift Register ("SR") 1 can automatically store measurements of the force (F) required to drive an overhead garage door as it travels through each position in an up or down cycle.[83] (RX-

[83] Box 16 (an analog-to-digital converter) simply converts the analog Force Measurement from Input A into a digital value. (RX-1028 (Hormann '291) at 4:29-33.).

1028 (Hormann '291) at 3:12-22, 3:56-66, 4:29-40, Fig. 3, Tr. (Fernald) at 1077:16-1078:12.).

The evidence supports a finding that a person of ordinary skill in the art would treat these measurements (F)[84] as "force threshold" values automatically determined during a "first mode of operation" for use in a "second mode of operation."[85] As Hormann '291 explains, prior art systems were "designed such that any increase in the driving force, than normally necessary to move the door [i.e., measurements of the force (F)], will cause a switching action such as to reverse or stop the door." (RX-1028 (Hormann '291) at 1:32-35.). Thus, measurements of the force (F) necessary to move the door were treated as threshold values in the prior art. This is also consistent with how "[f]orce threshold" was construed in this Investigation as "generally contemplate[ing] any threshold related to force." (*Markman* Order, App. A at 3.).[86]

Hormann '291 also teaches a "second mode of operation" or normal operation mode during which switch 21 is set in the "down" position so that SR 1 can provide its stored force (F) values to "subtracting circuit 17," where they are compared to force values measured in real time. (RX-1028 (Hormann '291) at 3:27-38; RDX-1002C.0032; Tr. (Fernald) at 1081:33-1082:9.). In this way, for myriad positions of the door as it makes its way along its track,

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[84] There is some confusion with respect to what maps to the claimed "force threshold" in Hormann '291. According to Hormann '291, "ΔF describes the threshold value with which accident prevention devices should ideally operate." (RX-1028 (Hormann '291) at 3:26-27.). Nortek suggests that the "force threshold" is F+ΔF. (RBr. at 57-58.). Nortek also suggests that F, alone, is the "force threshold." (*Id.* at 60-61 ("processor is 'arranged and configured to automatically determine at least one force threshold during a first mode of operation' because when a switch (Fig. 3, item 21) is in a storage position, force measurements received via input A are stored in a shift register (SR 1) 18 as a force profile.").).

[85] As explained above in the context of infringement, element [c] of claim 1 requires only the determination of "at least one force threshold" during a "first mode" "for use" in a "second mode." (JX-0003 ('052 patent), cl. 1.). Nothing in claim 1 requires the calculation of a final "force threshold" value during the "first mode." (*Id.*).

[86] CGI benefitted from this broad construction in the context of infringement. The same claim construction must be applied here in the context of invalidity.

Hormann '291's system monitors and evaluates any increases in force required to drive the door in real time as compared to stored force values set during the learning mode.

**Figure 55: Figure 3 of Hormann '291**

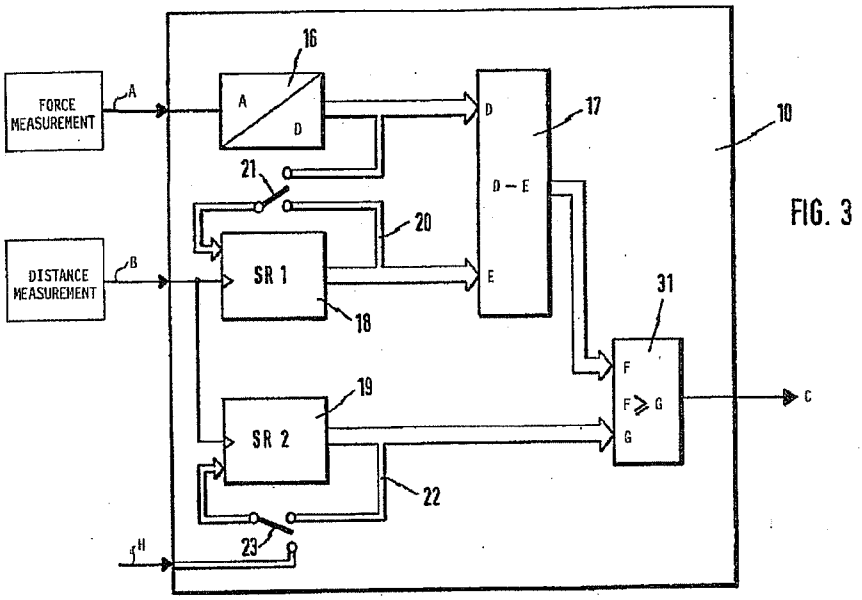



FIG. 3

(RX-1028 (Hormann '291) at Fig. 3.).

Like the '052 patent, Hormann '291 teaches a force differential (ΔF) that indicates a force level above the stored, automatically measured force values at which to pause or reverse a door. "Ideally, safety requirements would indicate that when the force required to move the door exceeds a slight value, ΔF as described, the driving system supplying the force should be reversed or shut-off to prevent damage or injury." (RX-1028 (Hormann '291) at 3:33-37; *see also* RDX-1002C.0032; Tr. (Fernald) at 1081:33-1082:9.). This operates as follows in Hormann '291: during a "second mode of operation" or normal operation mode, the difference between stored force (F) values and newly measured force values are compared against ΔF values in

comparator 31 for myriad positions along the length of the track. [87] (RX-1028 (Hormann '291) at 3:22-27, Fig. 2; RDX-1002C.0028-31; Tr. (Fernald) at 1077:16-1078:12, 1079:13-1081:19.). If the difference is less than ΔF, nothing happens. (RX-1028 (Hormann '291) at 5:11-14.). If the difference is greater than ΔF, the door stops or reverses.[88] (*Id.* at 5:14-21.).

Hormann '291 also teaches setting and modifying ΔF. In particular, when switch 23 is set in the "up" position, SR 2 can store values of ΔF:

> By operating the change over switch 23, the storing input of the shift register 19 can be connected in a similar manner to a storing terminal H in order to store or change the ΔF values. In this fashion, it is possible to record new values of ΔF which may be desired after changing operating conditions of the door, or for any other reason it may be desired.

(*Id.* at 4:41-47.).

Hormann '291 also discloses setting values of ΔF before the "second mode of operation":

> If the force required for the unobstructed normal operation is entered into the shift register 18, the switch 21 is connected to line 20. Assuming the values of ΔF are

---

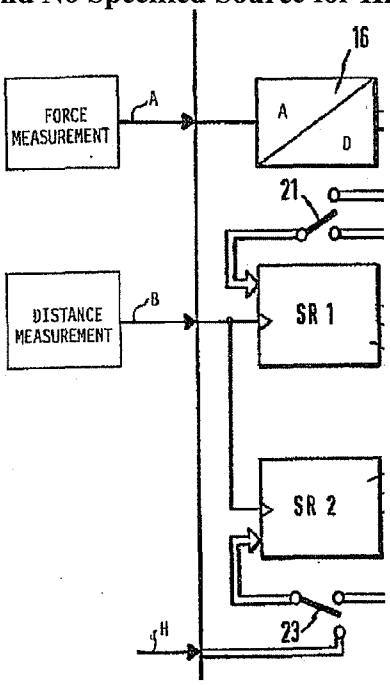
[87] Hormann '291 keeps the whole system in lockstep by pulling the correct F and ΔF values from memory, and by comparing them to the correct real-time force data, using "Distance Measurement" provided at input B. "A signal representing the distance travelled by the door along its track, which is signified by axis S in FIG. 2, is in the form of a pulse signal as applied to circuit 10 through connecting terminal B shown in FIG. 3. This pulse signal, which represents an increment in the value of S in FIG. 2, is sent to the stepping input of a function storage component in the form of a shift register 18. The output signal of the shift register is sent to a second input E of the subtracting circuit 17. The S value pulse signal fed in at B is sent parallel to the stepping input of other shift register 19 in which the difference value ΔF is stored. It will be appreciated that ΔF can be set at any value which the particular design would indicate. It is not necessary to store a fixed value of ΔF in shift register 19. It is possible that ΔF, as described in FIG. 2 as the difference value at any point S of line 15 and line 13, may be varying over the length of the curve so as to provide greater or less margins of safety at various positions of the door as desired." (RX-1028 (Hormann '291) at 4:1-20.).

[88] In particular, "[t]he door position-dependent corresponding values for ΔF are feed to input G of comparator 31. No signal appears on the output of the comparator circuit 31 as long as D minus E is smaller in absolute value than the corresponding position-dependent value ΔF. However, if the difference ... exceeds the position-dependent corresponding value of ΔF, a signal which interrupts the current supplied to the drive motor 9 appears at the output C of the comparator circuit. It is, of course, also possible to induce a reversal of the direction of the door by motor 9." (RX-1028 (Hormann '291) at 5:10-21.).

already stored, the device is now ready to monitor the movement of the door leaf. (*Id.* at 4:48-52.).

What Hormann '291 lacks is an explicit disclosure of a user-manipulable force differential ΔF ("user manipulable force threshold modification control"). As shown above in Figure 55 and below in Figure 56, while Hormann '291 discloses modifying ΔF values, it does not identify any particular way of doing it. Instead, Hormann '291 discloses a circuit input H for ΔF values and leaves open who or what provides those values. (Tr. (Fernald) at 1083:4-11 ("Q. . . . So where does the information originate? A. Hormann leaves the details of providing that to the user, except he states 'it is possible . . . to record new values of delta F").). In this way, circuit input H (for ΔF values) stands in stark contrast to circuit inputs A (force measurement values) and B (distance measurement values) shown above in Figure 55 and below in Figure 56. As shown above in Figure 55, inputs A and B are explicitly fed values from drive assembly 7, while the source of circuit input H is left unspecified.

**Figure 56: Circuit Inputs Portion of Figure 3 of Hormann '291 Showing Specified Sources for Inputs A and B and No Specified Source for Highlighted Input H**




(RX-1028 (Hormann '291) at Fig. 3.).

This omission is significant. Hormann '291 would anticipate claim 1 if it disclosed that input H were fed a user-manipulable source of ΔF values. This is because, based on the above discussion, Hormann '291 discloses every other element of claim 1. In other words, Nortek has proven by clear and convincing evidence that Hormann '291 discloses elements [p] – [c].[89] Hormann '291 also discloses the part of element [d] that requires manipulation of force threshold values for use in the "second mode of operation."

[89] CGI did not dispute that Hormann '291 satisfied elements [p] – [b]. While CGI did argue that Hormann '291 failed to disclose elements [c] and [d], a close examination of CGI's Post-Hearing Reply Brief reveals that CGI trained its critique at element [d] and, in particular, the lack of user manipulation associated with the source of ΔF values. (*See* CRBr. at 44-45 ("Hormann fails to render obvious limitations 1[c] and 1[d] of '052 patent claim 1 because it does not teach or suggest any 'user manipulable force threshold modification control' that can adjust an 'automatically determine[d] … force threshold.'").).

Against this backdrop, the critical issue for validity of claim 1 of the '052 patent is whether a solution involving user manipulation of force threshold values was known in the art, such that a person of ordinary skill in the art would have been motivated to apply that solution to input H in Hormann '291 with a reasonable likelihood of success. As set forth below, such a solution existed in the form of potentiometers.

**b) Secondary Prior Art: Known Potentiometers and OSCO SLG System**

According to Nortek, potentiometers were a well-known form of user input to manipulate force thresholds. (RBr. at 58.). For example, the '052 patent states the following in the context of user manipulable force threshold modification control 18:

> This user control 18 can be, for example, a potentiometer as well understood in the art or, if desired, any other analog or digital input mechanism, including but not limited to DIP switches, analog-to-digital switch interfaces, touch screens, cursor controls, voice actuated mechanisms, and so forth.

(JX-0003 at 3:9-14; *see also* RDX-1002C.0036; Tr. (Fernald) at 1083:17-1084:1.).

It also appears that the prior art contained potentiometers for gate installers to use to manipulate force thresholds. Starting in March 2000, the OSCO system allowed a user (e.g., installer) to adjust a force threshold[90] using a potentiometer. (Tr. (Ward) at 559:6-561:2, 562:17-18 (explaining introduction of programmable microcontroller to meet the UL 325 Standard behavior requirements), 562:19-564:1, 566:15-568:1, 568:10-569:10 (explaining differential current sensing algorithm), 570:7-571:15 (discussing control board and potentiometers); RX-1474 (OSCO SLG Guide) at 12 (showing potentiometer); Tr. (Fernald) at 1084:6-1085:8.). OSCO used the same logic and the same control board across its entire line of swing and slide

[90] The prior art OSCO system used a differential value to track not absolute current, but instead changes in current, during operation. (Tr. (Ward) at 568:10-569:10.). In the infringement section above, a similar differential value was found to qualify as a "force threshold" in the context of the '052 patent.

gate operators, including the representative OSCO SLG gate operator. (Tr. (Ward) at 570:7-571:7, 573:23-574:2.). Former OSCO employee Kevin Ward's testimony regarding the operation of the SLG and its current sensing algorithm was corroborated by contemporaneous user manuals and software specifications. (*See, e.g.*, RX-1474 (OSCO SLG Guide); RX-1465C (Specification for the OSCO Microcontroller-based Gate Operator Control) at 32-35 (inherent safety processing).).

However, as CGI noted, it appeared that the OSCO SLG gate operator did not automatically measure force values and manually adjust them. (CRBr. at 44.). Instead, when the user turned a potentiometer, the value adjusted was a factory default value. (RX-1474C (OSCO SLG Guide) at 11 ("When the gate operator leaves the factory, it has been preset for a relatively light gate function and will require additional adjustment.").). CGI characterized this as a "purely manual approach [that] stands in contrast to Hormann 291's purely automatic approach." (CRBr. at 44.). Nortek did not rebut CGI's characterization. This makes sense because if the prior art OSCO SLG gate operator had automatically determined "force threshold" values, it would have anticipated claim 1 of the '052 patent for the same reasons why the 052 Original Gate Operator Products satisfy that claim, as set forth in the infringement section above.

Nevertheless, based on the above, a person of ordinary skill in the art would have appreciated that potentiometers like the ones used in the OSCO SLG system were a well-known solution for the manipulation of force thresholds. Potentiometers also happened to be a manual solution that required user input.

### 3. Claim 1 of the '052 Patent Is Obvious

CGI argued that "the '052 patent teaches a solution in which a threshold is automatically determined and a user interface allows for manual adjustment of the automatically determined

threshold." (CRBr. at 42 (citing JX-0003 ('052 patent) at 2:9-29).). CGI argued that this combination was not obvious as of the April 2002 filing date of the '052 patent. (*Id.*). The ultimate question of obviousness is a question of law, but "it is well understood that there are factual issues underlying the ultimate obviousness decision." *Richardson-Vicks*, 122 F.3d 1476, 1479 (Fed. Cir. 1997) (citing *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17 (1966)).

CGI raised several arguments in support of its position that claim 1 is not obvious in light of Hormann '291 alone or a combination of Hormann '291 and the OSCO SLG system. First, CGI asserted that Hormann '291 "does not teach or suggest any 'user manipulable force threshold modification control' that can adjust an 'automatically determine[d] . . . force threshold.'" (CRBr. at 44-45.). As stated above, the record is clear that Hormann '291 does not teach user-modifiable force thresholds. However, CGI went further and suggested, based purely on attorney argument, that "Hormann's use of terms like 'record' and 'new values'" in the context of modifying ΔF "compels the conclusion that a user would re-use the same automatic method used to 'record' the values in the first place." (*Id.*). Contrary to CGI's characterization, there was no "first place." Hormann '291 is silent on how to record ΔF values in the first place or subsequently to update them. (*See, generally*, RX-1028 (Hormann '291).).

CGI also argued that Nortek's reliance on the discussion of potentiometers in the '052 patent is "a classic application of hindsight bias" insofar as Nortek was purportedly using "the asserted patent as a roadmap for its proposed obviousness theory[.]" (CRBr. at 46.). Here, CGI conflated the purported novelty of the '052 patent (combining automatic force thresholds with manual force threshold adjustments) and the '052 patent's discussion of the prior art. It is clear from the'052 patent's framing of the prior art (and from the existence of the OSCO SLG system) that CGI did not invent manual force threshold adjustments using potentiometers. Whether what

CGI purportedly did invent was obvious depends on how a person of ordinary skill in the art would have seen the prior art landscape and possibly been motivated to modify Hormann '291.

CGI's next argument was that Nortek "assumes that a [person of ordinary skill in the art] would have been motivated to apply [potentiometers] to Hormann merely because they were known in the prior art." (CRBr. at 46.). That is false. Nortek made clear that the motivation of a person of ordinary skill in the art to add potentiometers to Hormann '291 was the gaping hole at input H shown in Figure 3 of Hormann '291. (RBr. at 62 ("Therefore, Hormann '291 itself suggests this claim element because it would be obvious to a POSA in view of the teaching to change the ΔF for changing operating conditions that a user would make that modification, and would need some type of input means to do so, and the '052 Patent itself that potentiometers were a well-known means in the art to provide such inputs"); *see also* Tr. (Fernald) at 1083:4-11 ("Q. . . . So where does the information originate? A. Hormann leaves the details of providing that to the user, except he states 'it is possible . . . to record new values of delta F").). If a person of ordinary skill wanted to build the system disclosed in Hormann '291, he or she would need to find a source of ΔF values to connect to input H. What Nortek contended is that potentiometers were already used in the art to provide those very same values.

Additionally, in its discussion of the prior art, the'052 patent identified why a person of ordinary skill in the art would have gravitated toward a manual solution for sourcing ΔF values, such as the potentiometers already used in the art, and away from an automated solution.

> [A]t least for some applications (such as, for example, moveable barrier operators), automatic calibration often does not provide the calibration most suited to a particular setting. Furthermore, even if properly calibrated in the first instance, the appropriate calibration settings may change over time as the physical conditions change (due to, for example, friction and wear, age, temperature, maintenance., temporary (or permanent) physical impingements, and so forth).

(JX-0003 ('052 patent) at 1:27-35.).

In other words, in the'052 patent specification, CGI was describing a prior art problem that already had a prior art manual solution in the form of potentiometers. "Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility." *KSR*, 550 U.S. at 419.

CGI also asserted that a person of ordinary skill would not have combined Hormann and the OSCO SLG, or had a reasonable expectation that the combination would be successful. (CRBr. at 47.). CGI's point is valid. Hormann '291 discloses automated force threshold measurements with unspecified force threshold adjustments. By contrast, OSCO SLG discloses default force threshold values with manual force threshold adjustments. Nortek did not provide clear and convincing evidence that a person of ordinary skill in the art would combine these approaches. Indeed, as CGI argued, based on the record evidence, such a person very well may have viewed the references as disclosing alternate approaches. (*Id.* at 46.).

CGI's related argument that, in all likelihood, a person of ordinary skill in the art would not have been reasonably successful combining Hormann '291 and a prior art potentiometer to provide modified force threshold values at input H, is not supported by the evidence. The crux of CGI's argument was that Dr. Fernald did not explain how an analog multiturn potentiometer would be compatible with digital input H. (Tr. (Subramanian) at 1168:15-1169:6).).

Hormann '291 offers a solution. In Figure 3, just above input H, Hormann '291 discloses the use of an analog-to-digital converter to covert measured force values from analog to digital.[91]

[91] CGI asserted that this argument by Nortek was new and thus waived. Regardless of whether Nortek made the argument in a timely manner, the underlying evidence stands on its own two feet.

(RX-1028 (Hormann '291) at Fig. 3, 4:53-57 ("actual force required to move the door is recorded for each cycle of the door monitored, and sent via terminal A to the analog digital converter 16 which sends the digitalized values via the input D to the subtracting circuit 17").). Moreover, in Figure 1, the '052 patent discloses the connection of an analog potentiometer to a digital circuit without explaining how to enable that connection and, thus, signals (no pun intended) that a person of ordinary skill in the art could make that connection function without undue experimentation. (JX-0003 ('052 patent) at Fig. 1, 3:38-11 ("This user control 18 can be, for example, a potentiometer as well understood in the art[.]").).

Finally, in terms of ease of inputting digitalized potentiometer values into multiple digital shift registers, Hormann '291 discloses the preferred approach of making $\Delta F$ constant. (RX-1028 (Hormann '291) at 3:50-55 ("appreciated by those skilled in the art that it is preferable to allow a variable safety threshold level, such as line 15, to track the actual force necessary, as depicted in line 13, so that $\Delta F$ remains virtually constant over the entire travel distance S.").).

CGI's lack of compelling secondary evidence of non-obviousness also supports the finding that claim 1 is obvious. As was the case for the '404 patent, CGI's evidence of commercial success is skeletal at best. CGI pointed to generalized sales data that demonstrated commercial success of products, not patented features. (CX-0673C; CX-0819C; CX-0829C.). CGI also cited to survey results that made vague references to "safety," but failed to link this attribute to a patented feature. (*See, e.g.* CX-0262C; CX-0263C.). Dr. Subramanian and Mr. Fitzgibbon attempted to tie consumer safety preferences to the '052 patent, but their testimony did not address the purportedly innovative feature of the '052 patent (user modification of automatically generated force threshold values). (Tr. (Subramanian) at 1170:6-22 ("people have identified … interest in issues that are *relevant to* these patents") (emphasis added); Tr.

(Fitzgibbon) at 197:6-200:21, 224:3-226:15 (confirming "*relationship between* motor control [as described in news article about CGI] and '052 smart force patent") (emphasis added).).

Based on the totality of the evidence, claim 1 of the'052 patent is obvious in light of Hormann '291 alone.[92] Hormann '291 explicitly discloses all elements of claim 1 except *a user* modifying an automatically determined force threshold. Hormann '291 discloses modifying an automatically determined force threshold, but does not specify how to do it, motivating persons of ordinary skill to the use prior art solutions for which there would be a reasonable likelihood of success. *See Custom Accessories, Inc. v. Jeffrey-Allan Indus.*, 807 F.2d 955, 962 (Fed. Cir. 1986) ("The person of ordinary skill is ... presumed to be aware of all the pertinent prior art.").

There is no dispute that Hormann '291 and the OSCO system were in the same field as each other and the '052 patent. The '052 patent makes clear that potentiometers were known in the art as a manual solution for modifying force thresholds. (JX-0003 ('052 patent) at 3:38-11 ("potentiometer as well understood in the art").). This depiction of the prior art was corroborated by the OSCO SLG system, which utilized a potentiometer as a manual solution for modifying a (default) force threshold. (RDX-1002C.0035, Tr. (Fernald) at 1084:2-1085:25.). The '052 patent explains why a person of ordinary skill in the art would have preferred a manual solution such as potentiometers in this context. (JX-0003 ('052 patent) at 1:27-35.).

For the reasons set forth above, Nortek has proven by clear and convincing evidence that claim 1 is obvious in light of Hormann '291 alone. Combining Hormann '291 with a prior art potentiometer to provide $\Delta F$ values at input H would not constitute an inventive step.

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[92] CGI suggested that this finding would ignore the teachings of the prior art, including the Schindler reference, which purportedly taught that manual adjustment can result in a "dangerous condition" and should be avoided. (CRBr. at 48-49 (citing RX-1354 (Schindler) at 1:22-35.). Yet, this teaching in Schindler pertained only to setting a "force threshold" initially, not tweaking or modifying that threshold.

# X. INDIRECT INFRINGEMENT

## A. Induced Infringement

CGI alleged that Nortek intentionally induces its customers to infringe the '404, '223, and '052 patents. (CBr. at 17, 52, 89.).

### 1. No Direct Infringement

For the reasons discussed above in Sections VII.A, VIII.A, and IX.A with respect to the asserted claims of the '404, '223, and '052 patents, the 404 Accused Products, the 223 Accused Products, and the 052 Accused Products do not directly infringe any of the asserted claims of the '404, '223, and '052 patents, respectively.

### 2. No Indirect Infringement

Because the Accused Products do not directly infringe, it is axiomatic that they cannot indirectly infringe after importation, in this case, through induced infringement. *See Limelight Networks, Inc. v. Akamai Techs., Inc.*, 134 S.Ct. 2111, 2117 (2014) (quoting *Afro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961)) ("[L]iability for inducement must be predicated on direct infringement. This is for good reason, as our case law leaves no doubt that inducement liability may arise 'if, but only if, [there is] . . . direct infringement.'") (alteration in original); *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1274 (Fed. Cir. 2004) (noting that in order to prevail under a theory of indirect infringement, plaintiffs must first prove that the defendants' actions led to direct infringement of the asserted patent); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341-42 (1961) ("It is plain that [§] 271(c) . . . made no change in the fundamental precept that there can be no contributory infringement in the absence of a direct infringement."); *In re Bill of Lading Transmission & Processing Sys. Patent Litig.*, 681 F.3d 1323, 1333 (Fed. Cir. 2012) (quoting *Linear Tech. Corp. v. Impala Linear Corp.*,

379 F.3d 1311, 1326 (Fed. Cir. 2004)) ("It is axiomatic that '[t]here can be no inducement or contributory infringement without an underlying act of direct infringement.'").

### 3. If the Commission Finds There Is Direct Infringement, Nortek Induces Its Customers to Infringe

In the event the Commission disagrees with the finding of no direct infringement, and finds there is direct infringement, the evidence weighs in favor of a finding that Nortek has induced its customers to infringe.

A patentee asserting a claim of inducement must show: (i) that there has been direct infringement; and (ii) that the alleged infringer "knowingly induced infringement and possessed specific intent to encourage another's infringement." *Minnesota Mining & Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1304-05 (Fed. Cir. 2002); *see also Commil USA, LLC v. Cisco Sys., Inc.*, 720 F.3d 1361, 1367 (Fed. Cir. 2013), *aff'd and vacated in part on other grounds*, 135 S. Ct. 1920, 1926-28 (2015); *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068-70 (2011). The specific intent requirement for inducement necessitates a showing that the alleged infringer was aware of the patent, induced direct infringement, and that he knew that his actions would induce actual direct infringement. *See, e.g.*, *Commil USA, LLC v. Cisco Systems, Inc.*, 720 F.3d 1361, 1367 (Fed. Cir. 2013), *aff'd and vacated in part on other grounds*, 135 S.Ct. 1920, 1926-28 (2015).

Here, Nortek had actual notice of the Asserted Patents, and infringement of the asserted claims, by at least December 4, 2017, when Nortek was served with the complaint in *Chamberlain Group, Inc. v. Nortek Security & Control LLC*, 3:17-cv-02412-JLS-AGS (S.D. Cal. Nov. 30, 2017). (*See* Tr. (Subramanian) at 372:12-373:4, 445:23-446:11 (identifying notice); Resp. at ¶ 11.1 (admitting that CGI filed a complaint against Nortek Security & Control, LLC in

the U.S. District Court for the Southern District of California).).

Despite this, Nortek has continued to sell the Accused Products (*see, e.g.*, CX-0803C, CX-0819C, CX-0829C (2018 sales data)) to various dealers and installers, who then directly infringe the Asserted Patents by selling these products to end-users and installing them at the end-users' locations. (*See, e.g.*, JX-0007C (Mike Brickner Dep. Tr. (Nov. 14, 2018))[93] at 39:4-8 (testifying to 2018 sales). These third-party dealers and installers install Accused Products according to the installation steps that Nortek specifies. (*See e.g.*, *id.* at 91:22-24, 92:10-14, 92:20-93:11, 93:15-18, 93:25-95:16, 96:16-97:8 (installers set up the unattended operation feature of, for example, the accused PDS Ultra 900); *id.* at 60:22-64:2, 64:21-70:3, 70:14-6, 71:13 (testifying that installers will cycle the door of the PDS 800 to automatically adjust the force factor and manually adjust it as necessary), 77:10-79:24, 79:5-80:6, 81:8-82:2, 82:10-24 (testifying that Precision Door performs the setup instructions disclosed in the Nortek homeowner's manuals), 90:7-91:1; 91:8-21; 98:14-25 (testifying process to automatically set up door force and manually adjust door force is the same between the PDS 800 and PDS Ultra 900); Tr. (Subramanian) at 446:19-447:2 ("Q. . . . [H]ave you seen evidence that installers have installed BGUs since December 17? A. Yes. . . . Q. And they installed following Nortek's

[93] Mr. Mike Brickner appeared as a corporate designee of Precision Holdings of Brevard, Inc. ("Precision Holdings"). (JX-0007C (Brickner Dep. Tr. (Nov. 14, 2018)) at 9:2-13.). When he provided his deposition testimony on November 14, 2018, Mr. Brickner was the President of Precision Holdings of Brevard, Inc. (CPSt. at 5.). CGI identified Mr. Brickner as a fact witness to testify about sales and installations of certain accused products manufactured or supplied by Nortek, use of the infringing features of these products by installers at Precision Holdings and end users, communications with Nortek relating to the accused products, consumer demand for product features embodying Chamberlain's patented inventions, the topics for which he was designated as Precision Holdings' corporate witness, and the topics reflected in the designated portions of his deposition transcript." (*Id.*). Mr. Brickner confirmed that Precision Holdings is in the business of marketing and selling residential garage doors and garage door openers, as well as installing garage doors and garage door openers. (JX-0007 (Brickner Dep. Tr. (Nov. 14, 2018)) at 21:13-20, 21:24-22:1.). He also confirmed that Precision Holdings sells garage opener products Nortek manufactures. (*Id.* at 23:12-17.).

instructions for the BGU? A. Yes."), 497:23-499:20 (testifying about induced infringement of '223 patent claim 1).). Nortek also trains dealers and installers on how to set up the Accused Products' features. (JX-0007C (Brickner Dep. Tr.) at 39:22-41:18, 45:11-21, 86:16-87:9 (describing training).).

Nortek has continued to do so despite actual knowledge, by December 2017 at the latest, that its product training and installation guides instruct installers to directly infringe the '404, '223, and '052 patents.

In its Pre-Hearing Brief, Nortek did not raise any rebuttal arguments to CGI's contentions of indirect infringement. Thus, any argument on this issue is deemed abandoned or withdrawn under Ground Rule 7.2.

For the foregoing reasons, it is a finding of fact that if the Commission finds there is direct infringement, CGI has met its burden of proving that Nortek has induced its customers to infringe the asserted claims of the '404, '223, and '052 patents.

## XI. NORTEK'S AFFIRMATIVE DEFENSES

### A. Overview of Nortek's Unclean Hands and Inequitable Conduct Defenses

#### 1. The Individuals Against Whom Inequitable Conduct Is Alleged

In its response to the Complaint and NOI filed on November 26, 2018 ("Response"), Nortek asserted seven (7) Affirmative Defenses. (Doc ID No. 648950; Resp. at 11-19.). The Seventh Affirmative Defense-Unclean Hands,[94] seemingly is directed to all three (3) patents and

[94] Nortek developed its "Unclean Hands" Affirmative Defense in its Pre-Hearing Brief as a broader category of "egregious conduct" including: pre-litigation "business misconduct;" the claims it made under Rule 1.56, for alleged PTO misconduct; and "litigation misconduct" which Nortek says changed the equities of the Investigation in Nortek's favor. (RPBr. at 128 (citing *Gilead Sci., Inc. v. Merck & Co., Inc.* 888 F.3d 1231, 1239 (2018).). In its Post-Hearing Brief, Nortek dropped its Unclean Hands defense and instead wrapped all of CGI's allegedly "egregious conduct," and all other claims of misconduct

in sweeping fashion, apparently to all of CGI's claims. [95] (Resp. at ¶ 57.). In Nortek's Third Affirmative Dense, Unenforceability, Nortek specifically alleges that the '404 and '223 patents are unenforceable because the CGI applicants on the '223 and '404 patents, and those involved in the prosecutions of those patents, allegedly committed inequitable conduct and violated their duty of candor to the PTO by allegedly failing to disclose material information to patentability pursuant to 37 C.F.R. § 1.56 ("Rule 1.56"). Specifically, Nortek charged that the named inventor of the '404 patent, Edward T. Laird, failed to submit material prior art references to the PTO. (Resp. at ¶¶ 14, 16-17.). Nortek did not specifically identify in its Response which prior art reference (s) Mr. Laird allegedly failed to submit to the PTO. (*Id.*). Nortek narrowed its claim against Mr. Laird in its Pre-Hearing Brief to Mr. Laird's alleged failure to disclose the Underwriters Laboratory ("UL") 325 Standard to the PTO.

Nortek also alleged that James Fitzgibbon, an engineer at CGI who holds the title of "Director of Intellectual Capital," failed to disclose certain prior art references to the PTO. In his capacity as Director of Intellectual Capital, Mr. Fitzgibbon worked with . (Resp. at ¶¶ 14-27.). With respect to the '404 patent, Nortek alleged that Mr. Fitzgibbon was involved with prosecution of the . (Resp. at ¶¶ 21-23: RPBr. at 52.)). Nortek alleged that Mr. Fitzgibbon was

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Nortek asserted against CGI into its inequitable conduct defense.

[95] Nortek did not specifically identify any "inequitable" conduct that is specifically attributable to the prosecution of the '052 patent either in its Pre-Hearing or Post-Hearing Briefs. Therefore, Nortek has waived its right to raise or argue in the future the defenses of inequitable conduct and unclean hands, and any similar type of claim with respect to the '052, patent pursuant to Ground Rules 7.2 and 10.1.

. (*Id.* at ¶¶ 18-32; RPBr. at 56-57; RBr. at 30-39.).

The UL 325 Standard contains safety features for ensuring that when operated remotely, garage doors will not accidentally close when garage doors are unattended, also called the "unintended close." (*See* RPBr. at 49 (citing JX-0022C (Kelkhoff Dep.Tr.) at 136:18-138:16; 139:10-142:10; 142:15-147.).). The UL 325 Standard was under development from 2005 through 2008. (*Id.*). Nortek charged that Mr. Fitzgibbon, along with another CGI employee, Barbara Kelkhoff,[96] who was

. (RPBr. at 49-52; RBr. at 28-29.). Nortek also charged that CGI and Mr. Fitzgibbon, , and generally with CGI and Ms. Kelkhoff was part of a "deliberately planned and executed scheme" to defraud the PTO and the courts. (RPBr. at 33, 49 (citing *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1285, 1287 (Fed. Cir. 2011) ("*Therasense*"). Nortek alleged that Mr. Fitzgibbon, the applicant on Application 10/227,182, and the sole inventor of what issued as the '223 patent, failed to disclose to the PTO

[96] Ms. Barbara Kelkhoff did not testify during the Hearing. When she testified during her deposition on October 23, 2018, Ms. Kelkhoff was CGI's . (JX-0022C (Kelkhoff Dep. Tr.) at 19:18-20:14.). According to her description, she helps manage the (*Id.* at 20:3-14.).

in violation of Rule 1.56, two (2) British patents, GB2361310 (B) and GB2406880 (A),[97] that Nortek claimed were prior art to the '223 patent.[98] (*Id.* at 45-53.).

Finally, Nortek alleged that Steven G. Parmalee [99]of the Fitch Even Tabin and Flannery ("Fitch Even") law firm, who filed the application for the '223 patent, also violated Rule 1.56. Fitch Even has been Chamberlain's long-time patent-prosecution Counsel. In its Pre-Hearing Brief, Nortek dropped Mr. Parmalee as the focus of its inequitable conduct allegations and instead substituted Nicholas Peters, another attorney at Fitch Even who was involved in the prosecution of the '404 patent. (*See* RPBr. at 52, 53; *see also* RX-0022 (Peters Dep. Tr.)).

### 2. Nortek's Other Allegations of Inequitable Conduct

Nortek has charged CGI more broadly with an "intent to deceive" and with a litany of

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[97] Nortek did not discuss in its Pre-Hearing Brief, during the Hearing or in its Post-Hearing Brief, the two (2) British patents GB2361310 (B) and GB2406880 (A) that it initially asserted as prior art to the '223 patent in its Response. Therefore, Nortek has waived any right to raise or discuss the two (2) British patents for any purpose, including for invalidity or inequitable conduct, pursuant to Ground Rules 7.2 and 10.1.

[98] In its Response and Pre-Hearing Brief, Nortek initially identified the "Powder" reference, U.S. Patent No. 6,624,605, as prior art to the '404 patent. (RPBr. at 57 (and in Corrected Pre-Hearing Brief at 153, 159.).). Similarly, Nortek alleged that CGI, and specifically that its patent prosecution Counsel, presumably now Mr. Peters, together with Mr. Fitzgibbon, violated their Rule 1.56 duty of disclosure by failing to disclose Powder. (RPBr. at 53); RPBr. at 167 (Corrected Pre-Hearing Brief). However, since Nortek dropped the Powder reference before the Hearing, and did not adduce evidence with respect to Powder during the Hearing or in its Post-Hearing Brief, Nortek has waived any argument pertaining to that reference pursuant to Ground Rule 10.1. That waiver applies to both invalidity and Nortek's inequitable conduct argument with respect to Powder.

[99] In its Pre-Hearing Brief, Nortek limited its allegations of inequitable conduct to Ms. Kelkhoff, Mr. Laird, Mr. Fitzgibbon, and identified for the first time Nicholas Peters, an attorney at the law firm of Fitch, Even, Tabin and Flannery ("Fitch Even"), who played a role in the prosecution of the '404 patent. (*See* RPBr. at 52.). After its Response, Nortek did not provide evidence with respect to Mr. Parmalee in its Pre-Hearing Brief (RPBr. at 52-59), during the Hearing, or in its Post-Hearing Brief (28-44.). Therefore, pursuant to Ground Rules 7.2 and 10.1, Nortek has waived its right to raise any Rule 1.56 and inequitable conduct argument with respect to Mr. Parmalee.

purported "bad acts," including "litigation and business misconduct" that it has wrapped into its inequitable conduct claim. (RPBr. at 58-59; RBr. at 32-41.). Among the acts of misconduct that Nortek has wrapped into its inequitable conduct charge against CGI are:

- CGI's "Last-Minute Document Dump" of some 161,000 pages of documents on November 15, 2018 (for which CGI has been penalized in Order No. 37);
- CGI's alleged "gamesmanship" by failing to drop certain asserted claims until just before the Hearing (which lead to a two-hour penalty to CGI); [100]
- CGI's repeated, "egregious objections and delays" during CGI's expert's, Dr. Toliyat's testimony;
- Mr. Peters' "deliberate"
- Mr. Peters' and Fitch Even's alleged failure initially to respond to a subpoena. and Mr. Peters' alleged
- Mr. Lairds's failure to discuss the alleged ;
- ; and
- Fitch Even's Alan Hoover's refusal to answer questions about , which Nortek calls part of a "cover up;" and
- Mr. Hoover's , which Nortek described as litigation misconduct.

(*See* RPBr. at 49-56; RBr. at 39-41.).

[100] To this long list Nortek added a charge that Mr. Laird was . (RBr. at 39-40 (citing JX-0023C (Laird Dep. Tr. (Nov. 13, 2018)) at 141:19-142:8).). I read Mr. Laird's deposition in its entirety. Mr. Laird had every right to rely upon his attorney's admonitions not to discuss attorney-client privileged communications. Moreover, when he was asked about the '404 patent and how it was developed, (*See* JX-0023C (Laird Dep. Tr. (Nov. 13, 2018)).

Initially, Nortek appears to have asked the Commission to find all three (3) of CGI's remaining Asserted Patents to be unenforceable. (*See generally*, Resp.). However, by the time Nortek reached Hearing, its circumstantial and direct evidence became more focused on the '404 patent. Nortek has woven a circumstantial narrative that is generally exaggerated. Nortek has accused certain individuals of "lies" or "misconduct," or "willful blindness," often wrongly, when much of the conduct Nortek has so described can be interpreted differently when weighed more neutrally with a clear eye to the legal standards, and without bias or a preconceived notion of outcome. Nortek has not made its case.

### B. Nortek Has Not Proven by Clear and Convincing Evidence Their Third Affirmative Defense that Complainant Engaged in Inequitable Conduct the Legal Standard for Proof of Inequitable Conduct Is a High Bar to Overcome

Every individual who is involved with a patent application filing and prosecution has "a duty of candor and good faith" which includes a duty to disclose to the PTO "all information known to that individual to be material to patentability." 37 C.F.R. § 1.56(a). This requirement applies to every inventor named in an application; each attorney or agent who prepares an application; and "every other person who is substantively involved in the preparation or prosecution of the application..." (*Id.*, § 1.56 (c)(1), (2) and (3).). "If inequitable conduct occur[s] with respect to one or more claims of an application, the entire patent is unenforceable." (SPBr.at 46 (citing *Impax Labs, Inc. v. Aventis Pharm. Inc.*, 468 F.3d 1366, 1375 (Fed. Cir. 2006.).

To prevail on a claim of inequitable conduct, "the accused infringer must prove that the patentee acted with the specific intent to deceive the PTO." *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290-91 (Fed. Cir. 2011) (en banc) (citing *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3rd 1357, 1366 (Fed. Cir. 2008) ("*Therasense*").).

*Therasense* applies to inequitable conduct claims brought before the ITC. *In the Matter of Certain Static RAMs and Prods. Containing Same*, USITC Inv. No. 337-TA-792, Remand Initial Determination on Validity and Unenforceability, 2013 WL 1154018 at *6, 7 (Feb. 25, 2013.). An accused infringer must prove that the applicant "misrepresented" or "omitted" ***material*** information with an intent to deceive the PTO. *Therasense*, 649 F.3d at 1287 (emphasis added).

While the *Therasense* decision emphasizes that honesty at the PTO is "essential," the Court also noted that a history of the previously low standards for proving materiality and intent, the two (2) required elements of an inequitable conduct claim, had resulted in several unintended consequences, "among them increased adjudication cost and complexity, reduced likelihood of settlement, burdened courts, strained PTO resources, increased PTO backlog, and impaired patent quality." *Id.* at 1290. Noting as well that an "inequitable conduct" charge spawned antitrust and unfair competition claims, as well as claims for attorneys' fees, the *Therasense* Court also observed that, "[W]ith these far-reaching consequences, it is no wonder that charging inequitable conduct has become a common litigation tactic." *Id.* at 1289.

Accordingly, the *Therasense* decision held that proving an intent to deceive requires clear and convincing evidence of: (1) knowledge of the withheld information; (2) knowledge that the withheld information was material; and (3) a deliberate decision to withhold the information. *Id.* at 1290.). In other words, both materiality and intent must be proven by clear and convincing evidence. *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365 (Fed. Cir. 2008).). Moreover, "the specific intent must be the single most reasonable inference able to be drawn from the evidence." *Id.*; *see also Cordis Corporation v. Boston Scientific Corporation*, 658 F.3d 1347, 1360 (Fed. Cir. 2011); *Star Scientific*, 537 F.3d at 1360. "Materiality and intent are separate requirements, and intent to deceive cannot be found on materiality alone." *Cancer*

*Research Tech. Ltd. v. Barr Labs, Inc.*, 625 F.3d, 724, 733 (Fed. Cir. 2010) ("*Cancer Research*"). Materiality exists if the PTO "would not have allowed a claim had it been aware of the undisclosed prior art." *Therasense*, 649 F.3d at 1291. This applies particularly to Nortek's claims with respect to CGI's failure to disclose the UL 325 Standard.

Information is considered material to patentability when it is "not cumulative to information already of record or being made of record in the application and (1) it establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or (2) it refutes, or is inconsistent with, a position the applicant takes in (i) Opposing an argument of unpatentability relied on by the Office [PTO], or (ii) Asserting an argument of patentability." (*Id.* § 1.56 (b)(1) and (b)(2). "To prove the element of materiality, a party claiming inequitable conduct must show that the patentee withheld or misrepresented information, that in the absence of the withholding or misrepresentation would have prevented a claim from issuing." *Ohio Willow Wood Co. v. Alps, South, LLC*, 813 F.3d 1350, 1357 (Fed. Cir. 2016).). However, there is a lower threshold for establishing materiality than for proving that a patent is invalid. "Information concealed from the PTO may be material even though it would not invalidate the patent." *Larson Mfg. Co. of South Dakota, Inc. v. Aluminart Products Ltd.*, 559 F.3d 1317, 1327 (Fed. Cir. 2009) (quoting *Li Second Family Ltd. v. Toshiba Corp.*, 231 F.3d 1373, 1380 (Fed. Cir. 2000).).

**1. Nortek Has Not Proven by Clear and Convincing Evidence That Ms. Kelkhoff Had the Intent to Deceive the PTO or Was Involved in a Scheme to Do So**

"Materiality and intent are separate requirements, and intent to deceive cannot be found on materiality alone." *Cancer Research*, 625 F.3d at 744. A patentee must have a "specific intent to deceive." *Therasense* at 1287. An intent to deceive the PTO must be "the single most

reasonable inference able to be drawn from the evidence." *Star Scientific* at 1366. There is little evidence, whether circumstantial or direct, that any of the individuals Nortek accuses, had a "specific intent to deceive" the PTO.

Nortek has the burden to prove by clear and convincing evidence "that the applicant knew of the reference, knew that it was material, and made a deliberate decision to withhold it." *Id.* Nortek has not met its burden. In this case, CGI's argument is generally correct that there is no direct evidence that anyone associated with prosecution of the '404 patent believed the UL 325 Standard to be material. (CRBr. at 39). With respect to the other alleged misconduct associated with the prosecution of the '223 and '404 patent prosecution, no matter how much Nortek seems to suggest Mr. Laird was disingenuous, or brand Mr. Fitzgibbon as a liar who made knowingly false statements, or that Ms. Kelkhoff was part of a "scheme" to defraud, the evidence does not support Nortek's claims when testimony is weighed in its entirety. (RBr. at 32-36.). Nortek's allegations with respect to the '223 patent is particularly thin and unsupported. Many of Nortek's allegations and characterizations are unfounded.

As a starting point, Nortek should not have identified Ms. Kelkhoff [101] as engaged in any "misconduct." Ms. Kelkhoff did not sign the patent application that became the '404 patent, and she was not involved in the prosecution of either the '404 or '223 patents. Nortek appears to suggest that because Ms. Kelkhoff oversaw CGI's , she was engaged corporately with Mr. Fitzgibbon to withhold the UL 325 Standard from the PTO during the '404

[101] When she testified during her deposition on October 23, 2018, Barbara Kelkhoff was CGI's . (JX-0022C (Kelkhoff Dep. Tr.) at 19:18-20:14.). According to her description, she helps manage the . (*Id.* at 20:3-14.).

patent prosecution. However, The Manual of Patent Examining Procedure ("MPEP") explains, "the duty [of candor] belongs to individuals, not to organizations." (*See* MPEP 2001.1; *see also* RPBr. at 66, 69; RBr. at 2, 30, 70; *see also Avid Identification Sys. Inc. v. Crystal Import Corp.*, 603 F.3d 967, 974 n.1 (Fed. Cir. 2010.).). Ms. Kelkhoff testified during her deposition, that while she has . (JX-0022C (Kelkhoff Dep. Tr.) at 26: 1-4.). She was not involved in the prosecution of either the '223 or the '404 patents. Ms. Kelkhoff did not have a Rule 1.56 duty of candor to the PTO.

Ms. Kelkhoff testified that she was part of an engineering group. (JX-0022 (Kelkhoff Dep. Tr.) at 21: 2-3.). Ms. Kelkhoff and Mr. Fitzgibbon both worked in engineering, albeit it appears in different groups. (JX-0022C (Kelkhoff Dep. Tr.) at 75:3-7.). As part of her role of , Ms. Kelkhoff . (JX-0022C (Kelkhoff Dep. Tr.) at 28: 11-12.). *See* Section VII.C. CGI and Ms. Kelkhoff participated in the regular meetings of a . (*See* e.g., JX-0022C (Kelkhoff Dep. Tr.) at 20:8-12; 24:1-33:4; 35:13-22; 43: 1-25; 55: 15-24; 57:15-25; 63:15-23.).[102] Part of Ms. Kelkhoff's job was to

[102] Mr. Richard C. Johnson, a staff member at DASMA, defined what it is and does during his deposition that was taken on October 29, 2018 (JX-021C (Johnson Dep. Tr.) at 17:19-25.). Mr. Johnson also defined the UL 325 standard as "It's a standard that has requirements or lays out requirements for gate operators, door operators, and similar types of equipment and accessories." (*Id.* at 27:20-24.).

. (*See* RPBr. at 29).

Beginning in 2005, the UL began developing safety features to incorporate into garage doors and gates to ensure that audible or visual warnings were given for the "unattended close" of garage doors or gates when they were closed remotely. (*See* RPBr. at 29.). Nortek relied upon circumstantial evidence that because Mr. Fitzgibbon and Ms. Kelkhoff were in engineering and interacted while the UL 325 safety standard for garage doors was being developed from 2005 through 2008, while the features of the '404 patent were also being developed, that somehow they were part of a "scheme" to obtain the '404 patent inequitably. (RBr. at 30-32; *see also* JX-0022C (Kelkhoff Dep. Tr.) at 45:2-9; 72:13-80:24;156:1-165:24; 130:22-131:14.).

In support of what it described as a "scheme to defraud," Nortek relied upon approximately

. (RPBr. at 30-31; RBr. at 29-30.). It is worth noting that those few,

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In July 2008, just after the UL 325 Standard for "unattended operation" was voted on and adopted, Ms. Kelkhoff

. (RPBr. at 31 (other citations omitted).). According to Nortek, just

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(RPBr. at 32 (citing RX-0086C; JX-0005 (UL 325).). Since Ms. Kelkhoff had circulated some of the

, Nortek used these company-based interactions and the specifics of the . (RPBr. at 32-33.). Even in the circumstantial exchange of information, there is no basis for reading into those exchanges more than they were. They are clear on their face despite circumstantial timing.

Part of the reason that Ms. Kelkhoff did not engage in a broader scheme to deceive, is described above. However, notwithstanding Nortek's attempts to link her to the '404 patent, there is no evidence Ms. Kelkhoff was involved in its design of the '404 patent or even understood it beyond generalities. (JX-0022C (Kelkhoff Dep. Tr.) at 81:20-22.). Ms. Kelkhoff's understanding was (JX-0022 (Kelkhoff Dep. Tr.) at 66:11-21.). Ms. Kelkhoff also appeared not to know what the standard of . (JX-0022C (Kelkhoff Dep. Tr.) at 68:11-69:3.). [103]

[103] CGI rightly called out in its Post-Hearing brief, one of Nortek's misstatements of law or fact. In this instance, CGI noted that Nortek argued that the UL standards body and DASMA both require disclosure of "patents or applications that are potentially relevant to standards." (CBr. at 24 n.13.). According to Nortek, CGI should have disclosed the '404 patent to Underwriters Laboratory or to DASMA. (*Id.* (citing RBr. at 34 n.19 and n.20.). However, as CGI pointed out, Nortek misquoted the requirement. As CGI noted, both UL and DASMA have adopted the ANSI patent policy, which encourages disclosure of

As Nortek itself observed, "[B]y 2004, with the Internet burgeoning in popularity, virtually everyone in the garage door industry foresaw a day when homeowners would want to close their doors remotely, e.g. using their cellphone." (RB. at 29 (citing JX-0021C (Johnson Dep. Tr.) at 107:7-13.). Therefore, it is not surprising that CGI was taking steps to update its own patented technology for GDOs and other mobile operating devices even as changing standards in the industry were calling for more sophisticated safety alarm and GDO operations, and more sophisticated capabilities such as the use of WiFi to operate garage doors. As Mr. Null, one of Nortek's corporate representatives acknowledged, it is possible to adhere to the UL 325 Standard without having a smart movement alarm. (*See* CRBr. at 24 n. 13 ("Q. So it's possible to be UL 325 compliant without having a smart movement alarm, is that right? A. Yes."(JX-0014C (Null Dep. Tr.). at 148:22-149:1.).

Another reason that Nortek has not proven by clear and convincing evidence that Ms. Kelkhoff (and others) intended to deceive the PTO by failing to disclose the UL 325 Standard is described in the next section.

### 2. Nortek Has Not Proven by Clear and Convincing Evidence That the UL 325 Standard is "But-For" Material to the '404 Patent

Materiality exists if the PTO "would not have allowed a claim had it been aware of the undisclosed prior art." *Therasense*, 649 F.3d at 1291. Since the outset of this Investigation, Nortek has claimed that had the PTO known of the UL 325 Standard, it would not have issued the '404 patent. (Resp. at ¶¶ 14, 16-17; RPBr. at 56; RBr.at 41-43.). Conversely, since the

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"patents with claims believed to be *essential*" and as CGI noted—a far cry from "potentially relevant" (emphasis in original). (CRBr. at 24 n.13 (citing RBr. at 34; *see also* RX-1060 (ANSI Patent Policy) at 10). Nortek has made several misstatements of fact or law in its briefing that are called out in a number of places in this recommended decision.

outset of this Investigation, Nortek has claimed and argued that the UL 325 Standard is *not* prior art that invalidates the '404 patent. (*See* CPBr. at 47-48; CRBr. at 11-13.).

This recommended decision has made a finding that the UL 325 Standard is not material prior art to the '404 patent. *See* Section VII.C. As is explained in Section VII.C, the UL 325 Standard is an industry safety standard that requires that "an audible and visual alarm signal" sound before barrier movement when the user is not within sight of the door or when it is an "unattended operation." (*See* CPBr. at 47-48 (citing RX-0086 at 21; CX-986C (Subramanian Dep. Tr.) at 483-496; CX-981C (Fernald Dep. Tr.) at ¶¶ 744-746; *see also* CBr. at 9-14; CRBr. at 9.). However, the UL 325 Standard is *silent* with respect to what a movable barrier (or e.g. garage door) must do when it is operated by a user when the user is *within* the line of sight of the door. (*See* CRBr. at 10 (citing RX-0086C at 21).). According to the finding in Section VII.C, CGI is correct that Nortek was not able to prove that the UL 325 Standard incorporated each element of claim 11 of the '404 patent. *See* Section VII.C. The UL 325 Standard does not invalidate the '404 patent.

Among other problems with Nortek's invalidity argument and evidence which explains why the UL 325 Standard is not prior art, is because the UL 325 Standard draws a distinction between "wired" door control and "wireless" door control in a manner that the '404 patent does not. *See* Section VII.C. Moreover, as explained in Section VII.C, the UL 325 Standard does not address "alarming" for safety when garage doors are attended, while the '404 patent does. (*See* Section VII.C (citing Laird Dep. Tr. (Nov. 13, 2018) at 163:20-164:4.). As CGI also noted, by Nortek's own admission, the UL 325 Standard "does not specify how to program a processor to open a garage door or undertake any other task, either." (CRBr. at 18 (citing RBr. at 20 n.3).). In other words, nothing in the UL 325 Standard teaches or explains how to configure a processor

in an MBO system to determine *when* to alarm or how to set it as the examiner noted during prosecution. (*See* CRBr. at 18-19 (citing JX-0006 ('404 File History) at .0243, .0262.).

With Nortek's '404 patent invalidity argument rejected, CGI's employees, i.e. Ms. Kelkhoff, Mr. Laird and Mr. Fitzgibbon, or CGI's patent counsel, Mr. Peters, cannot be found to have engaged in inequitable conduct under *Thereasense.* Assuming *arguendo*, the UL 325 Standard is found on appeal to be material to the '404 patent, Nortek nonetheless has not proven by clear and convincing evidence the "intent to deceive" or the "misconduct" that Nortek has lodged against the identified individuals.

### 3. Nortek Has Not Proven by Clear and Convincing Evidence that Mr. Fitzgibbon, Mr. Laird and Mr. Peters Had an Intent to Deceive the PTO

Neither Mr. Peters nor Mr. Laird testified during the Hearing, while Mr. Fitzgibbon did. Accordingly, Mr. Peters' and Mr. Laird's "intent" could only be discerned from deposition transcripts. Notwithstanding Nortek's attempts to link disparate actions together, or to ascribe dim memories or recollections to a form of cover up, CGI is correct that given the totality of the evidence, the most reasonable inference that can be drawn from Mr. Laird's, Mr. Fitzgibbon's and Mr. Peters' testimonies is that none of them considered the UL 325 Standard to be material. (*See* CBr. at 17-18.).

#### a) Mr. Laird

Mr. Laird, the only named inventor of the '404 patent, testified during his deposition that [redacted]. (CPBr.at 58 (citing JX-0023C (Laird Dep. Tr. (Nov. 13, 2018)) at 135:6-137:11; 138:4-12.). Moreover, while Mr. Laird's name appears on *only one* of the [redacted]

. (*See* JX-0023C (Laird Dep. Tr. (Nov. 13, 2018)) at 98:1-99:3; 99:9-13; 100:1-4; 101-102; 126:22-122.). Similarly, other than placing his name on the application for the '404 patent, Mr. Laird had no memory of . (JX-0023, *id.* at 119:1-4; 119:8-10; 119:23-24; 120:2-4; 14-1; 120-121.).

According to his testimony, Mr. Laird conceived of the '404 patent . (JX-0023C (Laird Dep. Tr. (Nov. 13, 2018)) at 151: 21-161:5.). That . (*Id.*). His work constituted the early stages of conception. Mr. Laird testified that the . (*See id.* at 69:1-10; 70:13-71:8; 158:15-160:12.). However, as discussed briefly in Section VII.C, the '404 patent was aimed at determining when it is safe *not to* trigger an alarm before closing a garage door when it is operated remotely. (*See* JX-0023C at 103:20-104:4; *see also* JX-0005.).

CGI noted that Mr. Laird testified that if he thought prior art, such as the UL 325 Standard, was related, he would have disclosed it. (*See* CRBr. at 18 (citing JX-0023C (Laird Dep. Tr. (Nov. 13, 2018)) at 135:6-136:10; 138:4-12.). As Mr. Laird testified during his deposition, he (CBr. at 18 (citing JX-0023C

(Laird Dep. Tr. (Nov. 13, 2018)) at 135:6-136:10; 138:4-12.). There is nothing in Mr. Laird's recollections, however dim, that leads to a conclusion that the "single most reasonable" inference to be drawn is that he intended to deceive the PTO as *Therasense* requires.

**b) Mr. Fitzgibbon**

There is *some circumstantial* evidence that Mr. Fitzgibbon knew about the UL 325 Standard in 2005. (*See* RBr. at 34 ( (citing JX-0022C (Kelkhoff Dep. Tr.) at 41:2-42:17).).

Additionally, there is some merit to the argument, and it is plausible, that as the Director of Human Capital . (*See* RBr. at 34 (citing JX-0018C (Fitzgibbon Dep. Tr.) at 14:21-15:8; 104:19-105:21; JX-0022C (Kelkhoff Dep. Tr.) at 41:2-42:17 (other citation omitted.). There is undisputed evidence that Ms. Kelkhoff, who had been (RX-1585C), and again in . (RX-1122C; RX-1123C; RX-1119C). (CRBr. at 30-31.). Mr. Fitzgibbon's testimony during the Hearing may have been more complete (and different from his deposition) in that he testified that he understood the background of the '404 patent to disclose some of the features of the "unattended operation" and warning alarms found in the UL 325 Standard. (Tr. (Fitzgibbon) at 234:14-240:1; 236:12-237:6; 239: 15-22; 234:14-20.). However, it is clear (as Mr. Laird also testified) that the '404 patent was conceived . (*See* CRBr. at 25-26

(citing JX-0023 (Laird Dep. Tr. (Nov. 13, 2018)) at 70:13-71-8; 151:21-161:5.)).

Ultimately, I judged Mr. Fitzgibbon to be credible. What he *should have* been aware of, what he was aware of, and an intent to deceive are wholly different concepts that do not converge in this case. It is clear that Mr. Fitzgibbon did not consider the UL 325 Standard to be material to the '404 patent. (Tr. (Fitzgibbon) at 234:14-240:1.). On the core issue of the conception and development of the '404 patent, even if Mr. Fitzgibbon, Mr. Laird, and Mr. Peters were all negligent in their beliefs that the UL 325 Standard was not material, and they failed to disclose the UL 325 standard to the PTO based upon a negligent belief, that does not meet the burden of proof required by *Therasense*.

**c) Mr. Peters**

Nicholas Peters of Fitch Even, who was involved in the prosecution of the '404 patent, testified that . (JX-0024C (Peters Dep. Tr.) at 45:8-10.). . (*Id.* at 13:10-11.). He had no specific recollection of . (*Id.* at 17:24-18:2.). Mr. Peters also testified that he did not recall in the '404 patent. (*Id.* at 19:3-8.). However, it was Even Fitch's practice with respect to Chamberlain's patents to (*Id.* at 19:13-15.). In response to a question whether he had (JX-0024C (Peters Dep. Tr. at 21:11-13 ("Q. When he was asked point blank

Mr. Peters answered equally directly, (*Id.* at 22:1-3.).

The only genuine problem which Mr. Peters' testimony did not clarify

. (*See* RBr. at 39 (citing JX-0024C at 45:11-51:18; RX-1154-RX-1161.). By itself, however, the lack of a clarifying explanation as to why does not lead necessarily to a conclusion that Mr. Peters lied or engaged in a cover up. (RBr. at 38-39.).

Nortek's argument that is questionable. (RPBr. at 59-60; RBr. at 38-39.). Nortek also implied that because Mr. Peters had a 15-year career as a patent lawyer whose "compensation depends on Chamberlain's fees," he had a motive to cover up for CGI's, and Mr. Laird's failure to disclose the UL 325 Standard to the PTO.

However, having read Mr. Peters' deposition transcript in its entirety, along with the deposition or trial testimony of the others Nortek has accused, it is a finding of this decision that based on the totality of the facts and circumstances, that a money incentive in this instance is circumstantial evidence, but it does not constitute a specific intent, and it is not "the single most reasonable inference" that can be drawn. *See Research Corp. Techs., Inc. v. Microsoft Corp.*, 536 F.3d 1247, 1253 (Fed Cir. 2008) ("[E]ven if an inventor did hope for remuneration, any financial reward alone does not show an intent to deceive the USPTO."); *Auxilium Pharmas., Inc. v. Watson Labs., Inc.*, 2014 WL 9859224, *36 (D.N.J. Dec. 16, 2014) ("*Auxilium*"(finding

no deceptive intent where "although it could be reasonable to infer that Mr. Gyurik's failure to disclose proper inventorship of the patent-in-suit was due to financial motive . . . it is equally reasonable to infer . . ., that it was, in fact, his subjective belief that [the omitted co-inventor's prior research from which the patented invention was derived] were failures".).

The proposition from *Auxilium* might apply to Mr. Peters. Moreover, Nortek's accusations that Mr. Peters' deposition was filled with "false testimony" and "willful blindness" are troubling characterizations. They might be construed to have been levied without much care or evidentiary support, and with a design to present testimony in its most negative light to fit a pre-conceived narrative. Assuming arguendo, as Nortek does, that at least one of these individuals-the patent lawyer, the inventor, and the head of CGI's "Director of Intellectual Capital," i.e. Peters, Laird, and Fitzgibbon, respectively), would have remembered the UL 325 Standard, or more sinisterly as Nortek argued, somehow covered up or lied, Nortek's arguments are not supported clearly and convincingly. There is no direct evidence that any of these individuals deliberately worked together to incorporate the features of the UL 325 Standard into the '404 evidence. Even the circumstantial evidence is thin.

### C. There is No Basis for Wrapping Already Imposed Litigation Sanctions into a Finding that the CGI Patents are Unenforceable under *Therasense*

Nortek's enumeration of CGI's litigation "bad acts" that are unconnected to the prosecution of the '404 patent as a basis for finding that the '404 patent (and presumably the '223 and '052 patents) unenforceable under *Therasense* is a gross overreach and not supported legally.

CGI's late document production of some 161,000 pages of documents on November 15, 2018, and any possible prejudice that late production caused Nortek, was discussed at length

during a March 5, 2019 Telephone Conference ("Teleconference") that is reflected in the Teleconference Transcript ("Tel. Tr."). (*See* Doc. ID No. 670414 (Public) (Mar. 19, 2019); Tel. Tr. (Confidential) (Doc. ID No. 691353 (Oct. 16, 2019); *see also* Order No. 22 (Mar. 11, 2019). Any litigation prejudice to Nortek was remedied by imposing monetary sanctions on CGI and by permitting Nortek to take three (3) additional depositions at CGI's for which CGI was ordered to pay in Order No. 37. (*See* March 5, 2019 Tel. Tr., *supra.*; Order No. 37, "Preliminary Monetary Sanctions Award to Respondents for Complainant's Late Production of Some 161,000 Documents [Motion Docket No. 1118-013]," Doc. ID No. 695062 (Nov. 20, 2019.).

Similarly, CGI's reduction in the number of asserted claims just before the Hearing, despite guidance to do so much sooner, which CGI justified as occurring late because of a *Markman* Order that issued just two (2) weeks before the Hearing, was nonetheless dealt with during the Hearing by reducing CGI's time during the Hearing by two (2) hours.

Finally, CGI has a plausible explanation for its removal of certain statements in CGI's ARQ manual after Nortek's concerns. (CBr. at 28-29.). As CGI argued, Nortek's complaints are unconnected to the '404 patent. (CBr. at 28-29.). The rest of Nortek's specific allegations are makeweights and not remedial legally in the manner Nortek seeks.

It appeared that CGI attempted to compile a list of grievances against CGI, whether supported or unsupported, to obtain the most draconian penalty possible. Nortek and CGI have been locked in almost serial litigations in the Commission and in other Federal Courts. However, no matter how long and deep the grievances, the facts do not support a finding that CGI committee such egregious conduct that a finding of unenforceability of CGI's patents is warranted under *Therasense*.

### D. Waiver of Withdrawal or Other Defenses

Nortek did not raise in its Pre-Hearing Brief or offer any evidence during the Hearing to support its Fourth Affirmative Defense of Prosecution History Estoppel, Fifth Affirmative Defense with regard to Public Interest, or Seventh Affirmative Defense of Unclean Hands.[104] (Resp. at ¶ 11-19.).

Consequently, it is a finding of this decision that Nortek has withdrawn, waived and/or abandoned its Fourth, Fifth, and Seventh Affirmative Defenses consistent with Ground Rules 7.2 and 10.1. *Kinik Co. v. Int'l Trade Comm'n*, 362 F.3d 1359, 1367 (Fed. Cir. 2004).

## XII. RECOMMENDATION ON REMEDY AND BOND

Pursuant to Commission Rule 210.42, an administrative law judge ("ALJ") must issue a recommended determination on: (i) an appropriate remedy if the Commission finds a violation of Section 337, and (ii) an amount, if any, of the bond to be posted. 19 C.F.R. § 210.42(a)(1)(ii). When a Section 337 violation has been found, as here, "the Commission has the authority to enter an exclusion order, a cease and desist order, or both." *Certain Flash Memory Circuits and Prods. Containing the Same*, Inv. No. 337-TA-382, Comm'n Opinion on the Issues Under Review and on Remedy, the Public Interest and Bonding, at 26 (June 9, 1997).

CGI requested issuance of: (i) a limited exclusion order pursuant to 19 U.S.C. § 1337(d); (ii) cease and desist orders pursuant to 19 U.S.C. § 1337(f); and (iii) a bond of 100% during the Presidential review period. (Compl. at 2, ¶ 1.6; CBr. at 143.).

Because no violation of Section 337 has been found in this Investigation, this decision recommends that no remedy or bond be issued. In the event the Commission disagrees and finds

[104] Nortek presented arguments with respect to its unclean hands defense in its Pre-Hearing Brief. (RPBr. at 128-29.). Nortek subsequently dropped the defense in its Post-Hearing Brief. (*See* n.93, *supra.*).

that there has been a violation, the following recommendation is provided.

### A. If a Violation Is Found, a Limited Exclusion Order Is Warranted

Upon a finding of infringement, 19 U.S.C. § 1337(d) provides for a Limited Exclusion Order ("LEO"), directed to the products of named respondents, excluding any articles that infringe one or more claims of the asserted patents. 19 U.S.C. § 1337(d).

Accordingly, in the event of a finding of violation of Section 337, CGI requested that the Commission issue a LEO. CGI asserted that the LEO should apply to: (a) infringing products; and (b) components later combined into infringing products after importation. (CBr. at 143-44.).

Nortek argued that if a remedial order were to issue, it should be limited to assembled devices expressly found to infringe. (RRBr. at 129.). According to Nortek, any remedial order "should exclude untested products not shown to be materially the same as the few products CGI actually tested." (*Id.*). As discussed in Sections VII.A.9, VIII.A.2, and IX.A.7 above, Dr. Subramanian explained that after performing an element-by-element infringement analysis of each asserted claim, he reviewed documentation and source code for every accused product and confirmed that each product practices the claims for the same reasons. (*See, e.g.*, Tr. (Subramanian) at 285:8-286:25, 308:14-21, 470:20-472:20, 286:6-21, 391:3-17, 391:18-392:15.). Thus, Nortek's argument is unavailing.

Nortek also contended that any remedial order should exclude component parts because CGI failed to address whether the "components" have any substantial non-infringing uses. (*Id.*). Nortek's assertion ***brazenly*** misstates the law on induced infringement, which is evident in the very case law to which Nortek cited.

For example, Nortek relied on *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1362 (Fed. Cir. 2012), for the proposition that "a patent owner alleging indirect infringement must

present evidence that the accused components have no substantial non-infringing uses." (RRBr. at 129.). Toshiba Corporation, the appellant, appealed, *inter alia*, the lower court's ruling that both contributory and induced infringement theories "fail if there are any 'substantial' non-infringing uses." *Toshiba*, 681 F.3d at 1362 (citation omitted). The Federal Circuit agreed with the appellees, Imation Corporation et al., that in order to prove ***contributory*** infringement, Toshiba had the burden of establishing the lack of substantial non-infringing uses. *Id.* at 1363. With respect to ***induced*** infringement, the Federal Circuit held that the lower court "***erred as a matter of law***" and that "[t]he existence of a substantial non-infringing use does ***not*** preclude a finding of inducement." *Id.* (emphases added) (citing *Erbe Elektromedizin GmbH v. Canady Tech. LLC*, 629 F.3d 1278, 1284 (Fed.Cir.2010)).

Additionally, Nortek cited *Golden Blount, Inc. v. Robert H. Peterson Co.*, 365 F.3d 1054, 1061 (Fed. Cir. 2004), in support of that same general, and misleading, proposition. (RRBr. at 129 (stating that "to establish indirect infringement, Plaintiff "must show that [defendant's] components have no substantial non-infringing uses"). Again, in *Golden Blount*, the Federal Circuit made clear that the showing of substantial non-infringing uses is a burden that only applies in the context of ***contributory*** infringement, and not induced infringement, as Nortek misrepresented. *Golden Blount*, 365 F.3d at 1061.

> ***Contributory*** infringement liability arises when one "sells within the United States . . . a component of a patented machine . . . knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for ***substantial noninfringing use***." Thus, Blount must show that Peterson "knew that the combination for which its components were especially made was both patented and infringing." In order to find Peterson liable for ***inducing*** infringement under 35 U.S.C. § 271(b), Blount must show that Peterson took actions that actually induced infringement. Further, Blount must show that Peterson knew or should have known that such actions would induce direct infringement.

*Id.* (emphases added) (internal citations omitted)

Nortek's reliance upon *Certain Semiconductor Devices, Semiconductor Device Packages, and Products Containing Same*, Inv. No. 337-TA-1010, Order No. 77, 2017 WL 1488461, at *4 (Mar. 15, 2017) ("*Certain Semiconductor Devices*"), is similarly misplaced. (RRBr. at 129.). In *Certain Semiconductor Devices*, the ALJ did ***not*** "grant[] a summery [sic] determination of no ***induced*** infringement where there was no evidence relating to substantial non-infringing uses," as Nortek stated. (RRBr. at 129 (emphasis added).). Like the Federal Circuit cases discussed above, the ALJ found that "with respect to [complainant's] ***contributory*** infringement allegation, [complainant] fails to point to any evidence supporting its contention that the unaccused assembly is not a substantial non-infringing use of the accused chip packages." *Certain Semiconductor Devices*, 2017 WL 1488461, at *4 (emphasis added).[105]

In the event the Commission finds a violation of Section 337, a LEO is warranted. The recommended LEO should apply to all infringing products within the scope of the investigation, as well as to components of those products that are later combined into infringing products after importation. *Cisco Sys., Inc. v. Int'l Trade Comm'n*, 873 F.3d 1354, 1363 (Fed. Cir. 2017) (upholding limited exclusion order covering components of the accused products that induced infringement); *see also Suprema, Inc. v. Int'l Trade Comm'n*, 796 F.3d 1338, 1352-53 (Fed. Cir. 2015) (en banc) (upholding section 337 violation based on importation of components used in infringing combination assembled in the U.S).

### B. If a Violation Is Found, a Cease and Desist Order Is Warranted

A Cease and Desist Order ("CDO") is also appropriate where the evidence demonstrates

[105] Nortek's flagrant mischaracterization of the law is astounding and may be sanctionable under Rule 11 of the Federal Rules of Civil Procedure.

the presence of commercially significant inventory in the United States. 19 U.S.C. § 1337(f); *see also Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, Comm'n Op., USITC Pub. No. 2391, 1991 WL 790061, at *30-32 (June 1991).

In the event of a finding of violation of Section 337, CGI requested that the Commission issue a CDO that would prohibit Nortek from "engaging in the importation, sale for importation, marketing, advertising, distribution, warehousing inventory for distribution, offering for sale, sale, servicing, repairing, maintaining, programming, updating, use, or other transfer within the U.S." of infringing products and their components. (CBr. at 144.).

CGI argued that Nortek maintains a commercially significant inventory of the Accused Products in the United States. (*Id.*). CGI's economic expert, Mr. Vincent Thomas,[106] presented unrebutted and undisputed analysis of the inventory and sales data that Nortek provided. (CBr. at 145-46.). Evidence adduced in this Investigation demonstrates that as of October 2, 2018, Nortek had inventory in the United States valued at over $3 million dollars. (CBr. at 145; CX-0949C (summarizing Nortek inventory data); Tr. (Thomas) at 715:11-716:8; 716:21-717:23 (discussing CX-0949C); CX-0830C, CX-0831C, CX-0832C (Nortek inventory spreadsheets); JX-0012C (Larry Foisie Dep. Tr. (Oct. 18, 2018))[107] at 131-34, 142-45, 164-66 (confirming

[106] When he testified during the Hearing on June 12, 2019, Mr. Vincent Thomas was the Senior Managing Director and Co-Leader of FTI's Dispute Advisory Services Practice. (CPSt. at Ex. B.). CGI identified Mr. Thomas as an expert to testify about the content of his expert report, including CGI's satisfaction of the economic requirements for a finding of domestic industry through its investments with respect to the CGI DI products practicing the '404, '223, and '052 patents, and the appropriate remedy and bond if a violation of Section 337 is found. (*Id.* at 7.).

[107] When he provided his deposition testimony on October 18, 2018, Mr. Larry Foisie was the Vice President of Sales for the Access Control Division at Nortek Security & Control, LLC. (CPSt. at 4.). CGI identified Mr. Foisie as a fact witness to testify about "Nortek's business operations, the cost of production, sales, and importation of Nortek's infringing products, communications between Nortek and installers of its products, the market for Nortek's accused products and competitors in this market, prices

Nortek inventory data).).

The inventory consisted of some 24,877 accused gate door operators, 668 accused gate operators, and 1,440 gate operator controllers. (CBr. at 145; CX-0949C; CX-0830C, CX-0831C, CX-0832C; JX-0012C (Foisie Dep. Tr. (Oct. 18, 2018)) at 131-34, 142-45, 164-66.). Mr. Thomas confirmed that Nortek's domestic inventory represented eleven (11) months' worth of sales of gate door operators and over five (5) months' worth of sales of gate operators, which he opined was significant. (CBr. at 145; Tr. (Thomas) at 718:7-14, 719:15-17).).

For the reasons discussed above, in the event the Commission finds a violation of Section 337, a CDO is warranted. *Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, Comm'n Op., USITC Pub. No. 2391, 1991 WL 790061, at *30-32 (June 1991).

### C. If a Violation Is Found, a Bond of 100% During the Presidential Review Period Is Warranted

Infringing articles may enter upon the payment of a bond during the sixty-day Presidential Review Period. 19 U.S.C. § 1337(j)(3). The bond is to be set at a level sufficient to "offset any competitive advantage resulting from the unfair method of competition or unfair act enjoyed by persons benefiting from the importation." *Certain Dynamic Random Access Memories, Components Thereof and Prods. Containing Same*, Inv. No. 337- TA-242, Comm'n Opinion, 1987 WL 450856 at 37 (Sept. 21, 1987). Complainants bear the burden of establishing the need for a bond, including the amount of bond. *See, e.g.*, *Certain Rubber Antidegradants, Components Thereof & Prods. Containing Same*, USITC Pub. No. 3975, Inv. No. 337-TA-533, Comm'n Opinion at 40 (April 2008)

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and price comparisons of competitor products, secondary considerations of non-obviousness, other topics for which he was designated as a corporate witness for Nortek, and the topics reflected in the designated portions of his deposition transcript." (*Id.*).

The Commission frequently sets the bond based on the difference in sales prices between the patented domestic product and the infringing product. *See, e.g., Certain Microsphere Adhesives, Process for Making Same, and Prods. Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, USITC Pub. No. 3949, Comm'n Opinion at 24 (Jan. 1996). In other instances where a direct comparison between a patentee's product and the accused product is not possible, the Commission has set the bond at a reasonable royalty rate. *See, e.g., Certain Integrated Circuit Telecommunication Chips and Prods. Containing Same, Including Dialing Apparatus*, Inv. No. 337-TA-337, Comm. Opinion at 41-43 (Aug. 3, 1993). Commission precedent allows for a 100 percent bond when it is not practical or possible to set the bond based on price differential. *Certain Voltage Regulators, Components Thereof and Prods. Containing Same*, Inv. No. 337-TA-564, Comm'n Opinion at 79 (Public Version Oct. 19, 2007). The purpose of the bond is to protect the complainant from any injury. 19 U.S.C. § 1337(j)(3); 19 C.F.R. §§ 210.42(a)(1)(ii), 210.50(a)(3).

CGI requested a recommendation that the Commission impose a bond during the Presidential Review Period of 100%. (CBr. at 146.). According to CGI, neither of the standard methodologies employed by the Commission to set a bond rate—a price comparison or a reasonable royalty rate based on licenses for the patents-in-suit—can be applied here. (*Id.*).

Mr. Thomas testified that a meaningful price comparison between the DI Products and the Accused is not feasible or meaningful because of deficient sales data. (Tr. (Thomas) 720:10-15.). He explained that the information Nortek provided does not reflect the actual net prices Nortek's customers paid because the data does not include rebate information. (*Id.* at 721:10-20, 728:19-729:5; JX-0012C (Foisie Dep. Tr. (Oct. 18, 2018)) at 54:14-19 ("Q. So if a discounted rebate was given on a sale, you just don't know whether or not it's reflected in these sales

numbers; correct? A. If you define the discount, what discount. If it is a rebate as you just stated, no, it would not reflect the rebate.").). Mr. Foisie confirmed that among the Nortek customers receiving the undisclosed rebates is the Amarr Company. (JX-0012C (Foisie Dep. Tr. (Oct. 18, 2018)) at 54:20-56:22 (identifying customers receiving rebates). Mr. Thomas testified that Amarr "is a major customer of Nortek, and close to half of the garage door operators were sold to Amarr." (Tr. (Thomas) at 721:10-20; CX-0819C (Nortek sales data).).

Thus, as CGI pointed out, not only could the pricing of the Accused Products vary from customer to customer, but also the aggregate average pricing data Nortek produced do not reflect the actual prices paid, because the reported sales data do not reflect any of Nortek's post-sale rebates. (CBr. at 147.).

Additionally, CGI argued that Nortek's pricing structure makes a direct price comparison between Nortek and Chamberlain products impractical, because Nortek and Chamberlain both sell [redacted] and structure their businesses differently. (*Id.*). Mr. Foisie testified that Nortek varies its sales prices based on a combination of the size of a customer's order (i.e., the quantity of a product purchased) and the "level" of the customer. (JX-0012C (Foisie Dep. Tr. (Oct. 18, 2018)) at 118:9-121:9; *see also* Tr. (Thomas) at 722:8-723:9 (describing Nortek's five "levels" of customers and the impact on Nortek's pricing). Mr. Foisie explained that the customer "level" determines the net price multiplier, ranging from 39% to 58%, used to set pricing for each customer. (JX-0012C (Foisie Dep. Tr. (Oct. 18, 2018)) at 118:9-121:9, 121:15-122:9 (customers distinguished by customer type (i.e., a "distributor" customer versus a "dealer" customer)). Mr. Foisie also confirmed that Nortek offers "special pricing" for certain OEM customers and has a long-term sales agreement with Amarr. (JX-0012C (Foisie Dep. Tr. (Oct. 18, 2018)) at 121:10-122:13.). According to CGI, Nortek did not

produce data sufficient to identify these customer classifications, which would allow a comparison of Nortek prices with prices to CGI customers at a comparable level of commerce. (CBr. at 148.). As a result, as CGI noted, Nortek's pricing can vary significantly for the same products. (*Id.*).

Moreover, Mr. Thomas testified that there were "discrepancies in the [Nortek] data that called into question its correctness." (Tr. (Thomas) at 720:21-721:9; CX-0829C (showing negative units sold for the representative GDO product LDCO850 in June 2018 (cell W195), but positive revenue (cell AR195), for a reported monthly average sales "price" of minus $86 (cell BM195)).). Mr. Foisie also confirmed that Nortek had produced worldwide, and not U.S., sales data. (JX-0012C (Foisie Dep. Tr. (Oct. 18, 2018)) at 95:16-96:3).). As Mr. Thomas testified, this calls into question the reliability of the reported sales data as representative of Nortek's U.S. product pricing. (Tr. (Thomas) at 728:14-18, 729:20-730:1.).

CGI also asserted that any price comparison is additionally complicated by the . (CBr. at 149.). Mr. Thomas explained that CGI sells its products through . (Tr. (Thomas) at 722:8-723:2 (discussing Chamberlain's ).). The . (*Id.*).

With respect to the use of royalty rate, CGI contended that the standard methodology of does not apply here either because the Asserted Patents have not been licensed. (CBr. at 146.). Thus, Mr. Thomas could not calculate a reasonable royalty rate. (Tr. (Thomas) at 719:2-7.).

Nortek argued that the bond should be zero because CGI failed to present any evidence or analysis to support any bond calculation but rather asserted that the bond should be set at 100%

there is not enough information to calculate the bond based on a price comparison. (RRBr. at 130 (citing CBr. at 146).). To the contrary, the evidence and Mr. Thomas' analysis discussed above demonstrate that an accurate price comparison could not be calculated.

Nortek also contended that such a high bond would improperly prevent Nortek from importing any accused products during the presidential review period. (Tr. (Chiaravalloti) at 773:17-774:5.). The only hearing testimony was a conclusory statement from Nortek's vice president for product development, unsupported by analysis, let alone by expert opinion. (*Id.*). CGI noted that Nortek offered no evidence regarding the impact that a 100% bond on entered value would have on its selling prices to customers, or on what level of bond short of 100% would not be excessive. (CBr. at 151.). Thus, Nortek's assertion is unavailing.

For the foregoing reasons, in the event the Commission finds a violation of Section 337, a bond of 100% is warranted. *See Certain Liquid Crystal Display Modules*, Inv. No. 337-TA-634, Comm'n Op., 2009 WL 4087135, at *3 (Nov. 24, 2009) ("We agree with the ALJ that a 100 percent bond is appropriate here because the pricing data of record demonstrates that no meaningful price comparison can be performed.").

## XIII. FINDINGS OF FACT OR CONCLUSIONS OF LAW

1. Jurisdiction and standing requirements are satisfied.

2. Although claim 11 of U.S. Patent No. 8,587,404 is valid, the 404 Accused Products do not satisfy claim 11.

3. Nortek has not infringed claim 11 of U.S. Patent No. 8,587,404.

4. Although claims 1 and 21 of U.S. Patent No. 7,755,223 are valid, the 223 Accused Products do not satisfy claims 1 and 21.

5. Nortek has not infringed claims 1 and 21 of U.S. Patent No. 7,755,223.

6. Although the 052 Accused Products satisfy claim 1 of U.S. Patent No. 6,741,052, the claim is invalid.

7. Nortek has not infringed claim 1 of U.S. Patent No. 6,741,052.

8. At least one of CGI's DI Products practices one or more claims of U.S. Patent No. 8,587,404 and 6,741,052.

9. None of CGI's DI Products practices the claims of U.S. Patent No. 7,755,223.

10. Nortek has not violated Section 337 of the Tariff Act of 1930, as amended, by importing into the United States, selling for importation, or selling within the United States after importation certain movable barrier operator systems and components thereof.

The lack of discussion of any matter raised by the Parties, or any portion of the record, does not indicate that it has not been considered. Rather, any such matter(s) or portion(s) of the record has/have been determined to be irrelevant, immaterial or meritless. Arguments made on briefs, which were otherwise unsupported by record evidence or legal precedent, have been accorded no weight.

## XIV. CONCLUSION AND ORDER

Based upon the foregoing, it is my Initial Determination on Violation of Section 337 that there has been no violation of Section 337 in this Investigation.

This Initial Determination on Violation of Section 337 of the Tariff Act of 1930 is certified to the Commission. All orders and documents, filed with the Secretary, including the exhibit lists enumerating the exhibits received into evidence in this Investigation, that are part of the record, as defined in 19 C.F.R. § 210.38(a), are not certified, since they are already in the Commission's possession in accordance with Commission Rules. *See* 19 C.F.R. § 210.38(a). In accordance with 19 C.F.R. § 210.39(c), all material found to be confidential under 19 C.F.R. § 210.5 is to be given *in camera* treatment.

After the Parties have provided proposed redactions of confidential business information ("CBI") that have been evaluated and accepted, the Secretary shall serve a public version of this

ID upon all parties of record. The Secretary shall serve a confidential version upon counsel who are signatories to the Protective Order (Order No. 1) issued in this Investigation.

Pursuant to 19 C.F.R. § 210.42(h), this Initial Determination shall become the determination of the Commission unless a party files a petition for review pursuant to 19 C.F.R. § 210.43(a) or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion a review of the Initial Determination or certain issues therein.

Within fourteen (14) days of the date of this document, the Parties shall submit to the Office of Administrative Law Judges a joint statement regarding whether or not they seek to have any portion of this document deleted from the public version. The Parties' submission shall be made by hard copy and must include a copy of this ID with yellow highlighting, with or without red brackets, indicating any portion asserted to contain CBI to be deleted from the public version. The Parties' submission shall also include an index identifying the pages of this document where proposed redactions are located. The Parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

**SO ORDERED.**

MaryJoan McNamara
Administrative Law Judge

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **INITIAL DETERMINATION** has been served upon the following parties as indicated, on **December 16, 2019**.

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

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☑ Via Express Delivery
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☐ Other:_____

**On Behalf Respondents Nortek, Inc., Nortek Security & Control., LLC F/K/A Linear, LLC And GTO Access Access Systems, LLC F/K/A Gates That Open, LLC:**

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*Public Version*

**UNITED STATES INTERNATIONAL TRADE COMMISSION**

**Washington, D.C.**

| **In the Matter of**<br><br>**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Inv. No. 337-TA-1118** |
|---|---|

**ORDER NO. 38:** **INITIAL DETERMINATION GRANTING CHAMBERLAIN GROUP, INC.'S MOTION FOR SUMMARY DETERMINATION THAT IT HAS SATISFIED THE ECONOMIC PRONG OF THE DOMESTIC INDUSTRY REQUIREMENT [MOTION DOCKET NO. 1118-014]**

(November 25, 2019)

## I. INTRODUCTION

On December 12, 2018, Chamberlain Group Inc. ("CGI") filed a motion for summary determination that it has satisfied the economic prong of the domestic industry requirement ("Motion") under Section 337(a)(3)(A) and (B). (Mot. Docket No. 1118-014 (Dec. 12, 2018; Mot. at 1).[1] Together with its Motion, CGI filed a Memorandum of Points and Authorities ("Memorandum") and a Statement of Undisputed Material Facts ("SMF"). (*Id.*). CGI also relied on the initial expert report of Vincent A. Thomas[2] ("Thomas Initial Expert Report"). (Mem., App. C, Ex. 1.). Nortek Security & Control LLC, Nortek, Inc., and GTO Access Systems

[1] The Motion includes a request for leave to submit exhibit pages over the 100-page limit. (Mot. at 3.). This part of the Motion was previously granted. (Order No. 13 (Dec. 20, 2018).).

[2] As of November 2018, Mr. Thomas was the Senior Managing Director for FTI Consulting, Inc. ("FTI"), an international financial advisory and consulting firm. (Mem., App. C, Ex. 1 ¶ 1.). Mr. Thomas graduated from DePauw University with a Bachelor of Arts degree in Economics and subsequently received a Masters of Business Administration degree from Indiana University. (*Id.* ¶ 4.).

("Nortek," and with CGI, "the Parties") filed an opposition, seeking denial of the Motion in its entirety. (Doc. ID No. 666542 (Feb. 11, 2019).).[3]

CGI's Motion was briefly discussed during a teleconference held on May 31, 2019. (Tr. (May 31, 2019 Teleconference) at 90:5-91:9 (Doc. ID No. 677777 (June 5, 2019).). During that teleconference, the Court shared that the Parties would be notified informally of a ruling. (*Id.*).

On June 6, 2019, the Court issued a notice that the Motion would be granted and stated that a formal written order explaining the rationale would issue before the Initial Determination on Violation. (Order No. 26 at 1-2 (June 6, 2019).). This decision constitutes the formal Order.

## II. BACKGROUND

CGI filed its Complaint on May 4, 2018. (Compl. at 1 (Doc. ID No. 644384 (May 4, 2018)).). Chamberlain is a corporation organized under the laws of the State of Connecticut, with its principal place of business in Oak Brook, Illinois. (*Id.* ¶ 2.1.). Chamberlain sells movable barrier operator systems (known as "MBOs") for residential and commercial applications, including residential garage door operators, commercial door operators, gate access solutions, home connectivity products, and related accessories. (*Id.* ¶ 2.2.).

The asserted patents (collectively, "Asserted Patents") are U.S. Patent Nos. 8,587,404 ("'404 patent"), 7,755,223 ("'223 patent"), and 6,741,052 ("'052 patent"). The asserted claims remaining in this Investigation are claim 11 of the '404 patent, claims 1 and 21 of the '223 patent, and claim 1 of the '052 patent. (Order No. 31 at 2 (July 30, 2019).). The '404 patent claims a movable barrier system (i.e. a garage door system) that provides a warning notifications

[3] CGI complied with Ground Rule 2.2. CGI contacted counsel for Nortek on December 6, 2018, and offered to meet and confer on the Motion. (Mot. at 3.). On December 10, 2018, Nortek responded by stating that it would oppose this Motion. (*Id.*).

when operated remotely, but not providing notifications when operated locally. (Compl. ¶ 5.4.; '404 patent, cl. 11.). The '223 patent claims an apparatus that helps reduce energy consumption by providing a low-power standby mode. (Compl. ¶ 5.9; '223 patent, cls. 1, 21.). The '052 patent claims an apparatus for use with a movable barrier that includes a control unit to automatically determine a force threshold for operation, and allows manual adjustment of the force threshold. (Compl. ¶ 5.14; '052 patent at cl. 1.).

As set forth below in Table Nos. 1 and 2, CGI identified myriad products that allegedly practice at least one claim of an Asserted Patent ("DI Products"). The first set of DI Products, shown below in Table No. 1, consist of garage door operator ("GDO") products that purportedly practice both the '404 and the '223 patents ("'404 and '223 DI Products").

**Table No. 1: CGI GDO Products That Purportedly Practice the '404 and '223 Patents**

| Product Family | Model Nos. |
|---|---|
| Wi-Fi -Enabled Garage Door Operators | 8155W, 8160W, 8160WRGD, 8164W, 8164WAC, 8165W, 8165WRGD, 8355W, 8355W-267, 8355WRGD, 8360W, 8360WL, 8365W-267, 8365WRGD-267, 8550W, 8550W-267, 8550WL, 8550WL-267, 8550WLRGD, 8550WRGD, 8557W, 8587W, 8587WL, 8587WRGD, B550, B552, B750, B970, B970PLT6, B980, C450, C455, C870, HD750WF, HD950WF LW9000WF, WD1000WF, WLED-267 |
| Internet-Capable Garage Door Operators[3] | 3043, 54915, 54918, 54920, 54930, 54931, 54985, 54990, 55918, 57915, 57918, 8065, 8075, 8155, 8155RGD, 8160, 8160RGD, 8165, 8165RGD, 8350, 8355, 8355-267, 8355RGD, 8360, 8365-267, 8365RGD-267, 8550, 8550-267, 8557, 8557-267, 8587, 8587RGD, B500, B503, B510, B730, C203, C205, C400, C410, HD210, HD420EV, HD420EVP, HD520EV, HD520EVG, HD520EVP, HD630EVP, HD920EV, HD930EV, HD930EVP, LW2200, LW3000EV, LW3500EV, LW3500EVPLT6, LW5000EV, M885, M8856, PD510, PD512, PD612EV, PD752KEV, PD762EV, WD832KEV, WD832KEVG, WD850KEVG, WD962EV, WD962KEV, WD962KPEV, WD962MLEV |

(Mem. at 4 (citing SMF ¶¶ 12-13 and Ex. 3 to Romeo Decl. (CGI DI Contentions) at 10-11).).

The second set of DI Products, shown below in Table No. 2, consists of gate operator ("GO") products that Chamberlain asserts practice the '052 patent ("'052 DI Products").

**Table No. 2: CGI GO Products That Purportedly Practice the '052 Patent**

| Product Family | Model Nos. |
|---|---|
| Gate Opener Products | CSL24U, CSL24UL, CSL24VDC, CSW200101U, CSW200101UL, CSW200501U, CSW200501UL, CSW24U, CSW24UL, CSW24VDC, HCTDCU, HCTDCUL, LA4001PKGDC, LA400DC, LA400DCS, LA400PKGU, LA400PKGUL, LA4121PKGDC, LA412DC, LA412DCS, LA412PKGU, LA412PKGUL, LA5001PKGDC, LA500DC, LA500DCS, LA500PKGU, LA500PKGUL, RSL12U, RSL12UL, RSL12VDC, RSW12U, RSW12UL, RSW12VDC, SL3000101U, SL3000101UL, SL3000501U, SL3000501UL SL585101U, SL585103U, SL585105U, SL585151U, SL585501U, SL585503U, SL595101U, SL595101UL, SL595103U, SL595103UL, SL595105U, SL595105UL, SL595151U, SL595151UL, SL595203U, SL595203UL, SL595205U, SL595205UL |

(*Id.* at 5 (citing SMF ¶ 14 and Ex. 3 to Romeo Decl. (CGI DI Contentions) at 12).).

## III. LEGAL STANDARD FOR SUMMARY DETERMINATION ON THE ECONOMIC PRONG OF THE DOMESTIC INDUSTRY REQUIREMENT

### A. Summary Determination Legal Standard

Summary determination under Commission Rule 210.18 is analogous to summary judgement under Federal Rule of Civil Procedure 56, and may be granted only where the evidence shows "that there is no genuine issue as to any material fact and that the moving party is entitled to summary determination as a matter of law." *See* 19 C.F.R. § 210.18(b). "Any party may move with any necessary supporting affidavits for a summary determination in [its] favor upon all or any part of the issues to be determined in the investigation." 19 C.F.R. § 210.18(a); *see also Certain Digital Processors and Digital Processing Sys., Components Thereof, and Prods. Containing Same*, Inv. No. 337-TA-559, 2006 ITC LEXIS 522, at *6, Order No. 13 (Sept. 6, 2006) (collecting cases). The party moving for summary determination bears the initial

burden of establishing that there is an absence of a genuine issue of material fact and that it is entitled to judgment as a matter of law. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986).

If the movant satisfies its initial burden, the burden then shifts to the non-movant to demonstrate specific facts showing that there is a genuine issue for trial. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). When evaluating a motion for summary determination, the evidence must be examined in a light most favorable to the non-moving party, and all justifiable inferences are to be drawn in its favor. *Anderson*, 477 U.S. at 255 (1986). The non-moving party "must set forth specific facts showing there is a genuine issue of fact." *Certain Agricultural Tractors Under 50 Power Take-Off Horsepower*, Inv. No. 337-TA-380, Order No. 40 at 3, (August 8, 1996) (citing *Anderson*, 477 U.S. at 248). Summary determination should therefore be granted when a hearing on the matter at issue would serve no useful purpose and the movant is entitled to judgment as a matter of law. *See Certain Recombinant Erythropoietin*, Inv. No. 337-TA-281, U.S.I.T.C. Pub. No. 2186, Initial Determination at 70 (Jan. 10, 1989).

**B. Economic Prong Legal Standard**

The Commission may only find a violation of Section 337 "if an industry in the United States relating to the articles protected by the patent . . . exists or is in the process of being established." 19 U.S.C. § 1337(a)(2). Typically, a complainant must show that a domestic industry existed at the time a complaint was filed. *See Motiva LLC v. Int'l Trade Comm'n*, 716 F.3d 596, 601, n.6 (Fed. Cir. 2013).

The domestic industry requirement consists of a "technical prong" and an "economic prong." *See, e.g., Certain Elec. Devices, Including Wireless Commc'n Devices, Portable Music & Data Processing Devices, & Tablet Computs.*, Inv. No. 337-TA-794, Order No. 88, 2012 WL 2484219, at *3 (June 6, 2012); *Certain Unified Commc'ns Sys., Prods. Used with Such Sys., and*

*Components Thereof*, Inv. No. 337-TA-598, Order No. 9 at 2 (Sept. 5, 2007) ("*Communications Systems*"). A complainant satisfies the "technical prong" of the domestic industry requirement when it proves that its activities relate to an article "protected by the patent." *See Communications Systems*, Order No. 9 at 2. A complainant satisfies the "economic prong" of the domestic industry requirement when it demonstrates that the economic activities set forth in subsections (A), (B), and/or (C) of Section 337(a)(3) have taken place or are taking place with respect to the protected articles. *See id.*

Subsection 337(a)(3) states that:

> (3) For purposes of paragraph (2), and industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned –
>
> (A) significant investment in plant and equipment;
> (B) significant employment of labor, or capital; or
> (C) substantial investment in its exploitation, including engineering, research and development, or licensing.

19 U.S.C. § 1337(a)(3).

Because the criteria are listed in the disjunctive, satisfaction of any one of them will be sufficient to meet the economic prong of the domestic industry requirement. *Certain Integrated Circuits, Chipsets and Prods. Containing Same*, Inv. No. 337-TA-428, Order No. 10, Initial Determination (May 4, 2000) ("*Integrated Circuits*") (unreviewed). Establishment of the "economic prong" is not dependent on any "minimum monetary expenditure" and there is no need for a complainant "to define the industry itself in absolute mathematical terms." *Certain Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, Comm'n Op. at 25-26 (May 16, 2008) ("*Stringed Instruments*"). However, a complainant must substantiate the nature and the significance of its activities with respect to the articles protected by the patent at

issue. *Certain Printing and Imaging Devices and Components Thereof*, Inv. No. 337-TA-690, Comm'n Op. at 30 (Feb. 17, 2011) ("*Imaging Devices*").

The Commission has interpreted Sections 337(a)(3)(A) and (B) to concern "investments in plant and equipment and labor and capital with respect to the *articles* protected by the patent." *Certain Ground Fault Circuit Interrupters and Prods. Containing Same,* Inv. No. 337-TA-739, 2012 WL 2394435, at *50, Comm'n Op. at 78 (June 8, 2012) ("*Circuit Interrupters*") (emphasis in original) (quoting 19 U.S.C. §§ 1337(a)(3)(A), (B)).

There is no mathematical threshold test or a "rigid formula" for determining whether a domestic industry exists. *Certain Male Prophylactic Devices, Inc.*, Inv. No. 337-TA-292, Comm'n Op. at 39, U.S.I.T.C. Pub. 2390 (June 1991) ("*Male Prophylactic Devices*"). However, to determine whether investments are "significant" or "substantial," some quantitative evidence must be provided. *Lelo Inc. v. Int'l Trade Comm'n*, 786 F.3d 879, 883-85 (Fed. Cir. 2015) ("We hold that qualitative factors alone are insufficient to show 'significant investment in plant and equipment' and 'significant employment of labor or capital' under prongs (A) and (B) of the § 337 domestic industry requirements") ("*Lelo*"). However, even after *Lelo*, there is still no bright line as to a threshold amount that might satisfy an economic industry requirement. Nonetheless, it is the complainant's burden to show by a preponderance of evidence that each prong of the domestic industry requirement is satisfied. *Certain Prods. Containing Interactive Program Guide and Parental Control Tech.*, Inv. No. 337-TA-845, Final Initial Determination, 2013 WL 3463385 at*14 (June 7, 2013)).

Moreover, the Commission makes its determination by "an examination of the facts in each investigation, the article of commerce, and the realities of the marketplace." *Certain Male Prophylactic Devices*, Comm'n Op. at 39) (quoting *Certain Double Sided-Floppy Disk Drives*

[redacted]. (*Id.* ¶ 38.). These activities from 2013-2018 allocate specifically to the DI products. (*Id.*).

CGI tracks U.S. engineering expenditures in the ordinary course of business using an accounting and financial reporting system, the [redacted] program. (SMF ¶ 34.). Expenditures are allocated according to business units, and U.S. product sales are allocated to business units. (*Id.* ¶¶ 35-36.). Expenditures for GDO products track to the [redacted] business unit. (*Id.* ¶¶ 18-19.). GO product expenditures track to the [redacted] business unit. (*Id.* ¶¶ 26-27.).

CGI provides technical service and support services for DI Products at a Technical Service Center ("TSC") located in Tucson, Arizona. (Mem., App. C, Ex. 1 (Thomas Initial Expert Report) ¶ 39.). The TSC [redacted] for products, including DI Products. (*Id.*). The U.S. technical service and support services from 2013-2018 allocate specifically to the DI products. (*Id.* ¶ 41.).

CGI tracks its U.S. technical service and support expenditures through the [redacted] program. (SMF ¶ 38.). Data on CGI's customer service calls is tracked through CGI's [redacted] software. (*Id.* ¶ 41.). Chamberlain tracks these calls by business unit [redacted]. (*Id.* ¶¶ 42-43.). CGI tracks

the [redacted]. (*Id.* ¶¶ 42-43.).

### B. CGI's Approach for Allocating Engineering and TSC Investments to DI Products

For each of sub-prongs (A) and (B), CGI used a three-step method, explained in more detail below, to allocate engineering and TSC investments made by CGI in the U.S. to DI Products. CGI first used U.S. headcount data to isolate U.S. investments in technical (i.e., engineering) versus non-technical activities. Second, CGI scaled U.S. engineering and TSC investments to account for only those investments made in business units responsible for CGI's GDO and GO products. Finally, CGI used a sales-based allocation to calculate the amount of investments in a given business unit going to DI Products versus non-DI Products.

#### 1. Allocation of Plant and Equipment Investments

Turning to specifics, under sub-prong (A), CGI's economic expert allocated U.S. engineering and TSC-related plant and equipment expenditures to DI Products using these three steps. (Mem., App. C, Ex. 1 (Thomas Initial Expert Report) ¶¶ 50-54, n.125.). First, U.S. plant and equipment investments in engineering and the TSC were multiplied by a ratio of non-administrative to total employees to isolate technical expenditures and exclude administrative activities. (*Id.* ¶ 51.). Second, the resulting technical investments were scaled by the percentage of total U.S. investments by CGI attributable to [redacted] (for GDOs) or [redacted] (for GOs).[5] (*Id.*, ¶ 52.). Third, the resulting [redacted] business unit engineering investments were multiplied by the

[5] For this step, for engineering-related investments, CGI multiplied its U.S. plant and equipment investments incurred each year by a ratio of the [redacted] business unit's engineering expenditures as a percent of total U.S. engineering expenditures. (SMF ¶¶ 83-90.). By contrast, for TSC-related investments, CGI used data from TSC call logs. (*Id.* ¶¶ 94-95, 98-99.). To allocate TSC expenditures to the [redacted] business unit, TSC plant and equipment expenditures were multiplied by the ratio of [redacted] call hours as a percent of total call hours. (*Id.*). The same was done for the [redacted] business unit. (*Id.*).

percentage of [redacted] sales attributable by sales volume to GDO DI Products. (*Id.* ¶ 53.). Likewise, the resulting [redacted] business unit engineering investments were multiplied by the percentage of [redacted] sales attributable by sales volume to GO DI Products. (*Id.*).

**2. Allocation of Labor or Capital Investments**

With respect to CGI's sub-prong (B) allocation,[6] CGI's economic expert allocated U.S. engineering and TSC-related labor and capital investments to DI Products using these three steps. (*Id.* ¶ 69, 71.). First, a percentage of U.S. labor and capital investments in engineering and the TSC were attributed to technical employees using a headcount allocation to exclude administrative activities. (*Id.* ¶ 72.). Second, the resulting engineering and TSC investments were scaled by the percentage of total U.S. investments by CGI attributable to the [redacted] (for GDOs) and [redacted] (for GOs) business units.[7] (*Id.* ¶ 73.). Third, the resulting [redacted] business unit engineering investments were multiplied by the percentage of [redacted] sales attributable by sales volume to GDO DI Products. (*Id.* ¶ 74.). Similarly, the resulting [redacted] business unit engineering investments were multiplied by the percentage of [redacted] sales attributable by sales volume to GO DI Products. (*Id.*).

[6] These expenditures include employee compensation and related fringe benefits, recruiting, employee travel, employee training and education, external consulting fees, and temporary help. (Mem., App. C, Ex. 1 (Thomas Initial Expert Report) ¶ 69, 71.).

[7] For this step, for engineering-related investments, CGI multiplied its U.S. labor and capital investments incurred each year by a ratio of the [redacted] business unit's engineering expenditures as a percent of total U.S. engineering expenditures. (SMF ¶¶ 106-108, 110-112.). By contrast, for TSC-related investments, CGI used data from TSC call logs. (*Id.* ¶¶ 114-123.). To allocate TSC expenditures to the [redacted] business unit, TSC plant and equipment expenditures were multiplied by the ratio of [redacted] call hours as a percent of total call hours. (*Id.*). The same was done for the [redacted] business unit. (*Id.*).

### C. CGI's Sales-Based Allocation is Reasonable

The allocation that CGI's expert is reasonable. It uses data tracked in the ordinary course of business, excludes administrative expenses, matches investments to appropriate business units, and, on a sales-allocation basis, allocates investments to the GDO and GO DI Products. The Commission routinely accepts a sales-based allocation method for expenditures allocated to sub-prongs of the domestic industry requirement. *See, e.g., Certain Marine Sonar Imaging Devices, Including Downscan & Sidescan Devices, Prod. Containing the Same, & Components Thereof*, Inv. No. 337-TA-921, Comm'n Op., 2016 WL 10987364, at *40 (Jan. 6, 2016) (crediting "allocation methodology [that] used past sales figures to approximate the number of [domestic industry] products that correspond to its total amount of post-sale investments that related to the [domestic industry] product."); *Certain Table Saws Incorporating Active Injury Mitigation Technology and Components Thereof*, Inv. No. 337-TA-965, I.D, Order No. 10 at 13 (Mar. 22, 2016) ("reasonable allocations . . . will be sufficient") (citations omitted).

According to Nortek, CGI's sales-allocation (step 3 of its allocation approach) is flawed. (Opp'n at 2-3.). As shown below in Figure 1, CGI performed this allocation step by calculating the percentages of DI GDO and DI GO sales in the U.S. attributable to overall sales of its GDO and GO sales in the U.S., respectively. (*Id.* at 10.).

**Figure 1: Sales-Based Allocation Performed by CGI**

$$\textit{CGI '404 and '223 Patent Allocation \%} = \frac{\textit{US sales of Domestic Industry GDOs}}{\textit{US sales of all GDOs}}$$

$$\textit{CGI '052 Patent Allocation \%} = \frac{\textit{US sales of Domestic Industry Gate Openers}}{\textit{US Sales of All Gate Openers}}$$

(*Id.*).

Nortek argued that CGI's U.S. investments are used to benefit and sell products worldwide and, therefore, that the sales allocations should be based on total worldwide sales, not limited to U.S. sales. (*Id.* at 10-11; *see also* Nortek's Pre-Hearing Brief at 130.). According to Nortek, the calculation that CGI should have used is shown below in Figure 2.

**Figure 2: Sales-Based Allocation Nortek Wanted CGI to Perform**

$$\text{'404 and '223 Patent Allocation \%} = \frac{\text{US sales of Domestic Industry GDOs}}{\text{Worldwide sales of all GDOs}}$$

$$\text{'052 Patent Allocation \%} = \frac{\text{US sales of Domestic Industry Gate Openers}}{\text{Worldwide Sales of All Gate Openers}}$$

(Opp'n at 10-11.).

In support of its argument, Nortek cited the testimony of CGI's expert, Mr. Thomas, that a majority of the DI Products are sold in the U.S. (*Id.* at 10-11 (citing Mem., App. B, Ex. 2 (Thomas Deposition Tr.) at 114:16 - 115:2).). From this statement alone, without citing any data, Nortek concluded that "[t]his means that US sales of the DI products are about the same as worldwide sales of the DI products." (*Id.*). Nortek then surmised that because "worldwide sales numbers for the DI products are much larger than US sales numbers," CGI's allocation percentages and the corresponding DI investments in plant, equipment, labor and capital calculated using those percentages, are much lower than what CGI estimated." (*Id.*).

Nortek's argument is unavailing. First, it does not make any sense here to construct an allocation with U.S. sales figures in the numerator and worldwide sales figures in the denominator. That would mix apples and oranges. If CGI's U.S.-based engineering and technical support investments are truly designed to benefit the global marketplace, as Nortek alleged, the appropriate allocation would compare worldwide sales of DI Products in a particular category (e.g., GDOs) to worldwide sales of all products in that category.

Moreover, the evidence fails to support Nortek's statement that "worldwide sales numbers for the DI products are much larger than US sales numbers." Instead, the evidence suggests that Chamberlain's sales are [redacted], at least for GDO DI Products. For example, Nortek cited to a document showing 2014 (actual) and 2015 (estimated) figures for the [redacted]. (Opp'n at 11 (citing Ex. 7).). That document shows that [redacted] of CGI's sales were made in the Americas. (*Id.*, Ex. 7 at ITC_CGI_NSC00465890.). Another document Nortek cited shows that in 2016 CGI had [redacted] in GDO sales in the Americas, and [redacted] in GDO sales worldwide, yielding a ratio of [redacted]. (*Id.*, Ex. 6 at ITC_CGI_NSC00870031.).

In the face of these admittedly imperfect data,[8] Nortek failed to provide an alternative supported argument, or calculations proving, that CGI's U.S., sales-based allocation percentage methodology produced inflated numbers. *See Certain Mobile Electronic Devices and Radio Frequency and Processing Components Thereof*, Inv. No. 337-TA-1093, Order No. 46 at 15 (non-moving party "must do more than simply show that there is some metaphysical doubt as to the material facts") (quoting *Matsushita Elec. Indus. v. Zenith Radio Corp.*, 475 U.S. 574, 586 (1986)). In other words, Nortek has not demonstrated, that its preferred allocation approach would yield materially different results.

### D. Shortcomings of CGI's Allocation Approach Would Not Materially Affect the Outcome of Its Economic Prong Case

In its DI calculations, CGI purportedly used a sales-based allocation approach (step 3) that would capture the percentage of U.S. sales attributable to DI products within a business unit

[8] CGI not provide a clear breakdown of sales within the Americas attributable to the U.S. versus other countries.

([redacted] for GDOs or [redacted] for GOs) as compared to total sales of products within that business unit. This made sense because, as explained above, CGI tracked its investments by [redacted] Yet, for certain calculations, particularly engineering investments attributable to the DI Products, CGI used sales-based allocations that captured the percentage of U.S. sales attributable to DI products within a subset of products within a business unit (i.e., [redacted] category for GDOs and [redacted] category for GOs). (*See, e.g.*, ¶ 85 ("By performing a sales-based allocation to the U.S. plant and equipment engineering expenditures attributed to the [redacted] business unit using the ratio of GDO Domestic Industry Product sales as a percent of U.S. [redacted] sales, Chamberlain's economic expert, Vince Thomas, has calculated the total U.S. plant and equipment engineering expenditures attributed to the GDO Domestic Industry Products.").). It is evident from Table Nos. 3 and 4 below that doing this inflated CGI's purported investments in DI Products (e.g., in 2015 for GDO DI Products, allocation percentage boosted from [redacted]).

**Table No. 3: GDO DI Products, Comparison of Sales Allocation % Used by CGI and Sales Allocation % That CGI Should Have Used**

| | Total U.S. GDO DI Product Sales as a Percentage of Total U.S. [redacted] Operator Sales (Used by CGI) | Total U.S. GDO DI Product Sales as a Percentage of Total U.S. [redacted] Sales (Should Have Been Used by CGI) | % Reduction from Inflated Allocation Percentage to Correct Allocation Percentage |
|---|---|---|---|
| 1/1/2013 - 12/31/2013 | [redacted] | | |
| 1/1/2014 - 12/31/2014 | | | |
| 1/1/2015 - 12/31/2015 | | | |
| 1/1/2016 - 12/31/2016 | | | |
| 1/1/2017 - 12/31/2017 | | | |
| 1/1/2018 - 5/4/2018 | | | |

(SMF ¶ 100; *see also* Mem., App. C (Thomas Decl.), Ex. 1; ITC_CGI_NSC00734189.).

**Table No. 4: For GO DI Products, Comparison of Sales Allocation % Used by CGI and Sales Allocation % That CGI Should Have Used**

| | Total U.S. Gate Operator Domestic Industry Product Sales as a Percentage of U.S. [redacted] Operator and Access Control Sales (Used by CGI) | Total U.S. Gate Operator Domestic Industry Product Sales as a Percentage of Total U.S. [redacted] Sales (Should Have Been Used by CGI) | % Reduction from Inflated Allocation Percentage to Correct Allocation Percentage |
|---|---|---|---|
| 1/1/2015 - 12/31/2015 | [redacted] | | |
| 1/1/2016 - 12/31/2016 | | | |
| 1/1/2017 - 12/31/2017 | | | |
| 1/1/2018 - 5/4/2018 | | | |

(SMF ¶¶ 108, 112; *see also* Mem., App. C (Thomas Decl.), Ex. 1 at Ex. 10; ITC_CGI_NSC00734189.).

CGI acknowledged that it could have used a business unit-based allocation across the board. *See, e.g.*, SMF ¶ 71 ("A separate sales-based allocation may be performed using total U.S. [redacted] (not merely [redacted]).").  Yet, CGI did not clearly articulate a reason for using a sub-business unit-based allocation for engineering investments, on the one hand, and a business unit-based allocation for technical support, on the other hand. However, there is no indication that CGI's use of varying allocation percentages would materially change the outcome of its Motion. This is because, as addressed in the next section, CGI's qualifying investments under sub-prong (B) are both significant and substantial both relatively and in absolute terms.

Another cause for concern, addressed in the Initial Determination on Violation filed today, is that CGI has failed to prove that a subset of its GDO DI Products satisfy a claim of an Asserted Patent. Specifically, CGI's Internet-Capable GDOs shown above in Table No. 1, do

not satisfy a claim of either the '404 patent or '223 patent. This means that CGI cannot include sales figures associated with these products in its sales-based allocation percentage.

Yet, to reiterate, given the size of CGI's qualifying domestic industry investments (addressed in detail below), there is no indication that the loss of sales of CGI's Internet-Capable GDOs would materially change the outcome of CGI's Motion. From 2013 to 2018, sales of GDO DI Products in the U.S. exceeded [redacted] and represented approximately [redacted] of CGI's total U.S. sales during that period. (SMF ¶¶ 16-17 (emphasis added).). Assuming, *arguendo*, that half of these sales were rendered ineligible by the removal of CGI's Internet-Capable GDOs, thereby halving the percentage allocation used to calculate CGI's investments in DI GDO Products, there is no indication that the outcome of CGI's Motion would change. This is particularly true for investments in labor and capital under sub-prong (B).

### E. Nortek's Additional Critiques of CGI's DI Case Are Unavailing and Do Not Present a Material Issue of Fact

Nortek made two (2) main arguments in addition to its contention, addressed above, that CGI's sales-based allocations should be based on total worldwide sales.

First, Nortek asserted that CGI's DI calculations should include the cost of manufacturing the DI products in Mexico. (Opp'n at 3.). This is purportedly because CGI has used a value-added approach to show significance and, in violation of Commission precedent, has failed to consider the costs of manufacturing the DI products at CGI facility's in Mexico. (*Id.*).

However, a value-added approach to show significance is not mandatory. Although Nortek is correct that one way to demonstrate quantitative significance is through a "value added" calculation, (*id.* at 18), the Commission has confirmed that a value-added analysis is not required. *Certain Encapsulated Integrated Circuit Devices*, Inv. No. 337-TA-501, Comm'n Op.

at 34 (Apr. 28, 2014) ("we reiterate that the comparative analysis of domestic to foreign economic activity under criteria (A) and (B) is not mandatory").

Moreover, to evaluate the quantitative significance of its qualifying investments, CGI did not employ a value-added approach. Instead, CGI's expert, Mr. Thomas, compared the CGI's qualifying DI investments with its worldwide investments in corresponding activities. (SMF ¶¶ 121-29.). That is an appropriate way to assess significance, but it is not a value-added one.

Nortek next maintained that CGI had not properly allocated investments in its call center in Tucson, Arizona. (Opp'n at 3-4; Nortek's Pre-Hearing Brief at 130-31.). Nortek asserted that the sales calls about a particular DI product could be non-technical in nature and include calls seeking the location of a product dealer, questions about the garage door rather that the DI product, or issues about a third party product installer's performance. (Opp'n at 24.).

Nortek is correct that the evidence does not explicitly identify the subject matter of the calls. Yet, the evidence is clear that the calls were made to a "Technical Service Center." However, being aware of Commission standards, Mr. Thomas's domestic industry analysis removed expenditures attributable to administrative employees, leaving only the expenses associated with technical employees.

Nortek cites to a single opinion for its assertion that CGI must demonstrate that the subject matter of the calls made to the TSC were technical in nature. (Opp'n at 23 (citing *Magnetic Tape Cartridges And Components Thereof* ("Magnetic Tape Cartridges"), Inv. No. 337-TA-1058, Initial Determination on Violation, 2018 WL 4943753, at *132 (Aug. 17, 2018) (stating that "no evidence has been cited establishing that any of those *** calls related to a technical issue").). Yet, *Magnetic Tape Cartridges* addresses a narrow issue of how to evaluate whether the work of a seemingly non-technical employee qualified as "technical support," not

whether, as a general matter, complainants needed to provide detailed accounts of the subject matter of their customer support phone calls. (*Id.* at 118, 129, 131 (employee worked in office that "fielded very few calls related to the domestic industry products" and when employee did provide "technical support that he did so from outside of the United States").).

Nortek also argued that CGI's TSC investments should be excluded because they are based, at least in part, on a late-provided declaration from a fact witness, CGI employee Thomas Robin. (Opp'n at 7.). There is no dispute that this declaration was signed on December 12, 2018, well after the November 16, 2018 close of fact discovery.

Here, Nortek is correct. Mr. Robin was deposed as a fact witness on domestic industry matters in October 2018. (Mem., App. B, Ex. 2 (Romeo Decl.) ¶ 5.). His declaration in which he identified new DI expenditures, particularly those related to CGI's TSC, was produced nearly a month after the close of fact discovery. (*Id.*, App. A.). In particular, Nortek objected to "[t]he first 28 paragraphs of the Robin declaration" as "unsupported assertions made without reference to any evidence." (Opp'n at 7.). Thus, these paragraphs are stricken. Nevertheless, as shown below in Table No. 6, and the related significance discussion, there is no indication that the loss of CGI's TSC investments would materially change the outcome of CGI's Motion.

### F. CGI Is Entitled to Summary Determination that It Has Established a Domestic Industry in the United States Using Domestic Engineering and Technical Support Investments and a Reasonable Sales Allocation

CGI asserted that it had established domestic industry and has met the domestic industry requirement under 19 U.S.C. § 1337(a)(3)(A), (B) for the Asserted Patents. CGI provided evidence starting from the year 2013 of investment in its facility in Illinois. While this data reflected only the U.S. market, there is no dispute of fact that they show significant investments in the U.S. in labor and capital under sub-prong (B).

### 1. There Is A Material Dispute of Fact That CGI Has Made Significant Investments in Plant and Equipment under Section 337(a)(3)(A)

It is a finding of this Initial Determination that there is an issue of material fact with respect to whether CGI has satisfied the domestic industry requirement under 19 U.S.C. § 1337(a)(3)(A). This issue of material fact pertains to whether CGI made a significant investment in plant and equipment related to the DI Products.

As shown below in Table No. 5, CGI's analysis identified approximately [redacted] in qualifying plant and equipment investments. However, as explained above, TSC expenditures have been stricken, reducing that number to about [redacted]. Also, it appears that CGI used an inflated sales-allocation percentage, requiring investments to be reduced by about [redacted], to about [redacted]. Finally, CGI included in its analysis sales of Internet-Capable GDOs that do not practice a claim of an Asserted Patent, roughly [redacted] its sales numbers for GDO DI Products. Roughly [redacted] the percentage allocation used to calculate CGI's investments in DI GDO Products leads to a total plant and equipment investment of around [redacted].

There is a material issue of fact with respect to the exact figure for CGI's adjusted plant and equipment investment. While it appears true that a [redacted] of CGI's investment in plant and equipment for DI Products has occurred in the United States, (SMF ¶ 126), there is a material issue of fact with respect to whether CGI's adjusted plant and equipment investment would qualify as significant. Therefore, the evidence does not show that CGI is entitled to summary determination as a matter of law that the economic prong of the domestic industry requirement is met under Section 337(a)(3)(A).

**Table No. 5: Total Domestic Plant and Equipment Investments Calculated by CGI**

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Total |
|---|---|---|---|---|---|---|---|
| | 1/1/2013 - 12/31/2013 | 1/1/2014 - 12/31/2014 | 1/1/2015 - 12/31/2015 | 1/1/2016 - 12/31/2016 | 1/1/2017 - 12/31/2017 | 1/1/2018 - 5/4/2018 | 1/1/2013 - 5/4/2018 |
| Total U.S. Plant & Equipment Engineering Expenditures Attributed to GDO DI Products | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Total U.S. Plant & Equipment TSC Expenditures Attributed to GDO DI Products | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Total U.S. Plant and Equipment Expenditures Attributed to GDO DI Products | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

| | 2015 | 2016 | 2017 | 2018 | Total |
|---|---|---|---|---|---|
| | 1/1/2015 - 12/31/2015 | 1/1/2016 - 12/31/2016 | 1/1/2017 - 12/31/2017 | 1/1/2018 - 5/4/2018 | 1/1/2013 - 5/4/2018 |
| Total U.S. Plant & Equipment Engineering Expenditures Attributed to Gate Operator DI Products | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Total U.S. Plant & Equipment TSC Expenditures Attributed to Gate Operator DI Products | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Total U.S. Plant and Equipment Expenditures Attributed to Gate Operator DI Products | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

(*Id.* ¶¶ 102-03.).

### 2. There Is No Material Dispute of Fact That CGI Has Made Significant Investments in Labor and Capital under Section 337(a)(3)(B)

It is a finding of this Initial Determination that there is no issue of material fact with respect to whether CGI has satisfied the domestic industry requirement under 19 U.S.C. § 1337(a)(3)(B). As shown below in Table No. 6, CGI's analysis identified approximately [redacted] dollars in qualifying labor and capital investments. However, as explained above, TSC expenditures have been stricken, reducing that number to about [redacted].

Also, it appears that CGI used an inflated sales-allocation percentage, requiring investments to be reduced by about [redacted], to about [redacted]. Finally, CGI included in its

analysis sales of Internet-Capable GDOs that do not practice a claim of an Asserted Patent, roughly [redacted] its sales numbers for GDO DI Products. [redacted] the percentage allocation used to calculate CGI's investments in DI GDO Products leads to a total labor and capital investment of around [redacted].

While the exact figure for CGI's adjusted labor and capital investment is unknown, there is no dispute that a large percentage of CGI's investment in labor and capital for DI Products has occurred in the United States. (*Id.* ¶ 128 (for GDO DI Products, domestic labor and capital expenditures are [redacted] of total worldwide), 129 (for GO DI Products, domestic labor and capital expenditures are [redacted] of total worldwide).). Moreover, in a recent ITC Investigation involving overlapping products but different patents-in-suit, the Commission found that CGI made significant domestic investments in labor or capital related to its GDO products. *Certain Access Control Systems and Components Thereof*, Inv. No. 337-TA-1016, Comm'n Op. at 1-2 (April 21, 2018) (adopting ID with respect to economic prong determination). Therefore, the evidence shows that CGI is entitled to summary determination as a matter of law that the economic prong of the domestic industry requirement is met under sub-prong B.

**Table No. 6: Total Domestic Labor and Capital Investments Calculated by CGI**

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Total |
|---|---|---|---|---|---|---|---|
| | 1/1/2013 - 12/31/2013 | 1/1/2014 - 12/31/2014 | 1/1/2015 - 12/31/2015 | 1/1/2016 - 12/31/2016 | 1/1/2017 - 12/31/2017 | 1/1/2018 - 5/4/2018 | 1/1/2013 - 5/4/2018 |
| Total U.S. Labor and Capital Engineering Expenditures Attributed to GDO DI Products | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Total U.S. Labor and Capital TSC Expenditures Attributed to GDO DI Products | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Total U.S. Labor and Capital Expenditures Attributed to GDO DI Products | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

| | 2015 | 2016 | 2017 | 2018 | Total |
|---|---|---|---|---|---|
| | 1/1/2015 - 12/31/2015 | 1/1/2016 - 12/31/2016 | 1/1/2017 - 12/31/2017 | 1/1/2018 - 5/4/2018 | 1/1/2013 - 5/4/2018 |
| Total U S Labor and Capital Engineering Expenditures Attributed to Gate Operator DI Products | | | | | |
| Total U S Labor and Capital TSC Expenditures Attributed to Gate Operator DI Products | | | | | |
| Total U.S Labor and Capital Expenditures Attributed to Gate Operator DI Products | | | | | |

(SMF ¶¶ 124-25.).

## V. ORDER

Because of the disjunctive nature of the three (3) economic prongs under Section 337, CGI does not need to prove the first or third prong, Section 337(a)(3)(A) or Section 337(a)(3)(C), here. Based on the above evidence, I find that CGI's investments in labor and capital under Section 337(a)(3)(B) satisfy the economic prong of domestic industry.

Based upon the undisputed evidence presented by CGI, and for the reasons described above, CGI's motion for summary determination that CGI satisfies the economic prong of the domestic industry requirement, Motion Docket No. 1118-014, is hereby *granted.*

Accordingly, this recommended decision is certified to the Commission. All orders and documents filed with the Secretary, including the record exhibits in this Investigation, as defined in 19 C.F.R. § 210.38(a), are not certified, since they are already in the Commission's possession in accordance with Commission Rules. *See* 19 C.F.R. § 210.38(a). In accordance with 19 C.F.R. § 210.39(c), all material found to be confidential under 19 C.F.R. § 210.5 is to be given *in camera* treatment.

Pursuant to 19 C.F.R. § 210.42(h), this Initial Determination shall become the determination of the Commission unless a party files a petition for review pursuant to 19 C.F.R.

§ 210.43(a) or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion a review of the Initial Determination or certain issues therein.

Within fourteen (14) days of the date of this document the Parties shall submit to the Office of Administrative Law Judges a joint statement whether they seek to have any portion of this document deleted from the public version. The Parties' submission shall be made by hard copy and must include a copy of this ID with yellow highlighting, with or without red brackets, indicating any portion asserted to contain confidential business information ("CBI") to be deleted from the public version. The submission shall also include a chart that: (i) contains the page number of each proposed redaction; and (ii) states (next to each page number) every sentence or phrase, listed separately, that the party proposes be redacted; and (iii) for each such sentence or phrase that the party proposes be redacted, a citation to case law with an explanation as to why each proposed redaction constitutes CBI consistent with case law. Any proposed redaction that is not explained may not be redacted after a review. The Parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

**SO ORDERED.**

MaryJoan McNamara
Administrative Law Judge

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **INITIAL DETERMINATION** has been served upon the following parties as indicated, on **December 16, 2019**.

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

David C. Marcus, Esq.
**WILMER CUTLER PICKERING HALE AND DORR LLP**
350 South Grand Avenue, Suite 2100
Los Angele, CA 90071

- ☐ Via Hand Delivery
- ☒ Via Express Delivery
- ☐ Via First Class Mail
- ☐ Other:_____

**On Behalf Respondents Nortek, Inc., Nortek Security & Control., LLC F/K/A Linear, LLC And GTO Access Access Systems, LLC F/K/A Gates That Open, LLC:**

Matthew C. Bernstein, Esq.
**PERKINS COIE LLP**
11452 El Camino Real, Suite 300
San Diego, CA 92130-2594

- ☐ Via Hand Delivery
- ☒ Via Express Delivery
- ☐ Via First Class Mail
- ☐ Other:_____

**UNITED STATES INTERNATIONAL TRADE COMMISSION**

**Washington, D.C.**

| | |
|---|---|
| **In the Matter of**<br><br>**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** | **Inv. No. 337-TA-1118** |

**ORDER NO. 25:** **CONSTRUING TERMS IN DISPUTE FROM ASSERTED CLAIMS OF THE PATENTS AT ISSUE (*MARKMAN* CLAIM CONSTRUCTION)**

(June 5, 2019)

## Appendix A

| | |
|---|---|
| **Appendix A** | Claim Chart Adopting Constructions of Disputed Claims Terms |

## Table of Abbreviations

| | |
|---|---|
| **CMBr.** | Complainant's *Markman* Brief |
| **RMBr.** | Respondents' Initial *Markman* Brief |
| **Joint CC Chart** | Joint Claim Construction Chart |
| **2nd Revised CC Chart** | Second Revised Joint Claim Construction Chart |

## I. INTRODUCTION

This Order resolves the claim construction disputes that Complainant The Chamberlain Group, Inc. ("Chamberlain") and Respondents GTO Access Systems, LLC f/k/a Gates That Open, LLC, Nortek Security & Control LLC f/k/a Linear, LLC and Nortek, Inc. ("Respondents" or "Nortek" and with Chamberlain, "the Parties") jointly identified. On May 29, 2019, the Parties filed their Second Revised Joint Claim Construction Chart ("2nd Revised Joint CC Chart"). (Doc. ID No. 677206 (May 29, 2019).). That Chart set forth fourteen (14) disputed claim terms that the Parties proposed for court construction and identified eight (8) terms "most significant to resolution of the case[.]" (*Id.* at 1-2.). This Order provides constructions for all 14 disputed claim terms, including means-plus-function terms. The claim terms arise from three asserted patents, the only asserted patents remaining in this Investigation: (1) U.S. Patent No. 7,755,223 ("'223 patent"); (2) U.S. Patent No. 6,741,052 ("'052 patent"); and (3) U.S. Patent No. 8,587,404 ("'404 patent," and collectively with the '223 and '052 patents, the "Asserted Patents").

On May 31, 2019, I held a telephone conference ("Teleconference") to resolve outstanding discovery-related motions and to give the Parties advance notice of the claim constructions that are now provided in this Order at Appendix A ahead of the evidentiary hearing ("Hearing") in this Investigation. (Tr. of May 31, 2019 Teleconference (Doc. ID No. 677777 (June 4, 2019)).). The relevant claim construction portions of the telephone conference transcript are incorporated by reference into this Order. (*Id.* at 86-89.). However, this Order supersedes the oral claim constructions provided during the Teleconference because this written Order is more nuanced and explains the rational for each of the claim constructions that have been adopted.

As is discussed in more detail below, while the Parties did not reach an agreement on the credentials of a "person of ordinary skill in the art," this term is not yet defined since it was not necessary for the construction of the disputed claim terms that are construed in Appendix A.

## II. TERMS CONSTRUED IN THIS ORDER

### A. Claim Scope

Claim terms are construed in this Order solely for the purposes of this Section 337 Investigation. Only claim terms in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vanderlande Indus. Nederland BV v. Int'l Trade Comm.*, 366 F.3d 1311, 1323 (Fed. Cir. 2004); *Vivid Tech., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999). It appears that the Parties did not agree upon a single claim term construction, although, for a handful of disputed terms, their proposed constructions are nearly identical in terms of language and scope. (*See, e.g.*, RMBr. at 6 ("The parties were unable to reach agreement on any terms prior to *Markman* briefing."); 2nd Revised Joint CC Chart.).

### B. Applicable Ground Rules

Going forward, the Parties are limited to the constructions adopted in this Order. Modified or new constructions set forth for the first time in post-hearing briefs will be considered to be waived. Similarly, it will not be appropriate for any party to seek additional claim construction during the Hearing or merely to state that a claim term that may be implicated in an expert report or expert testimony has either a "plain or ordinary" meaning, or that a claim term is "indefinite." (*See* Order No. 2 at 8; G.R. 1.14.). If any party posits a "plain and ordinary meaning," it must be explained and be consistent with this Order, even if the explanation is the type of provided in Appendix A to this Order. (*See* Order No. 2 at 8.).

### C. The Claim Chart in Appendix A

The chart of disputed claim terms and adopted constructions is attached as Appendix A. The chart in Appendix A contains five (5) columns: (1) Patent; (2) Term(s) to be Construed; (3) Chamberlain's Proposed Constructions; (4) Nortek's Proposed Constructions; and (5) Court Adopted Constructions and Reasoning.

## III. APPLICABLE LAW[1]

### A. Claim Construction

The claims construed in Appendix A were construed using the following principles.

Claim construction begins with the language of the claims themselves. Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). In some cases, the plain and ordinary meaning of claim language is readily apparent and claim construction will involve little more than "the application of the widely-accepted meaning of commonly understood words." *Id.* at 1314. In other cases, claim terms have a specialized meaning and it is necessary to determine what a person of ordinary skill in the art would have understood disputed claim language to mean by analyzing "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, as well as the meaning of technical terms, and the state of the art." *Id.* (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

The claims themselves provide substantial guidance with regard to the meaning of

[1] The constructions of the disputed claim terms in Appendix A generally follow and apply the law as described herein. To the extent possible, the case law that applies to a construction is either identified explicitly, or implicitly in adopting a party's argument or construction.

disputed claim language. *Phillips*, 415 F.3d at 1314. "[T]he context in which a term is used in the asserted claim can be highly instructive." *Id.* Similarly, other claims of the patent at issue, regardless of whether they have been asserted against Respondents, may show the scope and meaning of disputed claim language. *Id.*

In cases in which the meaning of a disputed claim term in the context of the patent's claims was uncertain, the specification was used as the "single best guide to the meaning of a disputed term." *Id.* at 1321. Moreover, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316. As a general rule, however, the particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Id.* at 1323.

The prosecution history may also explain the meaning of claim language, although "it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.* at 1317. The prosecution history consists of the complete record of the patent examination proceedings before the U.S. Patent and Trademark Office, including cited prior art. *Id.* The prosecution history may reveal "how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

If the intrinsic evidence is insufficient to establish the clear meaning of a claim, a court may resort to an examination of the extrinsic evidence. *Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc.*, 206 F.3d 1408, 1414 (Fed. Cir. 2000). Extrinsic evidence may shed light on the relevant art, and "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Phillips*, 415 F.3d

at 1317. In evaluating expert testimony, a court should disregard any expert testimony that is conclusory or "clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent." (*Id.* at 1318.). Moreover, expert testimony is only of assistance if, with respect to the disputed claim language, it identifies what the accepted meaning in the field would be to one skilled in the art. *Symantec Corp. v. Comput. Assocs. Int'l, Inc.*, 522 F.3d 1279, 1289 n.3., 1290-91 (Fed. Cir. 2008). Testimony that recites how each expert would construe the term should be accorded little or no weight. *Id.* Extrinsic evidence is inherently "less reliable" than intrinsic evidence, and "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Phillips*, 415 F.3d at 1318-19.

Extrinsic evidence is a last resort: "[i]n those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).

**B. Means-Plus-Function Claim Terms**

"[T]he failure to use the word 'means' . . . creates a rebuttable presumption . . . that § 112, [¶] 6 does not apply." *Williamson v. Citrix Online LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). However, "[i]n making the assessment of whether the limitation in question is a means-plus-function term subject to the strictures of § 112, para. 6, . . . the essential inquiry is not merely the presence or absence of the word 'means' but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure." *Id.* at 1348. "Generic terms such as 'mechanism,' 'element,' 'device,' and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word 'means' because they 'typically do not connote sufficiently definite structure' and therefore may invoke § 112, para. 6." *Id.* at 1350. However,

claims directed at generic functions like "processing," "receiving," and "storing" can be achieved by any general purpose computer without special programming and thus do not necessarily require construction under Section 112(6). *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) (contrasting cases involving "specific functions that would need to be implemented by programming a general purpose computer to convert it into a special purpose computer capable of performing those specified functions").

Some patent claim limitations are explicitly drafted in means-plus-function format, and they are usually governed by 35 U.S.C. § 112 ¶ 6.

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112 ¶ 6. According to the Federal Circuit, "[t]he first step in construing a means-plus-function limitation is to identify the function explicitly recited in the claim." *Asyst Techs., Inc. v. Empak, Inc.*, 268 F.3d 1364, 1369-70 (Fed. Cir. 2001). The function may only include the limitations contained in the claim language: it is improper to narrow or broaden "the scope of the function beyond the claim language." *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002).

The next step in the analysis of a means-plus-function claim limitation "is to identify the corresponding structure set forth in the written description that performs the particular function set forth in the claim." *Asyst*, 268 F.3d at 1369-70. Corresponding structure "must not only perform the claimed function, but the specification must clearly associate the structure with performance of the function." *Cardiac Pacemakers*, 296 F.3d at 1113.

> Section 112 paragraph 6 does not 'permit incorporation of structure from the written description beyond that necessary to perform the claimed function.'

> Structural features that do not actually perform the recited function do not constitute corresponding structure and thus do not serve as claim limitations.

*Asyst*, 268 F.3d at 1369-70 (citations omitted). For example, features that enable the pertinent structure to operate as intended are not the same as corresponding structures that actually perform the stated function. *Id.* at 1371. Different embodiments disclosed in the specification may disclose different corresponding structure. *Cardiac Pacemakers*, 296 F.3d at 1113.

A means-plus-function analysis is "undertaken from the perspective of a person of ordinary skill in the art." *Id.* While the focal point for determining the corresponding structure is the patent specification, other intrinsic evidence remains relevant. The other claims in a patent "may provide guidance and context for interpreting a disputed means-plus-function limitation, especially if they recite additional functions." *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233-34 (Fed. Cir. 2001). If another claim in the patent recites a separate and distinct function, "the doctrine of claim differentiation indicates that these claims are presumptively different in scope." *Id.* The prosecution history of the patent may also be useful in interpreting a claim written in means-plus-function form. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1457 (Fed. Cir. 1998) (abrogated with respect to de novo claim construction). "[P]ositions taken before the PTO may bar an inconsistent position on claim construction under § 112 ¶6" if a "competitor would reasonably believe that the applicant had surrendered the relevant subject matter" as a result of "clear assertions made in support of patentability." *Id.*

### C. Indefiniteness

A patent specification must "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention." 35 U.S.C. § 112, ¶ 2. Previously, the Federal Circuit held that a patent claim is not indefinite "so long as the claim is amenable to construction, and the claim, as construed, is not

insolubly ambiguous." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S.Ct. 2120, 2124 (2014). More recently, the U.S. Supreme Court determined that this standard lacks precision. *Id.* at 2130. Instead, the Supreme Court held:

> we read § 112, ¶ 2 to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty. The definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable. The standard we adopt accords with opinions of this Court stating that "the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter."

*Id.* at 2129 (citations omitted).

A party seeking to invalidate a patent claim must do so by clear and convincing evidence. *See, e.g., Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008) (citing *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1375 (Fed. Cir. 1986)).

**D. Doctrine of Prosecution History Disclaimer**

"[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Phillips*, 415 F.3d at 1317. To narrow claim scope during prosecution, "[t]he applicant, however, must clearly and unambiguously express any such surrender of subject matter." *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 327 F.3d 1364, 1367 (Fed. Cir. 2003); *see also Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed.Cir.2005) ("The purpose of consulting the prosecution history in construing a claim is to exclude any interpretation that was disclaimed during prosecution.") (internal quotation and citation omitted). Responses to elections/restrictions only serve to limit if "the applicant's response to the restriction requirement . . . constitutes a clear and unmistakable disclaimer of claim scope." *Uship Intellectual Props. v. U.S.*, 714 F.3d 1311, 1315 (Fed. Cir. 2013).

"Absent applicant argument in the face of a restriction requirement, . . . courts have consistently refused to find an examiner's restriction requirement, by itself, to result in a disavowal of claim scope." *Bestop, Inc. v. Tuffy Sec. Prod., Inc.*, 2015 WL 470552, at *6 (E.D. Mich. Feb. 4, 2015). "The reason is that restriction requirements constitute 'an administrative tool' that is 'employed early in the prosecution, at the discretion of the Examiner, to control the Examiner's time . . . and prior to determining the scope or boundaries of any of the claims.'" *Id.* (quoting *Amersham Pharmacia Biotech, Inc. v. Perkin-Elmer Corp.*, 2000 WL 34204509, at *16 (N.D. Cal. 2000) (ellipses in original).

## IV. PERSON OF ORDINARY SKILL IN THE ART

The credentials of a "person of ordinary skill in the art" will be selected based upon the principles described below and the Parties' proposed credentials.

A hypothetical person is a person of ordinary skill and "ordinary creativity." *KSB Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 420 (2007). "Factors that may be considered in determining [the] level of ordinary skill in the art include: (1) the educational level of the inventor[s]; (2) type of problems encountered in the art; (3) prior art solutions to the problems; (4) rapidity with which inventions are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Envtl. Designs Ltd. v. Union Oil Co. of California*, 713 F.2d 693, 696-97 (Fed. Cir.) (citations omitted). "These factors are not exhaustive but merely a guide to determining the level of ordinary skill in the art." *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F3d 1254, 1256 (Fed. Cir. 2007).). The hypothetical person of skill is also separately presumed to have knowledge of all the relevant prior art in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 693, 697 (Fed. Cir. 1983).

According to Nortek, "a person having ordinary skill in the art with respect to the Asserted Patents at the time of the inventions would have had at least a bachelor's degree, either

in electrical engineering or computer engineering, with approximately two years' experience in a field relating to microcontroller and microcontroller-based control systems." (RMBr. at 1-2.).

According to Chamberlain:

- "A person of ordinary skill in the art pertaining to the '223 patent would have a bachelor's degree in electrical engineering, computer engineering, computer science, or a related field with two or more years of experience working in the movable barrier operator field;"
- "A person of ordinary skill in the art pertaining to the '052 patent would have a bachelor's degree in electrical engineering, computer engineering, computer science, or a related field with two or more years of experience working in the movable barrier operator field;" and
- "A person of ordinary skill in the art pertaining to the '404 patent would have a bachelor's degree in electrical engineering, computer engineering, computer science, or a related field with two or more years of experience working in the movable barrier operator field."

(CMBr. at 7, 34, 65.).

This Order does not resolve the person of ordinary skill in the art issue because it is not germane to the claim construction requested by the Parties. In arguing for their proposed constructions of disputed terms, the Parties have appropriately focused on other matters, such as the intrinsic evidence. Neither of the Parties has indicated in any of their filed documents that the person of ordinary skill in the art definition is necessary or dispositive for construction of the disputed claim terms.

To the extent this issue could be necessary for testimony during the upcoming Hearing, the Parties should attempt to agree on a person of ordinary skill in the art definition for each of the '223, '052, and '404 patents. If the Parties instead reserve their person of ordinary skill in the art positions for the evidentiary Hearing, their explanations at the Hearing must address each of the factors set forth in *Envtl. Designs*, *supra*.

## V. PROCEEDINGS GOING FORWARD

### A. Supplementation in Response to This Order

The Parties may not file supplemental expert reports in response to this Order. No additional discovery will be permitted because of this Order unless allowed by leave of court and requested by motion given that the discovery deadline has changed. No re-argument of the claims construed in this Order may occur.

Going forward, and consistent with Ground Rules in this Investigation, the Parties are expected ***to notify Chambers of any issues that have become moot, or have been eliminated for any reason within five (5) days of such a change***. The Parties should redact from expert reports and from any other documents upon which they intend to rely any issues, claims, defenses, prior art, theories, or any other content that has been rendered moot or disallowed as a result of this or other Orders, or because of the termination of patent claims or allegations from this Investigation. Any expert reports that are changed or redacted because issues have become moot, they should be filed on EDIS and two (2) copies should be provided to Chambers before the Hearing.

### B. Streamlining the Investigation

To the extent that this *Markman* Order will enable the Parties to streamline this Investigation, such as through the elimination of asserted claims or asserted prior art, the Parties are encouraged to take action now. Chamberlain is encouraged to drop patents and claims from this Investigation.

Moreover, Nortek should be notified now which patents/claims will be eliminated so that they (and the Court) do not waste unnecessary resources preparing to address patents or claims that will be dropped. Identifying additional patents/claims that will be dropped will also give Nortek time to eliminate invalidity theories. Similarly, if certain of Nortek's theories and

proposed prior art are now moot because of the adopted constructions in Appendix A, Nortek should notify Chamberlain and make the appropriate filings on EDIS and to Chambers.

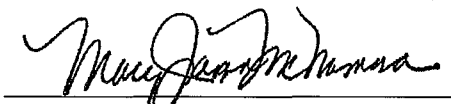
### C. Settlement

It is strongly recommended that, in advance of the Hearing and in light of this *Markman* Order, the Parties take informal opportunities to engage in settlement.

## VI. CONCLUSION

Constructions of the disputed claim terms are hereby adopted by this Order for the reasons discussed in the Claim Chart Adopting Constructions of Disputed Claims Terms attached as Appendix A.

**SO ORDERED.**



MaryJoan McNamara
Administrative Law Judge

# APPENDIX A

# APPENDIX A TO 337-TA-1118 *MARKMAN* ORDER
# Order No. 25
# CONSTRUCTIONS OF DISPUTED CLAIM TERMS

| **'052 Patent:** automatically determining a safe and effective force threshold for operation of a movable barrier system and permitting manual adjustment of the force threshold after the automatic determination (non-binding description provided for context only) [1] | | | | |
|---|---|---|---|---|
| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Construction** | **Court Adopted Construction and Reasoning** |
| 052 | "a processor... configured to automatically determine at least one force threshold during a first mode of operation for use by the barrier movement control unit when controlling the motor in a second mode of operation" (claim 1) | "Processor" should not be construed under 35 U.S.C. § 112.<br><br>No construction is required.<br><br>If construed as a means plus function term, then:<br><br>Function: automatically determine at least one force threshold during a first mode of operation for use by the barrier movement control unit when controlling the motor in a second mode of operation<br><br>**Structure**: A programmable computing platform (2:61-64) and algorithms described at 2:60-68; 3:23-67; 4:3-67; 5:1-51; Figs. 2, 3, 4 and equivalents thereof. | This term is a means-plus-function term.<br><br>**Function**: automatically determine at least one force threshold during a first mode of operation for use by the barrier movement control unit when controlling the motor in a second mode of operation<br><br>**Structure**: A programmable computing platform (2:61-64); no sufficient software structure is described and this claim term is therefore indefinite | **Adopted Construction: "Processor" should not be construed under 35 U.S.C. § 112, and, in general, no construction is required.**<br><br>There is a presumption against treating this claim term as a means-plus-function term. *Williamson v. Citrix Online LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) ("the failure to use the word 'means' . . . creates a rebuttable presumption . . . that § 112, [¶] 6 does not apply.").<br><br>Nortek admits that "several courts have found 'processor' structural" and thus not subject to § 112, ¶ 6. (RMBr. at 37.).<br><br>The '052 patent treats "processor" as a structural component in the form of "a programmable platform." ('052 patent at 2:60-66.). The processor claimed here has a location: "barrier movement control unit 15." (*Id.*). In the context of claim 1, "processor" is not structure-less. Instead, it can perform the recited function using generic, prior art algorithms: (*Id.* at 3:25-67 ("The learning mode can be an ordinary prior art approach.").). Claim terms performing generic functions are typically not accorded means-plus-function treatment and thus do not require the disclosure of additional structure such as specialized algorithms. *See In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011). |

# APPENDIX A TO 337-TA-1118 *MARKMAN* ORDER
## Order No. 25
## CONSTRUCTIONS OF DISPUTED CLAIM TERMS

| **'052 Patent:** automatically determining a safe and effective force threshold for operation of a movable barrier system and permitting manual adjustment of the force threshold after the automatic determination (non-binding description provided for context only) [1] | | | | |
|---|---|---|---|---|
| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Construction** | **Court Adopted Construction and Reasoning** |
| 052 | "[first]/[second] mode of operation"<br>(claim 1) | Plain and ordinary meaning; no construction required.<br>Alternatively: operation in [a/the] first mode; operation in [a/the] second mode. | Distinct selectable functioning arrangements or conditions in which the barrier operator opens or closes the movable barrier | **Adopted Construction: No construction is required because the claim term is clear and has its plain and ordinary meaning as the words convey.**<br>According to Nortek, "the crux of the dispute on the mode of operation terms is simply that the construction adopted must reflect that the two modes of operation are different." (RMBr. at 51.). Claim 1 sufficiently distinguishes what happens during the first and second modes of operation: "automatically determine at least one force threshold during a first mode of operation for use by the barrier movement control unit when controlling the motor in a second mode of operation." ('052 patent, cl. 1.). No more specificity is required. |

[1] A *Markman* hearing was not held in this Investigation. Disputed claim terms are taken from the Second Revised Claim Construction Chart (2nd Revised CC Chart), Doc. ID No. 677206 (May 28, 2019). "Chamberlain" refers to Complainant The Chamberlain Group. Chamberlain's proposed claim constructions were taken from the 2nd Revised CC Chart and Chamberlain's *Markman* Brief ("CMBr."), Doc. ID No. 661759 (Nov. 13, 2018). "Nortek" refers to Respondents Nortek, Inc., Nortek Security & Control LLC f/k/a Linear LLC and GTO Access Systems, LLC f/k/a Gates That Open, LLC. Nortek's proposed claim constructions were taken from the 2nd Revised CC Chart and Nortek's Opening Brief on Claim Construction ("RMBr"), Doc. ID No. 661742 (Nov. 13, 2018). This chart contains constructions from U.S. Patent Nos. Patent Nos. 8,587,404 (the "'404 Patent"); 7,755,223 (the "'223 Patent"); and 6,741,052 (the "'052 Patent") (collectively, the "Asserted Patents").

**APPENDIX A TO 337-TA-1118 *MARKMAN* ORDER**
**Order No. 25**
**CONSTRUCTIONS OF DISPUTED CLAIM TERMS**

| **'052 Patent:** automatically determining a safe and effective force threshold for operation of a movable barrier system and permitting manual adjustment of the force threshold after the automatic determination (non-binding description provided for context only) [1] | | | | |
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| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Construction** | **Court Adopted Construction and Reasoning** |
| 052 | "force threshold"<br>(claims 1 and 27) | Plain and ordinary meaning; no construction required.<br>Alternatively: a threshold related to force. | The magnitude of force acting in opposition to the movement of a barrier that must be exceeded for the barrier operator to stop or reverse movement | **Adopted Construction: No construction is required because the claim term is clear and has its plain and ordinary meaning as the words convey.**<br>Chamberlain is correct that "'[f]orce threshold' does not relate merely to an analysis of the magnitude of force that must be exceeded to effect a stopping or reversal of the movable barrier, but more generally contemplates any threshold related to force." (CMBr. at 47.). "[F]orce threshold" could cover the amount of force needed initially to move a movable barrier: "force thresholds are typically used to ensure that sufficient force is available to move the movable barrier to a desired position[.]" ('052 patent at 4:5-7.). Thus, Nortek's construction is too narrow. |
| 052 | "force [threshold] modification/ modify[ing] the… force threshold"<br>(claims 1 and 27) | Plain and ordinary meaning; no construction required.<br>Alternatively: modification of [a/the] force threshold. | A user-selectable force value for changing a previously determined force threshold | **Adopted Construction: No construction is required because the claim term is clear and has its plain and ordinary meaning as the words convey.**<br>Nortek's construction is redundant. Claims 1 and 27 already have language tying force threshold modification to users. (*Id.*, cls. 1, 27.).<br>Also, under Nortek's construction, a modification must occur to a "previously determined" force threshold. Nortek is trying to import a limitation not found in the plain and ordinary meaning of the claims. That is not appropriate. |

**'223 Patent:** helps reduce energy consumption by providing full power to features like the obstacle detector when they are needed but switching them into a lower power standby mode when they are not (non-binding description provided for context only)

| Patent | Claim Term to Be Construed | Chamberlain's Proposed Construction | Nortek's Proposed Constructions | Reasoning |
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| 223 | "operates" (claims 1, 21) | Plain and ordinary meaning; no construction required. Alternatively: Is energized. | Works or functions | **Adopted Construction: No construction is required because the claim term is clear and has its plain and ordinary meaning as the words convey.** Nortek's proposed construction is flawed because it seeks to import into claims 1 and 21 a requirement that the claimed "obstacle detector" must always be energized to a level sufficient to perform "work" or perform its ordinary obstacle detecting functions. However, this is at odds with the specification, which describes an obstacle detector with a low duty cycle capable of intermittently detecting obstacles in the beam path. ('223 patent at 6:34-38.). Such an obstacle detector would not "work" or "function" to detect obstacles at all times, as Nortek requires. |
| 223 | "develop an obstacle detector operating mode control signal" (claims 1, 21) | Plain and ordinary meaning; no construction required. Alternatively: generate a signal that controls an obstacle detector operating mode. | Indefinite | **Adopted Construction: No construction is required because the claim term is clear and has its plain and ordinary meaning as the words convey.** Nortek's contention is apparently based on the claim's use of the term "develop," which is not explicitly found in the '223 patent specification. However, the specification provides an adequate disclose of the controller in the movable barrier operator "developing" a signal to control the mode of the obstacle detector. "Once the movable barrier has moved to a fully closed position, however, and further has remained in that position for a predetermined period of time (such as, for example, five minutes), this information as received 50 by the operator controller 5 can be used to |

| **'223 Patent:** helps reduce energy consumption by providing full power to features like the obstacle detector when they are needed but switching them into a lower power standby mode when they are not (non-binding description provided for context only) | | | | |
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| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Constructions** | **Reasoning** |
| | | | | select instead a second mode of energy consumption operation 54. In this embodiment, pursuant to the second mode of energy consumption operation, one pair 12B of the photobeam elements can be switched off, thus saving 50% in energy utilized to power the photobeam operation." (*Id.* at 6:17-27.).<br><br>Thus, the term at issue is not indefinite. |
| 223 | "obstacle detector operating mode control signal"<br><br>(claims 1, 21) | Plain and ordinary meaning; no construction required.<br><br>Alternatively: a signal that controls an obstacle detector operating mode. | Message from the head unit to the obstacle detector which causes the obstacle detector to respond by changing operating modes | **Adopted Construction: No construction is required because the claim term is clear and has its plain and ordinary meaning as the words convey.**<br><br>Nortek's construction inappropriately seeks to import claim limitations: (1) limit the source of the claimed signal (i.e., "from the head unit"), (2) limit the claimed signal to one particular type of signal (i.e., a "message"), and (3) add a method step requirement "to respond" to this signal (i.e., "which causes the obstacle detector to respond."). Claims 1 and 21 sufficiently limit this term. Nortek's additional limitations are not warranted by the specification or prosecution history. |
| 223 | "operating mode"<br><br>(claims 1, 21) | Plain and ordinary meaning; no construction required.<br><br>Alternatively: a mode of operation. | Distinct functioning arrangements or conditions in which the obstacle detector operates | **Adopted Construction: No construction is required because the claim term is clear and has its plain and ordinary meaning as the words convey.**<br><br>This claim term is self-explanatory. The '223 patent treats this term broadly, explaining that "operating modes are generally well understood in the art for microprocessors and the like" and that they are used in the patent "to facilitate the energy management of a |

| **'223 Patent:** helps reduce energy consumption by providing full power to features like the obstacle detector when they are needed but switching them into a lower power standby mode when they are not (non-binding description provided for context only) | | | | |
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| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Constructions** | **Reasoning** |
| | | | | movable barrier operator system." (*Id.* at 7:5-8.). Claims 1 and 21 sufficiently limit this term. Nortek's additional limitation are not warranted by the specification or prosecution history. |
| 223 | "obstacle detection means operably coupled to the power supply to receive operating power from the power supply for detecting an obstacle to the movable barrier"<br>(claim 18) | Means-plus-function<br>**Function:** "detecting an obstacle to the movable barrier, and equivalents thereof"<br>**Structure:** "photobeam based obstacle detector," and equivalents thereof. | Means-plus-function<br>**Function**: detecting an obstacle to the movable barrier<br>**Structure**: photobeam-based detector | **Adopted Construction: Means-plus-function**<br>**Function: "detecting an obstacle to the movable barrier"**<br>**Structure: "photobeam based obstacle detector," and equivalents thereof.**<br>Chamberlain's addition of the language "and equivalents thereof" to "detecting an obstacle to the movable barrier" is ***not adopted*** as part of the construction of the function. That addition is far too broad and is not included in the claim language. Neither is it required by statute.<br>Nortek's construction wrongly omits "and equivalents thereof" language for the corresponding structure. Pursuant to 35 U.S.C. §112, a means-plus-function claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof. Nortek is correct that Chamberlain is not entitled to coverage of equivalent functions – only structures. |
| 223 | "control means operably coupled to the power supply to receive | Means-plus-function | Means-plus-function | **Adopted Construction: Chamberlain's construction in its entirety.** |

**'223 Patent:** helps reduce energy consumption by providing full power to features like the obstacle detector when they are needed but switching them into a lower power standby mode when they are not (non-binding description provided for context only)

| Patent | Claim Term to Be Construed | Chamberlain's Proposed Construction | Nortek's Proposed Constructions | Reasoning |
|---|---|---|---|---|
| | operating power from the power supply and to the obstacle detection means for automatically selectively directly controlling:<br>opening and closing of the movable barrier; and<br>energy consumption of the obstacle detection means as a function of movable barrier operator system state information that indicates whether the barrier is open or closed and the state information selected from the group consisting of motor state information, time | **Function:** automatically selectively directly controlling:<br><br>opening and closing of the movable barrier; and energy consumption of the obstacle detection means as a function of movable barrier operator system state information that indicates whether the barrier is open or closed and the state information selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof, the state information effecting a plurality of power consumption modes which are different, at least one of the power consumption mode consuming less power than another power consumption mode. | **Function**: automatically selectively directly controlling:<br><br>opening and closing of the movable barrier; and energy consumption of the obstacle detection means as a function of movable barrier operator system state information that indicates whether the barrier is open or closed and the state information selected from the group consisting of motor state information, time information, transmission state information, voltage state information, switch state information and combinations thereof, the state information effecting a plurality of power consumption modes which are different, at least one of the power consumption mode consuming less power than another power consumption mode. | Nortek argues that the claimed "control means" is indefinite because it attempts to claim a specific result without describing in the specification how to obtain that result. Nortek appears to object to the lack of disclosure of a precise algorithm for performing the recited function. However, such an algorithm is not necessary in this relatively simple technological field. Examples in the specification are sufficient to allow one of ordinary skill in the art to understand the bounds of the claim. *AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1245 (Fed. Cir. 2007) ("In software cases, therefore, algorithms in the specification need only disclose adequate defining structure to render the bounds of the claim understandable to one of ordinary skill in the art."); *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1214 (Fed. Cir. 2003) ("[H]ere there would be no need for a disclosure of the specific program code if software were linked to the converting function and one skilled in the art would know the kind of program to use."); *see also Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003) (holding that the internal circuitry of an electronic device need not be disclosed in the specification if one of ordinary skill in the art would understand how to build and modify the device).<br><br>Here is an exemplary disclosure from the specification: "consider the above process as applied to an obstacle detector 12. … In this regard, when the operator |

| **'223 Patent:** helps reduce energy consumption by providing full power to features like the obstacle detector when they are needed but switching them into a lower power standby mode when they are not (non-binding description provided for context only) | | | | |
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| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Constructions** | **Reasoning** |
| | information, transmission state information, voltage state information, switch state information and combinations thereof, the state information effecting a plurality of power consumption modes which are different, at least one of the power consumption mode consuming less power than another power consumption mode"<br>(claim 18) | **Structure:** "controller 5," and algorithms at *e.g.* 3:13-39, 3:56-4:67, 5:27-6:42, 10:31-41. Figs. 1-5, and equivalents thereof. | **Structure**: A programmable computing platform (3:13-20); no sufficient software structure is described and this claim term is therefore indefinite | controller 5 receives 50 information indicating that the movable barrier is moving from an open to a closed position, a first mode of energy consumption operation 52 that comprises, in this example, normal full energization and operation of the obstacle detector 12 is appropriate to ensure that this feature is fully enabled. Once the movable barrier has moved to a fully closed position, however, and further has remained in that position for a predetermined period of time (such as, for example, five minutes), this information as received 50 by the operator controller 5 can be used to select instead a second mode of energy consumption operation 54. In this embodiment, pursuant to the second mode of energy consumption operation, one pair 12B of the photobeam elements can be switched off, thus saving 50% in energy utilized to power the photobeam operation. This energy savings is achieved at the expense of now providing only one pair of photobeam elements, of course. By ensuring that such a selection only occurs when the movable barrier is fully closed, however, such a compromise will be quite reasonable for many applications." ('223 patent at 6:6-31.). |
| 223 | "energy storage means"<br>(claim 20) | Means-plus-Function<br>**Function:** "provid[ing] energy to the obstacle detection means when at least portions of the power supply | Means-plus-function<br>**Function:** Storing energy and providing energy to the obstacle detection means when at least portions of | **Adopted Construction: Means-plus-function**<br>**Function: "Storing energy and provid[ing] energy to the obstacle detection means when at least portions of the power supply are rendered non-operable by the control means"** |

| **'223 Patent:** helps reduce energy consumption by providing full power to features like the obstacle detector when they are needed but switching them into a lower power standby mode when they are not (non-binding description provided for context only) | | | | |
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| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Constructions** | **Reasoning** |
| | | are rendered non-operable by the control means," and equivalents thereof.<br><br>**Structure:** capacitor and equivalents thereof. | the power supply are rendered non-operable by the control means<br><br>**Structure**: A capacitor. | **Structure: A capacitor, and equivalents thereof.**<br><br>Chamberlain's claim construction brief characterized this as an agreed-upon construction, including the inclusion of "storing energy" in the recited function, a phrase that Chamberlain now omits without explanation. (CMBr. at 28-29.).<br><br>Nortek's construction is generally correct but wrongly omits "and equivalents thereof" language for corresponding structure. Pursuant to 35 U.S.C. §112, a means-plus-function claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof. Nortek is correct that Chamberlain is not entitled to coverage of equivalent functions – only structures. |

| **'404 Patent:** a movable barrier operator with the intelligence to differentiate between circumstances where safety warning notifications are necessary and those where such notifications are unnecessary (non-binding description provided for context only) | | | | |
|---|---|---|---|---|
| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Construction** | **Court Adopted Construction and Reasoning** |
| 404 | "operat[e][ing] [a/the] moving-barrier imminent motion notification" | Plain and ordinary meaning; no construction required.<br><br>Alternatively: provide advanced warning that a movable barrier is about to move. | Providing a light, sound, delay, or partial door movement | **Adopted Construction: No construction is required because the claim term is clear and has its plain and ordinary meaning as the words convey.**<br><br>Nortek's construction inappropriately seeks to import claim limitations with respect to the type of notification. |

| **'404 Patent:** a movable barrier operator with the intelligence to differentiate between circumstances where safety warning notifications are necessary and those where such notifications are unnecessary (non-binding description provided for context only) | | | | |
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| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Construction** | **Court Adopted Construction and Reasoning** |
| | (claims 7, 11, and 16) | | | The specification treats recited types of notifications as exemplary. ('404 patent at 1:40-43.).<br><br>Also, the plain language of the claim term, and in particular "imminent," requires some element of foreshadowing. Nortek argues that this language supports its view that an "imminent motion notification" can start after a barrier starts moving, based on the following language from the specification: "The moving-barrier imminent motion notification may comprise a number of methods of notification to people in the vicinity of the movable barrier system 10 to indicate that the movable barrier 24 is about to move or is in the process of moving. (*Id.* at 6:50-54; RMBr. at 10-11.). However, this language appears to confirm (as disclosed in other parts of the specification) that an imminent motion notification can start before barrier movement and continue during barrier movement. This language does not necessarily justify Nortek's counterintuitive interpretation that the notification of "imminent" motion can occur after the motion begins, which would effectively read "imminent" out of the claim language. (*See id.* at 1:40-44, Figs. 3-4.). The specification language above cited by Nortek also suggests that the form of the notification can vary depending on whether the barrier has started moving, with one type of notification used prior to movement and another type used during movement. |

| **'404 Patent:** a movable barrier operator with the intelligence to differentiate between circumstances where safety warning notifications are necessary and those where such notifications are unnecessary (non-binding description provided for context only) | | | | |
|---|---|---|---|---|
| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Construction** | **Court Adopted Construction and Reasoning** |
| 404 | "movable barrier operator"<br>(claims 11 and 16) | Plain and ordinary meaning; no construction required.<br>Alternatively: an operator capable of moving a barrier. | an assembly that contains a motor to operate a movable barrier, also known as a head unit | **Adopted Construction: No construction is required because the claim term is clear and has its plain and ordinary meaning as the words convey.**<br>Nortek's construction reflects a concern over conflation of "movable barrier operator" and "movable barrier system," terms that the '404 patent treats as distinct. While this might be a valid concern, it does not justify Nortek's attempt to import claim limitations to narrow the scope of "movable barrier operator."<br>The only time the specification references a head unit in relation to the movable barrier operator is as a non-limiting "example." (*Id.* at 5:36-38 (explaining Figure 1 is "an example movable barrier system 10 including a movable barrier operator 12, here a head unit").). Nortek's construction takes this exemplary embodiment and makes it a requirement. |
| 404 | "user input"<br>(claim 16) | Plain and ordinary meaning; no construction required.<br>Alternatively: an input from a user. | Interaction between a user and an interface on the transmitter | **Adopted Construction: No construction is required because the claim term is clear and has its plain and ordinary meaning as the words convey.**<br>Nortek's construction inappropriately seeks to import a claim limitation with respect to where the user interface resides. Certain claims already provide this detail thereby making Nortek's construction redundant. For example, unasserted claims 1 and 4 disclose "a first user input at the transmitter." ('404 patent at 12:26-27, 12:66-67.). Under Nortek's construction, these claims would read – "a first [interaction between a user and an interface on the transmitter] at the transmitter." *MEMS* |

| **'404 Patent:** a movable barrier operator with the intelligence to differentiate between circumstances where safety warning notifications are necessary and those where such notifications are unnecessary (non-binding description provided for context only) | | | | |
|---|---|---|---|---|
| **Patent** | **Claim Term to Be Construed** | **Chamberlain's Proposed Construction** | **Nortek's Proposed Construction** | **Court Adopted Construction and Reasoning** |
| | | | | *Tech. Berhad v. Int'l Trade Comm'n*, 447 F. App'x 142, 151 (Fed. Cir. 2011) (constructions which introduce redundancy are "disfavored" especially where "the construction would without justification exclude embodiments in the specification."). Nortek's construction is clearly incorrect. |

**CERTAIN MOVABLE BARRIER OPERATOR SYSTEMS AND COMPONENTS THEREOF** **Inv. No. 337-TA-1118**

## PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served upon the following parties as indicated, on **June 5, 2019**.

Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainant The Chamberlain Group, Inc.:**

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☐ Via Hand Delivery
☐ Via Express Delivery
☑ Via First Class Mail
☐ Other:_____

**On Behalf Respondents Nortek, Inc., Nortek Security & Control., LLC F/K/A Linear, LLC And GTO Access Access Systems, LLC F/K/A Gates That Open, LLC:**

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