Silicon Metal from Russia

Investigation No. 731-TA-991 (Second Review)

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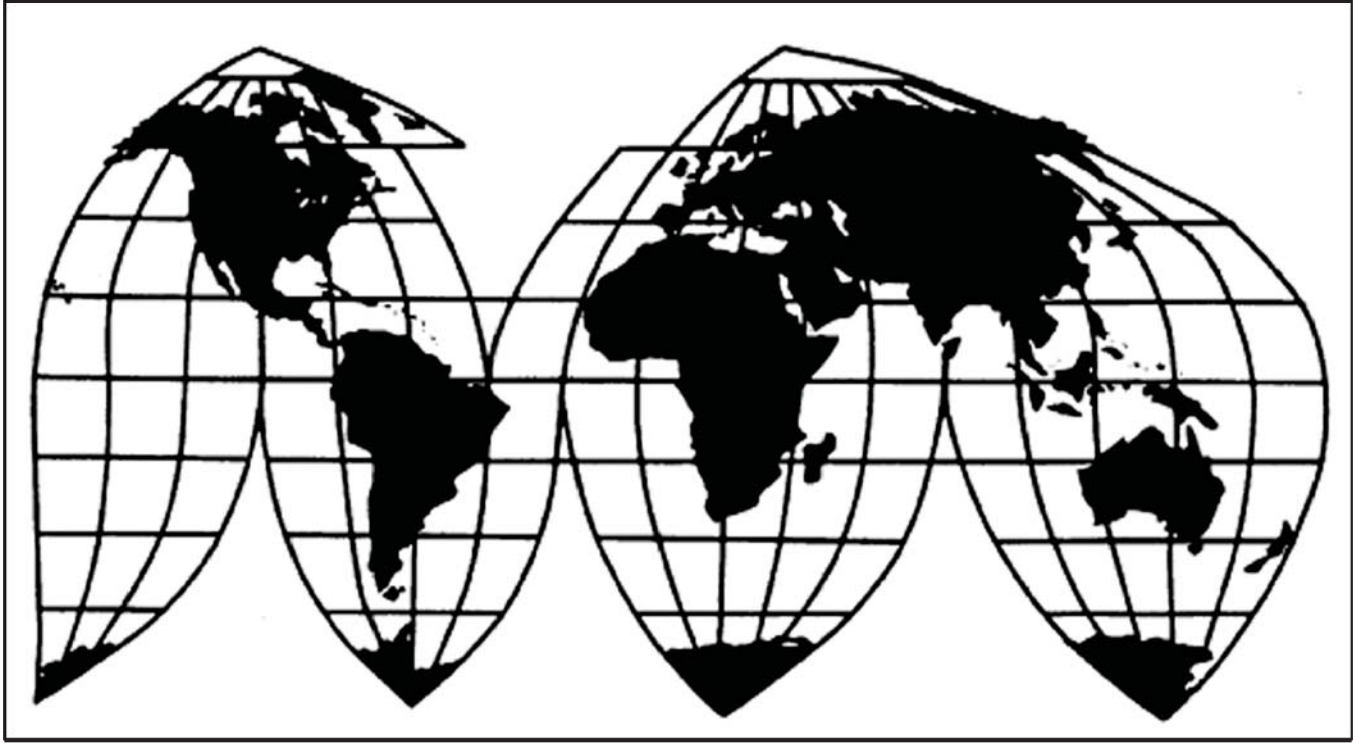
U.S. International Trade Commission



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UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-991 (Second Review)

SILICON METAL FROM RUSSIA

DETERMINATION

On the basis of the record[1] developed in the subject five-year review, the United States International Trade Commission (Commission) determines, pursuant to section 751(c) of the Tariff Act of 1930 (19 U.S.C. § 1675(c)), that revocation of the antidumping duty order would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[2]

BACKGROUND

The Commission instituted this review on June 3, 2013 (78 F.R. 33064) and determined on September 6, 2013 that it would conduct a full review (78 FR 61384, October 3, 2013). Notice of the scheduling of the Commission's review and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* on December 19, 2013 (78 F.R. 76856). The hearing was cancelled, on April 7, 2014 (79 F.R. 19921, April 10, 2014).

[1] The record is defined in sec. 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR § 207.2(f)).

[2] Commissioner Rhonda K. Schmidtlein did not participate in the vote.

VIEWS OF THE COMMISSION

Based on the record in this five-year review, we determine under section 751(c) of the Tariff Act of 1930, as amended ("the Act"), that revocation of the antidumping duty order on silicon metal from Russia would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[1]

I. BACKGROUND

On March 19, 2003, the Commission determined that an industry in the United States was materially injured by reason of imports of silicon metal from Russia that Commerce determined to be sold at less than fair value.[2] Commerce issued its antidumping duty order in March 2003.[3]

Respondents Bratsk Aluminum Smelter and Sual Trade Limited appealed the Commission's determination to the U.S. Court of International Trade ("CIT"), which remanded the case to the Commission for further explanation.[4] On September 15, 2004, the Commission filed its affirmative remand determination with the CIT and on December 3, 2004, the CIT affirmed the Commission's remand determination.[5]

Plaintiffs appealed the CIT's judgment to the U.S. Court of Appeals for the Federal Circuit ("Federal Circuit"), which vacated and remanded the CIT's decision. A divided Court held that the Commission's determination was not in accordance with law because, in the Court's view, the Commission had not considered whether, for the commodity product at issue, price-competitive nonsubject imports would have replaced the subject imports without any beneficial effect on domestic producers. Therefore, the Commission had not established that any material injury was "by reason of" subject imports.[6]

On remand, the Commission, after conducting a "replacement/benefit" analysis, determined that an industry in the United States was materially injured by reason of imports of silicon metal from Russia that Commerce found to be sold at less than fair value.[7] On January

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[1] Commissioner Schmidtlein did not participate in this review.

[2] *Silicon Metal from Russia*, Inv. No. 731-TA-991 (Final), USITC Pub. 3584 (Mar. 2003) ("*Original Determination*"), at 1.

[3] *Antidumping Duty Order: Silicon Metal from Russia*, 68 Fed. Reg. 14578 (Mar. 26, 2003).

[4] The CIT ordered the Commission: (1) to explain its reasons for accepting evidence that "spot" prices may affect contract prices while rejecting contradictory evidence; (2) to explain the significance or effect of the similar pricing trends of the different market segments; and (3) to change its determination accordingly if it could not provide sufficient reasons or explanations. *Bratsk Aluminum Smelter v. United States*, 28 CIT 955, 968 (2004).

[5] *Bratsk Aluminum Smelter v. United States*, 28 CIT 2043 (2004).

[6] *Bratsk Aluminum Smelter v. United States*, 444 F.3d 1369, 1373 (Fed. Cir. 2006).

[7] *Silicon Metal from Russia*, Inv. No. 731-TA-991 (Final) (Second Remand), USITC Pub. 3910 (Mar. 2007), at 1 and I-1 ("*Remand Determination*").

15, 2008, the CIT issued an opinion affirming the Commission's affirmative remand determination. This decision was not appealed to the Federal Circuit.[8]

The Commission instituted its first five-year review concerning the antidumping duty order on silicon metal from Russia in February 2008.[9] Domestic producer Globe filed the sole response to the Commission's notice of institution, and the Commission conducted an expedited review. On June 19, 2008, the Commission determined that revocation of the antidumping duty order on silicon metal from Russia would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[10] Commerce issued a continuation of the antidumping duty order covering the subject merchandise on July 16, 2008.[11]

The Commission instituted this second five-year review on June 3, 2013.[12] The Commission received a substantive response to the notice of institution from Globe,[13] a domestic producer of silicon metal, and LLC SUAL-Kremny-URAL and JSC Kremny, subject producers of silicon metal, each of which is wholly-owned by UC SUAL (collectively, "RUSAL"), and the Trade Representative of the Russian Federation ("Russian Government").[14] On October 21, 2013, the Commission found Globe's response to the notice of institution individually adequate and the domestic interested party group response adequate. The Commission also found respondent interested party group response adequate because the responding parties accounted for all Russian production of the subject merchandise in 2012.[15] Therefore, the Commission determined to conduct a full review.[16]

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[8] *Bratsk Aluminum Smelter v. United States*, Slip Op. 08-05, Consol. Court No. 03-00200 (Ct. Int'l Trade January 15, 2008).

[9] 73 Fed. Reg. 28153 (Feb. 1, 2008).

[10] *Silicon Metal from Russia*, Inv. No. 731-TA-991 (Review), USITC Pub. 4018 at 3-4 (June 2008) ("*First Five-Year Review*") at 3.

[11] *Silicon Metal from the Russian Federation: Continuation of Antidumping Duty Order*, 73 Fed. Reg. 40848 (July 16, 2008). The Commission's affirmative determination in the expedited first five-year review was not appealed.

[12] *Silicon Metal from Russia: Institution of Five-Year Review*, 78 Fed. Reg. 33064 (June 3, 2013); *see also Silicon Metal From the Russian Federation: Final Results of the Expedited Second Sunset Review of the Antidumping Duty Order*, 78 Fed. Reg. 81334 (Oct. 3, 2013) ("Commerce Second Sunset Review").

[13] Substantive Response of Globe Metallurgical, Inc., to the Commission's Notice of Institution (July 30, 2013) ("Globe Response").

[14] Response of the Trade Representative of the Russian Federation to the Commission's Notice of Institution (July 30, 2013) ("Russian Government Response").

[15] Summary Voting Sheet, EDIS Doc. 517813.

[16] 19 U.S.C. § 1675(c)(3); *see also* Explanation of Commission Determination on Adequacy (Sept. 6, 2013) and 78 Fed. Reg. 76856 (October 3, 2013).

Globe filed prehearing and posthearing briefs supporting continuation of the antidumping duty order. The Russian Government filed prehearing and posthearing briefs supporting revocation of the antidumping duty order.[17]

The Commission sent questionnaires to two U.S. producers of silicon metal, both of which provided the Commission with information on their silicon metal operations. These producers are believed to account of all domestic production in 2013.[18] The Commission sent importers' questionnaires to 20 firms believed to have imported silicon metal and received usable questionnaire responses from seven companies representing 83.7 percent of total U.S. imports of silicon metal in 2013.[19] The Commission sent foreign producer questionnaires to the two known producers of silicon metal in Russia and neither firm responded.[20]

II. DOMESTIC LIKE PRODUCT AND INDUSTRY

A. Domestic Like Product

In making its determination under section 751(c) of the Act, the Commission first defines the "domestic like product" and the "industry."[21] The Act defines "domestic like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation under this subtitle."[22] The Commission's practice in five-year reviews is to examine the domestic like product definition from the original investigation and any completed reviews and consider whether the record indicates any reason to revisit the prior findings.

[17] The Commission did not conduct a hearing in this review. RUSAL notified the Commission on December 18, 2013, that it was withdrawing from further participation in the review. RUSAL Letter, EDIS Doc. 524420; *Silicon Metal from Russia: Revised Schedule for the Subject Review*, 79 Fed. Reg. 19921 (April 10, 2014). In light of RUSAL's withdrawal, Globe requested that the Commission not hold a hearing in this proceeding. Globe Letter, EDIS Doc. 530902.

[18] CR at I-24 to I-25 and Table I-4, PR at I-19 and Table I-4.

[19] CR/PR at IV-1. Import data are based on official Commerce statistics for silicon metal. *Id*.

[20] CR at IV-3 to IV-4, PR at IV-3.

[21] 19 U.S.C. § 1677(4)(A).

[22] 19 U.S.C. § 1677(10); *see, e.g., Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Department of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996); *Torrington Co. v. United States*, 747 F. Supp. 744, 748-49 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991); *see also* S. Rep. No. 249, 96th Cong., 1st Sess. 90-91 (1979).

1. The Subject Merchandise

Commerce has defined the scope of the order in this five-year review as follows:

> [S]ilicon metal, which generally contains at least 96.00 percent but less than 99.99 percent silicon by weight. The merchandise covered by this order also includes silicon metal from Russia containing between 89.00 and 96.00 percent silicon by weight, but containing more aluminum than the silicon metal which contains at least 96.00 percent but less than 99.99 percent silicon by weight.[23]

Silicon is a chemical element, metallic in appearance, solid in mass, and steel gray in color, that is commonly found in nature and, whether imported or domestic, it is usually sold in a lump form. There are four broadly defined categories, or grades, of silicon metal. These grades - ranked in generally descending order of purity - are semiconductor grade,[24] chemical grade, a metallurgical grade used to produce primary aluminum, and a metallurgical grade used to produce secondary aluminum.[25] The silicon metal content for all four grades of silicon metal is typically at least 98.5 percent.[26]

There are no known substitutes for silicon metal. Silicon metal is used in the chemical industry to produce silanes that are, in turn, used to produce a family of organic chemicals known as silicones. Silicones are used in a wide variety of applications including resins, lubricants, plastomers, anti-foaming agents, and water-repellent compounds that are employed in the chemical, pharmaceutical, automotive, and aerospace industries. Silicon metal employed in the production of primary and secondary aluminum is an alloying agent (it is a required component in aluminum casting alloys) because the silicon increases fluidity and reduces shrinkage while it enhances strength, castability, and weldability.[27] Primary aluminum applications include the manufacture of components that require higher purity aluminum, such as automobile wheels. Secondary-aluminum applications apply primarily to other automotive castings. Other applications for silicon metal include the production of brass and bronzes, steel, copper alloys, ceramic powders, and refractory coatings. Silicon metal is used in solar panels for the generation of electricity. Silicon metal for this application is metallurgical grade that undergoes further manufacturing to a purity standard suitable for electronic applications.[28]

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[23] *Commerce Second Sunset Review*, 78 Fed. Reg. at 61334-35.

[24] Semiconductor grade silicon, used in the electronics industry, is a high-purity product generally containing over 99.99 percent silicon and, therefore, is not included within the scope. Subject silicon metal may be used as a starting material for the manufacture of semiconductor grade silicon. CR at I-18 n.37, PR at I-15 n.37.

[25] Confidential Report ("CR") at I-18, Public Report ("PR") at I-15.

[26] CR at I-19, PR at I-15.

[27] CR at I-19 to I-20, PR at I-16.

[28] CR at I-20, PR at I-16.

In the original investigation, the Commission found that there was one domestic like product consisting of all silicon metal, regardless of grade, based on shared physical characteristics, some overlapping uses, similar channels of distribution, some interchangeability, the same production processes and employees, and relatively minor differences in prices between the grades of silicon metal.[29] In its expedited first five-year review, the Commission determined that no new facts existed to warrant a conclusion different from that in the original investigation and again found one domestic like product consisting of all silicon metal, regardless of grade. [30]

The record of this full second five-year review contains no new information that would suggest any reason to revisit the Commission's domestic like product definition from the original determination and first five-year review.[31] All responding parties agreed with or did not object to the Commission's prior definition of the domestic like product.[32] We therefore find a single domestic like product to be coextensive with the scope, all silicon metal, regardless of grade.

B. Domestic Industry

Section 771(4)(A) of the Act defines the relevant industry as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[33] In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

In the original investigation and expedited first five-year review, the Commission defined the domestic industry as consisting of all domestic producers of silicon metal.[34] The record in this review indicates that Globe and Dow Corning Alabama are the only current producers of the domestic like product.[35] Given our definition of the domestic like product, we

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[29] *Original Determination*, USITC Pub. 3584, at 5.

[30] *First Five-Year Review*, USITC Pub. 4018, at 5-6.

[31] *See generally* CR at I-18 to I-24, PR at I-15 to I-18.

[32] Globe Substantive Response to the Commission's Notice of Institution ("Globe Response") at 29-30. The Russian Government did not comment on the appropriate domestic like product in its submissions.

[33] 19 U.S.C. § 1677(4)(A). The definitions in 19 U.S.C. § 1677 apply to the entire subtitle containing the antidumping and countervailing duty laws, including 19 U.S.C. §§ 1675 and 1675a. *See* 19 U.S.C. § 1677.

[34] *Original Determination*, USITC Pub. 3584, at 6; *First Five-Year Review*, USITC Pub. 4018, at 6. In this review, Globe has stated that it agrees with the domestic industry definition in the original investigations and first five-year review. Globe Response at 29-30.

[35] CR at I-24 to I-25 and Table I-4, PR at I-19 and Table I-4. There are no related party issues in this review.

define the domestic industry, as we did in the original investigation and first five-year review, to include all domestic producers of silicon metal, regardless of grade, coextensive with the scope.

III. LIKELIHOOD OF CONTINUATION OR RECURRENCE OF MATERIAL INJURY IF THE ANTIDUMPING DUTY ORDER IS REVOKED

A. Legal Standards

In a five-year review conducted under section 751(c) of the Act, Commerce will revoke an antidumping duty order unless (1) it makes a determination that dumping is likely to continue or recur and (2) the Commission makes a determination that revocation of the antidumping duty order "would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time."[36] The Uruguay Round Agreements Act ("URAA") Statement of Administrative Action ("SAA") states that "under the likelihood standard, the Commission will engage in a counterfactual analysis; it must decide the likely impact in the reasonably foreseeable future of an important change in the *status quo* – the revocation or termination of a proceeding and the elimination of its restraining effects on volumes and prices of imports."[37] Thus, the likelihood standard is prospective in nature.[38] The U.S. Court of International Trade has found that "likely," as used in the five-year review provisions of the Act, means "probable," and the Commission applies that standard in five-year reviews.[39]

The statute states that "the Commission shall consider that the effects of revocation or termination may not be imminent, but may manifest themselves only over a longer period of time."[40] According to the SAA, a "'reasonably foreseeable time' will vary from case-to-case, but

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[36] 19 U.S.C. § 1675a(a).

[37] SAA, H.R. Rep. 103-316, vol. I, at 883-84. The SAA states that "{t}he likelihood of injury standard applies regardless of the nature of the Commission's original determination (material injury, threat of material injury, or material retardation of an industry). Likewise, the standard applies to suspended investigations that were never completed." *Id*. at 883.

[38] While the SAA states that "a separate determination regarding current material injury is not necessary," it indicates that "the Commission may consider relevant factors such as current and likely continued depressed shipment levels and current and likely continued {sic} prices for the domestic like product in the U.S. market in making its determination of the likelihood of continuation or recurrence of material injury if the order is revoked." SAA at 884.

[39] *See NMB Singapore Ltd. v. United States*, 288 F. Supp. 2d 1306, 1352 (Ct. Int'l Trade 2003) ("'likely' means probable within the context of 19 U.S.C. § 1675(c) and 19 U.S.C. § 1675a(a)"), *aff'd mem.*, 140 Fed. Appx. 268 (Fed. Cir. 2005); *Nippon Steel Corp. v. United States*, 26 CIT 1416, 1419 (2002) (same); *Usinor Industeel, S.A. v. United States*, 26 CIT 1402, 1404 nn.3, 6 (2002) ("more likely than not" standard is "consistent with the court's opinion"; "the court has not interpreted 'likely' to imply any particular degree of 'certainty'"); *Indorama Chemicals (Thailand) Ltd. v. United States*, Slip Op. 02-105 at 20 (Ct. Int'l Trade Sept. 4, 2002) ("standard is based on a likelihood of continuation or recurrence of injury, not a certainty"); *Usinor v. United States*, 26 CIT 767, 794 (2002) ("'likely' is tantamount to 'probable,' not merely 'possible'").

[40] 19 U.S.C. § 1675a(a)(5).

normally will exceed the 'imminent' timeframe applicable in a threat of injury analysis in original investigations."[41]

Although the standard in a five-year review is not the same as the standard applied in an original antidumping duty investigation, it contains some of the same fundamental elements. The statute provides that the Commission is to "consider the likely volume, price effects, and impact of imports of the subject merchandise on the industry if the orders are revoked or the suspended investigation is terminated."[42] It directs the Commission to take into account its prior injury determination, whether any improvement in the state of the industry is related to the order under review, whether the industry is vulnerable to material injury if the order were revoked, and any findings by Commerce regarding duty absorption pursuant to 19 U.S.C. § 1675(a)(4).[43] The statute further provides that the presence or absence of any factor that the Commission is required to consider shall not necessarily give decisive guidance with respect to the Commission's determination.[44]

B. Conditions of Competition

In evaluating the likely impact of the subject imports on the domestic industry, the statute directs the Commission to consider all relevant economic factors "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[45]

1. The Original Determination

In the original investigation, the Commission first noted that demand for silicon metal is dependent on the demand for the products in which it is used, specifically aluminum products and certain chemical products. The largest market for silicon metal produced by the domestic industry was the chemical market, followed by the secondary aluminum market and the primary aluminum market. U.S. importers sold silicon metal to all three customer groups, but in different proportions than the domestic industry.[46]

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[41] SAA at 887. Among the factors that the Commission should consider in this regard are "the fungibility or differentiation within the product in question, the level of substitutability between the imported and domestic products, the channels of distribution used, the methods of contracting (such as spot sales or long-term contracts), and lead times for delivery of goods, as well as other factors that may only manifest themselves in the longer term, such as planned investment and the shifting of production facilities." *Id.*

[42] 19 U.S.C. § 1675a(a)(1).

[43] 19 U.S.C. § 1675a(a)(1). Commerce has not conducted any administrative reviews, changed circumstances reviews, or scope inquiry reviews of the antidumping duty order on silicon metal from Russia and, therefore, it has made no findings whether a foreign producer or importer of subject merchandise has absorbed antidumping duties. CR at I-15 and Table I-3; PR at I-13 and Table I-3.

[44] 19 U.S.C. § 1675a(a)(5). Although the Commission must consider all factors, no one factor is necessarily dispositive. SAA at 886.

[45] 19 U.S.C. § 1675a(a)(4).

[46] *Original Determination*, USITC Pub. 3584, at 7.

The Commission then found that apparent U.S. consumption had increased slightly between 1999 and 2000 before decreasing in 2001. U.S. producers reported that demand generally decreased between 1999 and 2002. Both U.S. producers and importers agreed that the declines in demand were due to poor economic conditions in the United States.[47]

At the time of the Commission's original determination, three firms produced silicon metal in the United States. A fourth had ceased production in September 1999. It appeared that the domestic industry was able to satisfy only a portion of U.S. silicon metal demand, with the balance satisfied by subject and nonsubject imports.[48] In addition, two U.S. silicon metal producers also produced ferrosilicon. Producers could switch production between ferrosilicon and silicon metal with varying degrees of cost, downtime, and efficiency loss.[49] The Commission stated that nonsubject imports were an important factor in the U.S. market.[50]

The Commission stated that silicon metal was generally considered to be a commodity product because of the interchangeability of materials of the same grade.[51] The parties agreed in the original investigation that price was a primary consideration for purchasers. Sales were made on both a contract and spot basis. Contracts were somewhat more common in the chemical market segment and likely to be at least one year in duration, while contracts in the primary and secondary aluminum markets were often one year or less in duration.[52] Annual contracts were usually negotiated during the fourth quarter of the prior year and often contained approximate, but not fixed, volumes.[53] Regarding the adjustment of prices during the term of contracts, the majority of responding purchasers responded in the negative when asked if prices varied within the duration of a contract in response to changes in spot prices.[54]

2. The First Five-Year Review

In the expedited first five-year review, the Commission found that demand for silicon metal was derived from demand arising from use in the production of primary and secondary aluminum alloys and silicon-based chemicals, for which there were no substitutes. The United States was among the world's largest silicon metal consuming countries, representing one-fifth of total global demand, and apparent U.S. consumption had increased over the period of review and was expected to increase over the next few years.[55]

With respect to supply, the domestic industry consisted of only two producers.[56] The structure of the Russian silicon metal industry had changed since the original investigation

[47] *Original Determination*, USITC Pub. 3584, at 7.
[48] *Original Determination*, USITC Pub. 3584, at 7-8.
[49] *Original Determination*, USITC Pub. 3584, at 8.
[50] *Original Determination*, USITC Pub. 3584, at 9.
[51] *Original Determination*, USITC Pub. 3584, at 8.
[52] *Original Determination*, USITC Pub. 3584, at 8.
[53] *Original Determination*, USITC Pub. 3584, at 9.
[54] *Original Determination*, USITC Pub. 3584, at 9.
[55] *First Five-Year Review*, USITC Pub. 4018, at 9.
[56] *First Five-Year Review*, USITC Pub. 4018, at 9.

through mergers and acquisitions that resulted in the creation of a single Russian silicon metal producer, RUSAL.[57] During the period of review, the Commission found that RUSAL operated two plants and claimed to be the fifth largest producer of silicon metal in the "Western world."[58] The Commission also found that both Russian total silicon metal production capacity and excess capacity had decreased since 2001.[59]

The Commission stated that it had found in the original investigation that silicon metal was generally considered to be a commodity product, in that materials of the same grade were interchangeable.[60] The Commission found that there was no evidence in the record of the review to suggest that there had been any significant change in substitutability since the original investigation.[61]

With respect to other factors, the Commission found that price remained an important factor in purchasing decisions and that the record indicated the silicon metal market was a single market in which prices in different segments were interrelated. Moreover, the Commission found that silicon metal producers continued to produce other ferroalloys using the same type of production process and equipment used to produce silicon metal, and might have been able to switch production between ferrosilicon and silicon metal given an economic incentive to do so.[62] Finally, the Commission found that nonsubject imports of silicon metal remained an important source of supply in the U.S. market, with rising volumes and market share during the period of review, while the domestic producers' market share also increased during the period.[63]

3. The Current Review

The Commission's findings on the conditions of competition in the first five-year review continue generally to be applicable.

Demand. Because silicon metal continues to be used in the production of primary and secondary aluminum alloys and silicon-based chemicals, demand for it continues to depend on demand for downstream products manufactured from such inputs.[64] Apparent U.S. consumption decreased from *** short tons in 2008 to *** short tons in 2013.[65] A portion of

[57] *First Five-Year Review*, USITC Pub. 4018, at 9.

[58] *First Five-Year Review*, USITC Pub. 4018, at 9-10.

[59] *First Five-Year Review*, USITC Pub. 4018, at 10.

[60] *First Five-Year Review*, USITC Pub. 4018, at 10, *citing Original Determination*, USITC Pub. 3584, at 8.

[61] *First Five-Year Review*, USITC Pub. 4018, at 10.

[62] *First Five-Year Review*, USITC Pub. 4018, at 10. The Commission observed, however, that it was generally easier to switch from silicon metal to ferrosilicon production than vice versa and that Russia was the world's second-largest producer of ferrosilicon after China during the period of review. *Id.*

[63] *First Five-Year Review*, USITC Pub. 4018, at 10.

[64] CR at II-1 and II-12 to II-13, PR at II-1 and II-6 to II-7.

[65] CR/PR at Table I-7.

the decrease in apparent U.S. consumption reportedly is due to ***.[66] Additionally, the decrease in apparent U.S. consumption after 2011 can be attributed in large part to the establishment of foreign trade zone ("FTZ") manufacturing subzones by ***.[67] By contrast, although perceptions were mixed, a majority of market participants reported that demand for silicon metal in the United States had increased since 2008.[68] A majority of market participants also reported that they anticipated increased demand for silicon metal in the future.[69]

Supply. As was the case in the first review, there are two U.S. producers, Globe and Dow Corning Alabama.[70] Globe is the principal domestic merchant supplier to the U.S. market. Dow Corning Alabama ***.[71] The domestic industry's capacity fluctuated over the current period of review, but was higher in 2013 than in 2008.[72] Globe reported that it ***.[73] The domestic industry's production capacity is expected to increase in the future due to the recent announcement by Brazilian producer Rima of its new silicon metal production facility in Mississippi.[74] Moreover, U.S. producers report using or having the capability to use ***.[75] U.S. producers were the largest suppliers to the U.S. market at the end of the current period,

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[66] CR at I-28 to I-29 and II-11 to II-13, PR at I-21 and II-6 to II-7.

[67] CR at I-28, PR at I-21. Imports into the FTZ subzones would not be reported as entries for consumption and therefore would not be included in the apparent U.S. consumption data. CR at I-28 n.59, PR at I-21 n.59; and Globe Posthearing Brief, Responses to Questions from the Commission at 13-14. These silicon metal imports are ***. CR at I-28 and n.60, PR at I-21 and n.60.

[68] CR/PR at Table II-3. Nine of 17 responding purchasers and three of six responding importers reported that demand for silicon metal in the U.S. market had increased overall since 2008. *** U.S. producer, one importer, and three purchasers reported demand had decreased overall, and *** producer and one purchaser reported no change in demand since 2008. *Id*.

[69] CR/PR at Table II-3. *** U.S. producers, four importers and 10 purchasers reported that they anticipated increased demand for silicon metal in the future. Two purchasers reported that they anticipated no change in demand. The five remaining purchasers and two remaining importers reported that demand would fluctuate with no clear trend in the future. *Id*.

[70] Globe accounted for *** percent and Dow Corning Alabama *** percent of U.S. production in 2013. CR/PR at Table I-4. Since 2009, Globe and Dow Corning Alabama's parent, Dow Corning Inc., have jointly owned a silicon metal plant in Alloy, WV. CR at I-25 n.49, PR at I-19 n.49.

[71] CR at II-5 n.8, PR at II-3 n.8; Dow Corning Alabama U.S. Producer Questionnaire Response, Section II-10. Dow Corning Alabama reported that approximately *** percent of its silicon metal production was *** during the period of review. *Id*., Section II-8.

[72] The U.S. industry's production capacity was *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, *** short tons in 2012, and *** short tons in 2013. CR/PR at Table III-1.

[73] CR at III-1 and III-14 to III-15, PR at III-1 and III-4.

[74] According to reports, the new plant is expected to be built in two years. CR at II-8 to II-9, PR at II-4 to II-5; *** U.S. Producer Questionnaire Response, Section IV-16. Globe reports, however, that it is unclear whether the proposed Rima silicon metal production facility in Mississippi will be able to meet the air pollution standards necessary to become operational. CR at II-9 n.22, PR at II-5 n.22; Globe Posthearing Brief, Responses to Questions from the Commission at 6.

[75] CR at III-3, PR at III-1.

accounting for *** percent of apparent U.S. consumption in 2013.[76] U.S. producers' market share fluctuated over the period of review, but was higher in 2013 than in 2008.[77]

There have been few subject imports since the imposition of the order.[78] The Russian silicon metal industry has consolidated under common ownership.[79]

Nonsubject imports' market share fluctuated over the period of review and ended lower in 2013 than 2008.[80] There have been considerable increases in worldwide silicon metal capacity since imposition of the order due to the conversion of ferrosilicon furnaces to silicon metal production.[81]

Substitutability. As the Commission found in the original investigation and the first five-year review, materials of the same grade of silicon metal are interchangeable and sold mainly on the basis of price.[82] Producers, importers, and purchasers identified a high frequency of interchangeability in most comparisons of silicon metal from different sources.[83] Thirteen of 20 U.S. purchasers listed price as the first or second most important factor in making purchasing decisions.[84] Sixteen of 18 responding U.S. purchasers listed price as a "very important" factor in their purchasing decisions.[85] Therefore, we find there is a high degree of substitutability between domestically produced silicon metal, the subject merchandise, and nonsubject imports and that price is important in purchasing decisions.[86]

Other Conditions. The principal raw material inputs in the production of silicon metal are mined quartzite, containing a high percentage of silica and low iron content, and a carbon-

[76] CR/PR at Table C-1.

[77] The U.S. industry's market share was *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, *** percent in 2012, and *** percent in 2013. CR/PR at Table C-1.

[78] Imports of subject silicon metal virtually ceased after imposition of the order. During the period of review, subject imports were zero in 2008, 2009, and 2013, and were 15 short tons in 2010, 415 short tons in 2011 and 133 short tons in 2012. CR/PR at Table IV-1.

[79] CR at IV-3 to IV-4, PR at IV-3.

[80] Nonsubject imports' market share was *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, *** percent in 2012, and *** percent in 2013. CR/PR at Table C-1. The principal sources for nonsubject imports of silicon metal during the period of review were Australia, Brazil, Canada, Norway, South Africa, and Thailand. CR at II-8, PR at II-4. An antidumping duty order on silicon metal from China has been in place since 1991. *See Antidumping Duty Order: Silicon Metal from the People's Republic of China*, 56 Fed. Reg. 26649 (June 10, 1991) and *Continuation Notice: Silicon Metal from the People's Republic of China*, 77 Fed. Reg. 23660 (April 20, 2012).

[81] The record indicates that nearly *** percent of the increase in silicon metal production capacity outside of China and Russia from 2000 to 2010 was due to conversion of ferrosilicon furnaces to silicon metal production. Globe Posthearing Brief, Responses to Questions from the Commission at 12; Globe Prehearing Brief, Exhibit 7.

[82] *Original Determination*, USITC Pub. 3584, at 8; *First Five-Year Review*, USITC Pub. 4018, at 10.

[83] CR/PR at Table II-9.

[84] CR/PR at Table II-5.

[85] CR/PR at Table II-6.

[86] CR at II-13, PR at II-8.

containing reducing agent (low-ash coal, petroleum coke, charcoal, or coal char).[87] Raw material costs as a share of the cost of goods sold increased from *** percent in 2008 to *** percent in 2013.[88] U.S producers and importers reported primarily using transaction-by-transaction negotiations and contracts for determining their sales prices.[89] Sales of silicon metal were made primarily through spot sales or through long-term and short-term contracts based on formulas tied to publically available reference prices.[90]

C. Likely Volume of Subject Imports

In evaluating the likely volume of imports of subject merchandise if the antidumping order is revoked, the Commission is directed to consider whether the likely volume of imports would be significant either in absolute terms or relative to production or consumption in the United States.[91] In doing so, the Commission must consider "all relevant economic factors," including four enumerated factors: (1) any likely increase in production capacity or existing unused production capacity in the exporting country; (2) existing inventories of the subject merchandise, or likely increases in inventories; (3) the existence of barriers to the importation of the subject merchandise into countries other than the United States; and (4) the potential for product shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products.[92]

1. The Original Investigation

In its original determination, the Commission found that subject imports increased over the period of investigation, by 35.8 percent from 1999 to 2001 and by 38.6 percent from 2000 to 2001. Subject import volume increased despite the inability of Russian producers to manufacture low-iron silicon metal due to the composition of quartzite deposits in Russia. Subject imports' market share, by quantity, followed a similar trend.[93]

Subject imports gained market share at the same time that apparent U.S. consumption declined and domestic producers lost market share. Domestic producers' U.S. market share

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[87] CR at I-21 and V-1, PR at I-17 and V-1.

[88] CR/PR at V-1; *see also* Globe U.S. Producer Questionnaire Response, Section IV-14. Globe also reported that the electricity rate for its silicon metal plants *** over the period of review. *Id*. and Globe Prehearing Brief at 32.

[89] CR at V-2, PR at V-2 ; and CR/PR at Table V-1.

[90] CR at V-3 to V-4, PR at V-2. Dow Corning America reported selling *** percent of its silicon metal through *** sales. Globe reported selling *** percent of its silicon metal through ***, *** percent through ***, and *** percent through ***. CR at V-3, PR at V-2.

[91] 19 U.S.C. § 1675a(a)(2).

[92] 19 U.S.C. § 1675a(a)(2)(A-D).

[93] *Original Determination*, USITC Pub. 3584, at 10. Subject imports' U.S. market share, by quantity, increased by 4.5 percentage points, from 7.8 percent to 12.3 percent, between 1999 and 2001, and by 6.0 percentage points from interim 2001 to interim 2002. *Id*.

decreased from 62.2 percent in 1999 to 57.0 percent in 2000 and to 54.6 percent in 2001. The Commission attributed the U.S. producers' lost market share in significant part to subject imports, particularly from 1999 to 2001 and from 2000 to 2001, when subject imports outpaced all other imports in gaining U.S. market share. When the interim periods were compared, the U.S. industry continued to lose market share in significant part to subject imports, while losing additional market share to nonsubject imports as well. The Commission found the volume and increase in volume of subject imports, both in absolute terms and relative to apparent domestic consumption and production in the United States, to be significant.[94]

2. The First Five-Year Review

In the expedited first five-year review, the Commission found that the volume of subject imports essentially decreased to zero after 2002, while nonsubject imports increased over the period and by 2007 had more than doubled their 2002 volumes. It found that demand as measured by apparent U.S. consumption had increased since the end of the original investigation.[95]

Even though there was only one operating Russian producer during the period, the Commission found that Russian silicon metal production had increased significantly over the period of review and that the Russian silicon metal producer continued to be export oriented, even though Russian total worldwide exports of silicon metal decreased over the period. Russian silicon metal exports in 2007 were a significant portion of annual Russian silicon metal production. In addition, the Commission found that the European Union ("EU") had imposed an antidumping duty order on silicon metal from Russia in December 2003. Thus, the Commission found, in light of the increase in the volume and market share of subject silicon metal during the original investigation, the Russian producer's large capacity and significant excess capacity, increased production during the period of review, continued export orientation, and the EU antidumping duty order, that the likely volume of subject imports upon revocation of the order would be significant.[96]

3. The Current Review

Under the discipline of the antidumping duty order, there were few subject imports during the period of review. The peak annual quantity of subject imports during the period of review was 131 short tons in 2011, when subject imports reached their peak period market

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[94] *Original Determination*, USITC Pub. 3584, at 10-11.

[95] *First Five-Year Review*, USITC Pub. 4018, at 11. The Commission also found that the nonsubject imports covered by antidumping duty orders not subject to the review (imports of silicon metal from Brazil and China) had increased steadily from 2002 to 2004, and then began to decrease in 2005, decrease again sharply in 2006, and decrease even further in 2007, following revocation of the antidumping duty order on imports from Brazil. *Id*. at 11-12.

[96] *First Five-Year Review*, USITC Pub. 4018, at 12.

penetration of 0.1 percent.[97] Nevertheless, the record in this review indicates that the Russian industry has the ability and incentive to export large and significant volumes of silicon metal to the United States and would likely do so if the antidumping duty order were revoked.

The Russian silicon metal industry has substantial production capacity. RUSAL has publically stated that it has an annual production capacity of 76,059 short tons[98] or the equivalent of *** percent of apparent U.S. consumption and *** percent of U.S. production in 2013. Moreover, RUSAL ***.[99] RUSAL's publically stated capacity utilization was 80 percent in 2013.[100]

The record also shows that producers in Russia have a very large amount of capacity to produce nonsubject ferroalloys that could be converted to produce subject silicon metal. Specifically, producers in Russia have the capacity to produce nearly *** short tons of ferrosilicon annually[101] and have substantial excess ferrosilicon production capacity as well.[102] Producers in Russia also have the capacity to produce *** short tons of silicomanganese.[103] The record indicates that ferrosilicon and silicomanganese are manufactured using processes and materials very similar to those used in the manufacture of silicon metal.[104] If the order were revoked, the potential for product shifting increases the ability of producers in Russia to export silicon metal.[105]

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[97] CR/PR at Table IV-4.

[98] Globe Prehearing Brief, Exhibit 2. JSC Kremny and SUAL-Kremny, RUSAL's two silicon metal-producing subsidiaries, reportedly have annual production capacities of 46,297 short tons and 29,762 short tons, respectively. *Id*. These companies reported that their total silicon metal production capacity was *** short tons because JSC Kremny was producing silicon metal in only five of its six furnaces. RUSAL reported that the sixth idle furnace required maintenance and that the capital expenditures for its repair had yet to be authorized. RUSAL Response at 7-8. *See also* Globe Posthearing Brief, Responses to Questions from the Commission at 8-9.

[99] CR at IV-4, PR at IV-3.

[100] Globe Prehearing Brief, Exhibit 3.

[101] Globe Prehearing Brief, Exhibits 12-14. Imports of ferrosilicon from Russia are currently subject to an antidumping duty investigation. *See Ferrosilicon from Russia and Venezuela*, Inv. Nos. 731-TA-1224-1225 (Final).

[102] Globe Prehearing Brief, Exhibit 14. Russia produced *** short tons of ferrosilicon in 2012. Thus, the Russian ferrosilicon industry operated at less than *** percent of total capacity in 2012, the most recent year for which data were available in this proceeding. *Id*.

[103] Globe Prehearing Brief, Exhibit 17.

[104] *Compare* CR at I-21 to I-23, PR at I-17 to I-18 (production method for silicon metal) *with First Five-Year Review*, USITC Pub. 4018, at I-12 (ferrosilicon) and Globe Prehearing Brief, Exhibit 16 (silicomanganese).

[105] The Russian Government has argued that product shifting -- converting from ferrosilicon production to silicon metal production -- would be both technologically difficult and cost-prohibitive for the Russian industry. *See, e.g.*, Russian Government Posthearing Brief at 3-4. We are unpersuaded by this argument, which the Russian Government did not substantiate. Because the Russian producers did not participate in the proceeding beyond the adequacy phase, the only specific information available pertaining to product shifting is material that Globe has submitted. The record shows that conversion of

The silicon metal industry in Russia currently has a significant export orientation with exports accounting for over 45 percent of production during the period of review.[106] The Russian industry also has significant incentives to export large volumes of silicon metal to the United States if the order were revoked. The U.S. market is attractive for subject imports because of its size and the high prices it commands. The United States is one of the largest markets for silicon metal in the world[107] and silicon metal prices in the United States are generally higher than prices in other markets to which Russian producers export.[108] Specifically, U.S. market prices for silicon metal were the highest of the major developed markets (the United States, the EU, and Japan) for most of the review period.[109] In addition, RUSAL has an affiliate in the United States, RUSAL America Corporation, that ***.[110] Thus, RUSAL already has a distribution capability for its silicon metal exports in place in the United States if the order were revoked.[111] This would enable it, upon revocation, to again engage in the type of rapid increase in subject import volume observed during the original investigation.[112]

In sum, the subject producers have significant production capacity and excess capacity, and possess the capability to shift production from ferrosilicon and silicomanganese to subject merchandise. They also have the incentive to export additional subject merchandise through an established distribution channel to an attractive U.S. market. We consequently find the volume of subject imports, both in absolute terms and relative to production and consumption

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ferrosilicon furnaces to silicon metal production is neither technically unfeasible nor cost-prohibitive. *See* Globe Prehearing Brief at 16-17 and Exhibit 7; Globe Posthearing Brief at 6-7 and Responses to Questions from the Commission at 11-12 (***.); and Globe U.S. Producers' Questionnaire Response at 10. In addition, as noted above, the conversion of ferrosilicon furnaces to silicon metal production accounts for a significant share of the increase in global capacity. Moreover, we note that one of the current Russian ferrosilicon producers, Bratsk Ferroalloy Plant, was a respondent in the original silicon metal investigation and produced subject silicon metal until the imposition of the antidumping duty order on silicon metal from Russia. Globe Prehearing Brief at 15-16 and Globe Posthearing Brief at 2-3.

[106] Globe Prehearing Brief, Exhibit 4. Notably, production of silicon metal in Russia exceeded apparent domestic consumption in every year from 2008 through 2013. *Id*. *See also* CR/PR at Table IV-4.

[107] Globe Prehearing Brief, Exhibit 7.

[108] U.S. prices for silicon metal are forecast to remain higher than prices in other markets for the next several years. RUSAL Response, Exhibit 1 at 83.

[109] CR at IV-10, PR at IV-8; Globe Prehearing Brief, Exhibit 8. Prices for silicon metal in the United States on average were *** percent higher than prices in the EU (the next highest priced market) during the period. *Id*. Moreover, the Russian producers would have significant motivation to shift exports from the EU to the United States in the event of revocation because they would face less competition from Chinese silicon metal in the U.S. market due to the antidumping duty order on silicon metal from China noted above. *See* note 80 *supra*.

[110] ***.

[111] The record does not contain any information on inventories of subject silicon metal held by Russian producers or exporters or on trade barriers to imports of silicon metal from Russia in other markets during the period of review.

[112] *See* CR/PR at Table I-6.

in the United States, would likely be significant in the reasonably foreseeable future absent the restraining effect of the antidumping duty order.

D. Likely Price Effects of Subject Imports

When examining the likely price effects of subject imports if the order under review were to be revoked, the Commission is directed to consider whether there is likely to be significant underselling by the subject imports as compared to the domestic like product and whether the subject imports are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of the domestic like product.[113]

1. The Original Investigation

In the original investigation, the Commission found that domestically produced silicon metal and subject imports were generally substitutable, and that price was a key factor in purchasing decisions. Silicon metal prices in all three segments "keyed off" the secondary aluminum price and exhibited similar trends.[114] The Commission found underselling to be significant. Subject imports destined for the primary and secondary aluminum markets undersold the domestic like product in the vast majority of pricing comparisons. The Commission also found that the average unit values ("AUVs") of subject imports were lower than the aggregate AUVs of nonsubject imports during the period of investigation and were lower than the AUVs of imports from individual nonsubject countries during each full year of the period and the interim periods as well.[115]

The Commission found significant price depression as the U.S. and subject import prices of silicon metal sold to all three groups of customers generally decreased during the period of investigation. The Commission noted that there were a number of confirmed lost sales and revenues. It recognized that nonsubject imports may have had an independent effect on domestic prices, but given the significant underselling by subject imports, subject import volume surges during the period, and the high degree of substitutability between subject imports and the domestic like product, it found that subject imports had significantly depressed domestic silicon metal prices in all three customer segments.[116]

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[113] *See* 19 U.S.C. § 1675a(a)(3). The SAA states that "{c}onsistent with its practice in investigations, in considering the likely price effects of imports in the event of revocation and termination, the Commission may rely on circumstantial, as well as direct, evidence of the adverse effects of unfairly traded imports on domestic prices." SAA at 886.

[114] *Original Determination*, USITC Pub. 3584, at 11-12.

[115] *Original Determination*, USITC Pub. 3584, at 12-13.

[116] *Original Determination*, USITC Pub. 3584, at 14-15. Regarding internet auctions, the Commission noted that subject import suppliers won the majority of the silicon metal lots offered in the four reported auctions. The participation of the Russian suppliers had a significant effect on prevailing market prices as well as the results of particular auctions. *Id*. at 16.

2. The First Five-Year Review

In the expedited first five-year review, the Commission found that meaningful price comparisons were not available for sales in the U.S. market because subject imports had not been present in the U.S. market since 2002. Based on an analysis of the AUVs for Russia's overall exports of silicon metal in 2007, however, the Commission concluded that, if the order were revoked, subject silicon metal producers in Russia would have likely sold subject imports at prices lower than the domestic product and nonsubject imports. The Commission noted that subject imports had undersold the domestic product during the original investigation and that the AUVs for Russia's exports to other countries were significantly lower than prevailing AUVs for the domestic industry's U.S. shipments, as well as for the AUVs for nonsubject imports.[117] Because subject imports and the domestic like product were found to be highly substitutable and to compete largely on the basis of price, the Commission found it likely that the Russian producers would price aggressively in order to gain market share in the United States and would be likely to undersell the domestic product to a significant degree if the order were revoked.[118]

In considering whether subject imports were likely to have significant price depressing or suppressing effects, the Commission indicated that it found significant price depression in the original investigation and that subject imports and the domestic like product continued to be largely interchangeable, while price remained an important factor in purchasing decisions. Thus, the Commission concluded that significant underselling by subject imports would be likely to lead to significant price depressing or suppressing effects on prices for the domestic product within a reasonably foreseeable time.[119]

3. The Current Review

In this review, meaningful price comparisons are not available for sales in the U.S. market because there were few subject imports during the period of review[120] and, as stated above, the Russian producers declined to participate in the proceeding beyond the adequacy phase. The AUV for Russia's overall exports of silicon metal in 2013, however, was only $0.89/pound,[121] whereas Globe's AUV for its U.S. shipments was $***/pound in that year.[122] The AUVs for Russia's exports to individual countries ranged between $0.81/pound and

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[117] *First Five-Year Review*, USITC Pub. 4018, at 13.

[118] *First Five-Year Review*, USITC Pub. 4018, at 13-14.

[119] *First Five-Year Review*, USITC Pub. 4018, at 14.

[120] Subject imports were in the U.S. market in limited quantities in only three calendar years of the period examined -- less than one short ton in 2010, 131 short tons in 2011, and 44 short tons in 2012. CR/PR at Table IV-1. Moreover, even these limited volumes of subject imports from Russia ***. *See* CR/PR at Table IV-1 n.1.

[121] Globe Prehearing Brief, Exhibit 6 at Table 1.

[122] Calculated from CR/PR at Table III-7.

$1.22/pound in 2013.[123] Moreover, the AUVs of U.S. imports of silicon metal from all sources were higher than the AUVs of Russian exports to other countries in every year from 2009 to 2013 and were 36 percent higher in 2013.[124]

We find that, if the antidumping duty order were revoked, subject silicon metal producers in Russia would likely sell subject imports at prices lower than the domestic like product and nonsubject imports, as they did during the original investigation. Moreover, the AUVs for Russia's exports to other countries are significantly lower than prevailing AUVs for the domestic industry's U.S. shipments, as well as for the AUVs for nonsubject imports, based on available data for the period.[125] As discussed above, we find the volume of likely imports from Russia is likely to be significant upon revocation. Because subject imports and the domestic like product are highly substitutable and compete largely on the basis of price, it is likely the Russian producers would price aggressively in order to gain market share in the United States. Consequently, there would likely be a recurrence of the significant underselling observed in the original investigation if the antidumping duty order were revoked.

In light of the high degree of interchangeability between subject imports and the domestic like product and the importance of price in purchasing decisions, the likely significant volume of subject imports sold at prices below those for the domestic like product will likely cause domestic producers either to reduce prices or forego price increases to maintain market share. We accordingly find that the subject imports will likely have significant depressing or suppressing effects on prices for the domestic like product.

[123] Globe Prehearing Brief, Exhibit 6 at Table 2.

[124] *See* Globe Prehearing Brief, Exhibit 6.

[125] AUVs for nonsubject imports during the period ranged from $1.12/pound to $1.40/pound and averaged $1.22/pound in 2013. *See* Globe Prehearing Brief, Exhibit 6. We typically view AUV data with caution for price comparisons because of product mix and comparability issues. Further caution is warranted in comparing AUVs of exports to the United States with AUVs to exports to other markets absent information indicating that the conditions of competition in those other markets are comparable to those existing in the United States. Nevertheless, as previously stated, the Commission did rely on AUV data in its price effects analyses in the original investigation and first five-year review. In this review, given the limited volume of subject imports during the period of review, we find that the AUV data constitute the facts available concerning the relative pricing levels.

E. Likely Impact of Subject Imports[126]

In analyzing the likely impact of imports of subject merchandise if the order under review were to be revoked, the Commission is directed to consider all relevant economic factors that are likely to have a bearing on the state of the industry in the United States, including but not limited to the following: (1) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity; (2) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment; and (3) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.[127] All relevant economic factors are to be considered within the context of the business cycle and the conditions of competition that are distinctive to the industry. As instructed by the statute, we have considered the extent to which any improvement in the state of the domestic industry is related to the order at issue and whether the industry is vulnerable to material injury if the order were revoked.[128]

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[126] Under the statute, "the Commission may consider the magnitude of the margin of dumping" in making its determination in a five-year review. 19 U.S.C. § 1675a(a)(6). The statute defines the "magnitude of the margin of dumping" to be used by the Commission in five-year reviews as "the dumping margin or margins determined by the administering authority under section 1675a(c)(3) of this title." 19 U.S.C. § 1677(35)(C)(iv); *see also* SAA at 887. In its expedited second sunset review, Commerce determined that revocation of the antidumping duty order on silicon metal from Russia would likely lead to a continuation or recurrence of dumping at margins of 61.61 percent for ZAO Kremny and SUAL-Kremny-Ural, Ltd; 87.08 for Bratsk Aluminum Smelter and Rural Trade Limited; and 79.42 percent for "All Others." *Commerce Second Sunset Review*, 78 Fed. Reg. at 61334.

The Russian Government claims that these margins were the same margins calculated by Commerce in the original investigation using a non-market economy methodology. As such, the Russian Government argues, they are no longer valid as the Russian Federation has been accorded market economy status since the original investigation. *See* Russian Government Prehearing Brief at 2 and Posthearing Brief at 2-3. These arguments are not properly addressed to the Commission because the statute requires the Commission to use the dumping margins Commerce has determined in its sunset review. 19 U.S.C. § 1677(35)(C). No respondent interested parties participated in Commerce's sunset proceeding. *See Issues and Decision Memorandum for the Final Results of the Expedited Sunset Review of the Antidumping Duty Order on Silicon Metal from the Russian Federation* (Sept. 26, 2013), at 2. Thus, the Russian Government failed to raise this issue with Commerce, the sole agency with the authority to take action in response. *See id*. at 5-7.

[127] 19 U.S.C. § 1675a(a)(4).

[128] The SAA states that in assessing whether the domestic industry is vulnerable to injury if the order is revoked, the Commission "considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they may also demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports." SAA at 885.

1. The Original Investigation

In its original determination, the Commission found that, as subject import volume increased, particularly from 2000 to 2001, at prices that undersold and depressed U.S. prices, subject imports had a significant adverse impact on the domestic industry. The domestic industry suffered declines in prices, sales volume, and most performance and financial indicators. The deterioration in the industry's condition was evidenced by its loss of market share due to decreasing U.S. shipments, which fell by 24.7 percent from 1999 to 2001 and by 29.7 percent when comparing January-September 2001 and January-September 2002.[129]

Reduced sales led domestic producers to shut down facilities and reduce capacity. The majority of the closures took place in 2001, the same year when subject imports registered a 38.6 percentage point increase in volume.[130] The Commission found that as domestic production capacity declined, so did capacity utilization. The ratio of the domestic industry's cost of goods sold to net sales increased.[131] Decreasing sales and increasing costs adversely affected most major financial indicators. The domestic industry's operating income and operating margin declined throughout the period of investigation, with the industry registering a loss in 2001 when subject imports reached their highest volume level. Due to decreased cash flow, the domestic industry's capital expenditures also decreased. As a result of the significant volume of subject imports and their adverse effect on domestic prices, the Commission found that low-priced subject imports had a significant adverse impact on the domestic industry.[132]

As previously discussed, the Commission's causation analysis in its original determination, insofar as it concerned nonsubject imports, was remanded pursuant to the Federal Circuit's decision in *Bratsk Aluminum Smelter*. On second remand, the Commission applied the replacement/benefit analysis directed by the Federal Circuit's decision. The Commission did not contest what it characterized as the Federal Circuit's "apparent assumption" that the triggering factors were satisfied.[133] It found the evidence mixed as to whether and to what extent nonsubject imports would have replaced subject imports.[134] It found that the record demonstrated that nonsubject imports consistently oversold the subject imports. Consequently, even if subject imports would have replaced some of the subject imports, the domestic industry would nonetheless have derived a price benefit. Accordingly, the Commission found that application of the replacement/benefit analysis supported an affirmative determination.[135]

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[129] *Original Determination*, USITC Pub. 3584, at 17.
[130] *Original Determination*, USITC Pub. 3584, at 17-18.
[131] *Original Determination*, USITC Pub. 3584, at 18.
[132] *Original Determination*, USITC Pub. 3584, at 18.
[133] *Remand Determination*, USITC Pub. 3910, at 10.
[134] *Remand Determination*, USITC Pub. 3910, at 10-12.
[135] *Remand Determination*, USITC Pub. 3910, at 12-15.

2. The First Five-Year Review

In the expedited first five-year review, the Commission found that, although the domestic industry's production capacity had decreased somewhat since 2001, its capacity utilization had increased as had its U.S. shipments, whether measured by quantity or value. The Commission found that revocation of the antidumping duty order would likely lead to significant increases in the volume of subject imports from Russia and, given the likely significant underselling by the subject imports, the significant increase in subject imports would be likely to cause a significant decrease in the volume of domestic producers' shipments, as well as significant negative price effects.[136]

The Commission did not find that the domestic industry was vulnerable, but did find that the volume and price effects of the subject imports would have a significant negative impact on the domestic industry and would likely cause the domestic industry to lose market share. In addition, the Commission found that the decreases in volumes and prices would likely have a significant adverse impact on the production, shipments, sales, and revenues of the domestic industry. It found that these reductions in the industry's production, sales and revenues would have had a direct adverse impact on the industry's profitability, as well as its ability to raise capital and make and maintain necessary capital investments, and would have resulted in decreases in employment for the industry.[137] Therefore, the Commission concluded that revocation of the antidumping duty order on silicon metal from Russia likely would have had a significant adverse impact on the domestic industry within a reasonably foreseeable time.[138]

3. The Current Review

In this five-year review, many indicators of the domestic industry's performance, particularly production, production capacity, capacity utilization, and U.S. shipments, showed improvement from 2008 to 2013. The domestic industry's production capacity increased over the period, as did production.[139] [140] Capacity utilization also increased.[141] U.S. shipments increased despite decreasing apparent U.S. consumption over the period.[142] The domestic

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[136] *First Five-Year Review*, USITC Pub. 4018, at 15.

[137] *First Five-Year Review*, USITC Pub. 4018, at 15.

[138] *First Five-Year Review*, USITC Pub. 4018, at 16.

[139] Production capacity was *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, *** short tons in 2012, and *** short tons in 2013. CR/PR at Table III-1.

[140] Production was *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, *** short tons in 2012, and *** short tons in 2013. CR/PR at Table III-1.

[141] Capacity utilization was *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, *** percent in 2012, and *** percent in 2013. CR/PR at Table III-1.

[142] U.S. shipments were *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, *** short tons in 2012, and *** short tons in 2013. CR/PR at Table III-2.

industry's end-of-period inventories increased significantly over the period of review.[143] The domestic industry's market share fluctuated over the period, and was higher in 2013 than in 2008.[144]

The number of production and related workers increased between 2008 and 2013.[145] The number of hours worked[146] and wages paid[147] followed the same trend. Productivity decreased overall, however, and unit labor costs increased steadily.[148]

The domestic industry's financial indicators showed mixed results. The quantity of sales increased over the period of review.[149] Although the domestic industry was profitable over the period of review, its operating income fluctuated and was lower in 2013 than in 2008.[150] The industry's operating income margin also fluctuated over the period and was lower in 2013 than in 2008.[151] Capital expenditures fluctuated but were slightly lower in 2013 than in 2008.[152]

In light of the foregoing, we find that the domestic industry is not currently in a vulnerable condition. The industry's output, employment, and market share increased from 2008 to 2013 and the industry overall had a profitable performance throughout the period, notwithstanding a decrease in apparent U.S. consumption over the period.

Should the antidumping duty order be revoked, however, the volume of subject imports would likely increase to significant levels. Furthermore, the likely volume of subject imports would be priced in a manner that would likely undersell the domestic like product and likely have significant depressing or suppressing effects on prices for the domestic like product. Consequently, the domestic industry would respond to subject imports either by foregoing

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[143] End-of-period inventories were *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, *** short tons in 2012, and *** short tons in 2013. CR/PR at Table III-3.

[144] The domestic industry's market share was *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, *** percent in 2012, and *** percent in 2013. CR/PR at Table C-1.

[145] The number of production and related workers was *** in 2008, *** in 2009, *** in 2010, *** in 2011, *** in 2012, and *** in 2013. CR/PR at Table III-5.

[146] The number of hours worked was *** in 2008, *** in 2009, *** in 2010, *** in 2011, and *** in 2012 and 2013. CR/PR at Table III-5.

[147] Wages paid were $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, $*** in 2012, and $*** in 2013. CR/PR at Table III-5. Hourly wages were $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, $*** in 2012, and $*** in 2013. *Id*.

[148] In short tons per 1,000 hours, productivity was *** in 2008, *** in 2009, *** in 2010, *** in 2011, *** in 2012, and *** in 2013. CR/PR at Table III-5. Unit labor costs per short ton were $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, $*** in 2012, and $*** in 2013. *Id*.

[149] The quantity of net sales was *** short tons in 2008, *** short tons in 2009, *** short tons in 2010, *** short tons in 2011, *** short tons in 2012, and *** short tons in 2013. CR/PR at Table III-6.

[150] Operating income was $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, $*** in 2012, and $*** in 2013. CR/PR at Table III-6. ***. CR at III-13, PR at III-4. ***. CR at III-13 n.9, PR at III-4 n.9.

[151] The U.S. industry's operating income margin was *** percent in 2008, *** percent in 2009, *** percent in 2010, *** percent in 2011, *** percent in 2012, and *** percent in 2013. CR/PR at Table III-6. ***. CR at III-13 n.9, PR at III-4 n.9.

[152] Capital expenditures were $*** in 2008, $*** in 2009, $*** in 2010, $*** in 2011, $*** in 2012, and $*** in 2013. CR/PR at Table III-9. ***. CR at III-14, PR at III-4.

sales and ceding market share, or by reducing prices or foregoing price increases to maintain market share. The resulting loss of production or revenues would likely cause significant deterioration in the financial performance of the domestic industry from current levels. Deterioration in the domestic industry's financial performance would likely result in losses of employment and decreasing investment.

We have also considered the role of factors other than subject imports, including decreasing demand and the significant presence of nonsubject imports in the U.S. market, so as not to attribute likely injury from other factors to the subject imports. With the antidumping duty order in place, the domestic industry has been able to increase output and market share, despite some decreases in apparent U.S. consumption.[153]

Nonsubject imports held an appreciable but decreasing share of the market over the period of review when, as previously stated, trade and employment indicators of the domestic industry improved and it maintained profitable operations. There is no contention that the nonsubject imports are likely to have an adverse impact on the domestic industry in the reasonably foreseeable future. Moreover, given the high substitutability of silicon metal from different sources and the fact that the domestic industry is currently the largest supplier to the U.S. market, any increase in subject import market share will likely come, at least in substantial proportion, at the expense of the domestic industry.[154]

Accordingly, we conclude that, if the antidumping order were revoked, subject imports would be likely to have a significant impact on the domestic industry within a reasonably foreseeable time.

CONCLUSION

For the foregoing reasons, we determine that revocation of the antidumping duty order on subject silicon metal from Russia would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

[153] As we found above, this decrease in apparent U.S. consumption after 2011 can be attributed in large part to importation of silicon metal from Russia into FTZ manufacturing subzones established by ***. *See* n.67 *supra* and CR at I-28, PR at I-21; and Globe Posthearing Brief, Responses to Questions from the Commission at 13-14.

[154] Indeed, during the original period of investigation, subject imports undersold the nonsubject imports and the bulk of the increase in subject imports came at the expense of the domestic industry, rather than replacing nonsubject imports. INV-AA-017, Tables IV-4 and IV-5 (Feb. 24, 2003), EDIS Doc. 178064.

PART I: INTRODUCTION

BACKGROUND

On June 3, 2013, the U.S. International Trade Commission ("Commission" or "USITC") gave notice, pursuant to section 751(c) of the Tariff Act of 1930, as amended ("the Act"),[1] that it had instituted a review to determine whether revocation of the antidumping duty order on silicon metal from Russia would likely lead to the continuation or recurrence of material injury to a domestic industry.[2] [3] On October 3, 2013, the Commission determined that it would conduct a full review pursuant to section 751(c)(5) of the Act. [4] The following tabulation presents information relating to the background and schedule of this proceeding:[5]

[1] 19 U.S.C. 1675(c).

[2] *Silicon Metal From Russia; Institution of a Five-Year Review, 78* FR 33064*, June 3, 2013*. All interested parties were requested to respond to this notice by submitting the information requested by the Commission.

[3] In accordance with section 751(c) of the Act, the U.S. Department of Commerce ("Commerce") published a notice of initiation of five-year review of the subject antidumping order concurrently with the Commission's notice of institution. *Silicon Metal From Russia; Institution of a Five-Year Review, 78* FR 33064*, June 3, 2013*.

[4] *Silicon Metal From Russia; Notice of Commission Determination to Conduct a Full Five-year Review,* 78 FR 76856, October 3, 2013. The Commission found that both the domestic and respondent interested party group responses to its notice of institution (78 FR 33064, June 3, 2013) were adequate.

[5] The Commission's notice of institution, notice to conduct full review, scheduling notices, and statement on adequacy are referenced in appendix A and may also be found at the Commission's web site (internet address *www.usitc.gov*). Commissioners' votes on whether to conduct expedited or full review may also be found at the web site. On April 7, 2014, the Commission revised its schedule to cancel its hearing. (79 FR 19921, April 10, 2014) (Appendix B).

Effective date	Action
March 26, 2003	Commerce's antidumping duty order on silicon metal from Russia (68 FR 14578, March 26, 2003)
July 16, 2008	Commerce's continuation of antidumping duty order on silicon metal from Russia (73 FR 40848 July 16, 2008)
June 3, 2013	Commission's institution of second five-year review (78 FR 33064, June 3, 2013)
June 3, 2013	Commerce's initiation of second five-year review (78 FR 33063, June 3, 2013)
October 3, 2013	Commission's determination to conduct full five-year review (78 FR 61384, October 3, 2013)
October 3, 2013	Commerce's final results of the expedited five-year review of the antidumping duty order (78 FR 61334, October 3, 2013)
December 19, 2013	Commission's scheduling of the review (78 FR 76856, December 19, 2013)
April 10, 2014	Commission revised schedule to cancel hearing (79 FR 19921, April 10, 2014)
May 28, 2014	Commission's vote
June 11, 2014	Commission's determination(s) and views

The original investigations

On March 7, 2002, a petition was filed with Commerce and the Commission alleging that an industry in the United States was materially injured and threatened with further material injury by reason of less-than-fair-value ("LTFV") imports of silicon metal from Russia.[6] On February 11, 2003, Commerce made an affirmative final LTFV determination regarding silicon metal from Russia.[7] The Commission completed its original investigation concerning silicon metal from Russia on March 19, 2003, determining that an industry in the United States was materially injured by reason of LTFV imports of silicon metal from Russia.[8] After receipt of the Commission's final determination, Commerce issued an antidumping duty order on imports of silicon metal from Russia.[9]

[6] The petition was filed by counsel on behalf of Globe, Cleveland, OH; SIMCALA, Inc. ("SIMCALA"), Mt. Meigs, AL; the International Union of Electronic, Electrical, Salaried, Machine and Furniture Workers (I.U.E.-C.W.A, AFL-CIO, C.L.C., Local 693), Selma, AL; the Paper, Allied-Industrial Chemical and Energy Workers International Union (Local 5-89), Boomer, WV; and the United Steel Workers of America (AFL-CIO, Local 9436), Niagara Falls, NY. Silicon Metal From Russia: Investigation No. 731-TA-991 (Final), USITC Publication 3584, March 2003, p. I-1.

[7] 68 FR 6885, February 11, 2003 (as amended, 68 FR 12037, March 13, 2003).

[8] 68 FR 14260, March 24, 2003; *Silicon Metal from Russia: Investigation* No. 731-TA-991 (Final), USITC Publication 3584, March 2003, p. I-1.

[9] 68 FR 14578, March 26, 2003.

Commission Remand Proceedings

After the Commission determined that an industry in the United States was materially injured by reason of imports from Russia of silicon metal in March 2003,[10] respondents Bratsk Aluminum Smelterand Sual Trade Limited ("plaintiffs") appealed the Commission's determination to the U.S. Court of International Trade ("CIT"). On June 22, 2004, the CIT remanded the case to the Commission for further explanation, and on September 15, 2004, the Commission filed its affirmative remand determination with the CIT. On December 3, 2004, the CIT affirmed the Commission's remand determination in its entirety and dismissed the case.[11] Plaintiffs appealed the CIT's dismissal to the U.S. Court of Appeals for the Federal Circuit ("CAFC"). On April 10, 2006, the CAFC vacated and remanded the CIT's decision so that the CIT would remand the case back to the Commission to address nonsubject imports.[12] On May 25, 2006, the Commission submitted a petition for rehearing en banc before the CAFC and on July 24, 2006, the petition was denied. On July 28, 2006, the Commission petitioned the CAFC to stay issuance of the mandate to the CIT while the Commission, through the Office of the Solicitor General, considered the filing of a petition for certiorari. On August 7, 2006, the CAFC denied the motion to stay and remanded the case to the CIT. On August 17, 2006, the CIT remanded the case to the Commission. The Commission then filed a motion to stay the remand proceedings at the CIT pending a decision on whether to seek certiorari. On September 22, 2006, the CIT granted the stay. On December 20, 2006, the Commission informed the CIT that it would not be seeking certiorari at that time. On December 22, 2006, the CIT entered an order lifting the stay and instructed the Commission to submit its remand results to the CIT by March 22, 2007. Upon consideration of the CIT's remand order that the Commission comply with the CAFC's decision in Bratsk Aluminum Smelter v. United States, 444 F.3d 1369 (Fed. Cir. 2006), the Commission determined that an industry in the United States was materially injured by reason of imports of silicon metal from Russia that Commerce found to be sold at LTFV.[13] On January 15, 2008, the CIT issued an opinion affirming the Commission's affirmative remand determination that subject imports of silicon metal from Russia were causing material injury to the U.S. industry.[14] That decision was not appealed to the CAFC.

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[10] *Silicon Metal from Russia*, Investigation No. 731-TA-991 (Final), USITC Publication 3584, March 2003, p. 1. Chairman Okun did not participate in the investigation.

[11] Bratsk Aluminum Smelter v. United States, Slip Op. 04-153, CIT 2004, December 3, 2004.

[12] Bratsk Aluminum Smelter v. United States, 444 F.3d 1369, 1375 (Fed. Cir. 2006).

[13] Commissioner Deanna Tanner Okun was recused from the investigation. Vice Chairman Aranoff and Commissioners Williamson and Pinkert did not participate in the original investigation or first remand determination, but participated in the second remand proceeding. Silicon Metal from Russia, Investigation No. 731-TA-991 (Final) (Second Remand), USITC Publication 3910, March 2007, pp. 1 and I-1.

[14] Bratsk Aluminum Smelter v. United States, Slip Op. 08-5 (January 15, 2008).

First five-year review

In June 2008, the Commission completed an expedited first five-year review of the subject order and determined that revocation of the antidumping duty order on silicon metal from Russia would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[15] Following affirmative determinations in the first five-year review by Commerce and the Commission,[16] Commerce issued a continuation of the antidumping order on imports of silicon metal from Russia, effective July 16, 2008.[17]

Related Commission Investigations and Reviews

The Commission has conducted one other grouped investigation and related five-year review on silicon metal with respect to Argentina, China, and Brazil.[18] On August 24, 1990, a petition was filed with Commerce and the Commission alleging that an industry in the United States was materially injured by reason of dumped imports of silicon metal from Argentina, Brazil, and China.[19] Commerce made final affirmative LTFV determinations[20] and the Commission made final affirmative injury determinations with respect to all three countries in

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[15] *Silicon Metal From Russia: Investigation No. 731-TA-991 (Review)*, USITC Publication 4018 (June 2008).

[16] *Scheduling of an Expedited Five-Year Review Concerning the Antidumping Duty Order on Silicon Metal from Russia*, 73 FR 28153, May 15, 2008; *Silicon Metal From The Russian Federation: Continuation Of Antidumping Duty Order*, 73 FR 40848 July 16, 2008.

[17] *Silicon Metal From The Russian Federation: Continuation Of Antidumping Duty Order, 73 FR 40848 July 16, 2008.*

[18] In addition, on March 31, 2004, the Commission instituted a countervailing duty investigation on imports of silicon metal from Brazil and an antidumping investigation on imports of silicon metal from South Africa upon receipt of a petition filed by Globe; the International Union of Electronic, Electrical, Salaried, Machine and Furniture Workers, I.U.E.-C.W.A., AFL-CIO, C.L.C., Local 693; and the United Steelworkers of America, AFL-CIO, Local 9436 (69 FR 18404, April 7, 2004). On April 16, 2004, the petition was withdrawn and the investigations were terminated (69 FR 23213, April 28, 2004).

[19] The petition was filed by American Alloys, Inc. ("American Alloys"); Elkem Metals Co., L.P. ("Elkem"); Silicon Metaltech, Inc.; SiMETCO, Inc.; and SKW Alloys, Inc. ("SKW"). *Silicon Metal From Argentina, Brazil, and China, Investigations* Nos. 731-TA-470-472 (Review), USITC Publication 3385, January 2001, p. I-1.

[20] 56 FR 37891, August 9, 1991 (Argentina); 56 FR 26977, June 12, 1991 (Brazil); and 56 FR 18570, April 23, 1991 (China).

1991.[21] Thereafter, Commerce issued antidumping duty orders on silicon metal from Argentina, Brazil, and China.[22]

On November 2, 1999, the Commission instituted the first five-year review of the antidumping duty orders on imports of silicon metal from Argentina, Brazil, and China.[23] In February 2001, the Commission completed its full first five-year review and determined that revocation of the antidumping duty order on silicon metal from Argentina would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time. The Commission further determined that revocation of the antidumping duty orders on silicon metal from Brazil and China would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[24] Subsequently, Commerce issued a continuation of the antidumping duty orders on silicon metal from Brazil and China, effective February 16, 2001, and revoked the antidumping duty order on silicon metal from Argentina, effective January 1, 2000.[25]

The Commission's second five-year review of the antidumping duty orders on imports of silicon metal from Brazil and China were instituted on January 3, 2006.[26] The Commission completed its full second five-year review in December 2006, determining that revocation of the antidumping duty order on silicon metal from Brazil would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time and that revocation of the antidumping duty order on silicon metal from China would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[27] Subsequently, Commerce issued a continuation of the antidumping duty order on silicon metal from China, effective December 21, 2006, and revoked the antidumping duty order on silicon metal from Brazil, effective February 16, 2006.[28]

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[21] 56 FR 48577, September 25, 1991 (Argentina) (transmitted to Commerce on September 19, 1991); 56 FR 37572, August 7, 1991 (Brazil) (transmitted to Commerce on July 24, 1991); and 56 FR 27033, June 12, 1991 (China) (transmitted to Commerce on June 3, 1991).

[22] 56 FR 48779, September 26, 1991 (Argentina); 56 FR 36135, July 31, 1991 (Brazil); and 56 FR 26649, June 10, 1991 (China).

[23] 64 FR 59209, November 2, 1999.

[24] Commissioners Okun, Askey, and Devaney did not participate in the first five-year review concerning silicon metal from Argentina, Brazil, and China. Commissioner Bragg dissented with respect to the Commission's determination concerning Argentina. 66 FR 8981, February 5, 2001; Silicon Metal From Argentina, Brazil, and China, Investigations Nos. 731-TA-470-472 (Review), USITC Publication 3385, January 2001, p. 1.

[25] 66 FR 10669, February 16, 2001.

[26] 71 FR 138, January 3, 2006.

[27] 71 FR 71554, December 11, 2006; *Silicon Metal From Brazil and China*, Investigation Nos. 731-TA-471 and 472 (Second Review), USITC Publication 3892, December 2006, p. 1.

[28] 71 FR 76635 and 76636, December 21, 2006.

The Commission's third five-year review of the antidumping duty order on imports of silicon metal from China was instituted in on November 1, 2011. The Commission completed its expedited third five-year review in March 2012, determining that revocation of the antidumping duty on China would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.[29] Subsequently, Commerce issued a continuation of the antidumping duty order on silicon metal from China, effective April 20, 2012.[30]

In its original determinations concerning silicon metal from Argentina, Brazil, and China, the Commission found the appropriate domestic like product to be all silicon metal, regardless of grade, having a silicon content of at least 96.00 percent but less than 99.99 percent of silicon by weight, and excluding semiconductor grade silicon; it found one domestic industry consistent with its domestic like product finding. In the first and second five-year review determinations, the Commission defined the domestic like product as all silicon metal, regardless of grade and corresponding to the scope of the orders, and it found the domestic industry to be all domestic producers of silicon metal.[31]

SUMMARY DATA

Table I-1 and I-2 presents a summary of data from the original investigation, the expedited first review, and the current full five-year review.

[29] 77 FR 20649, April 5, 2012.
[30] 77 FR 23660, April 20, 2012.
[31] *Silicon Metal From Brazil and China*, Investigation Nos. 731-TA-471 and 472 (Second Review), USITC Publication 3892, December 2006, pp. 4-5.

Table I-1
Silicon metal: Summary data from the original investigation, 1999-2001

Item	Original investigation		
	1999	2000	2001
	Quantity (short tons contained silicon)		
U.S. consumption	324,202	329,502	278,197
	Share of quantity (percent)		
Share of U.S. consumption:			
U.S. producers' share	62.2	57.0	54.6
U.S. importers' share:			
Russia	7.8	7.5	12.3
All other sources	30.1	35.5	33.2
Total imports	37.8	43.0	45.4
	Value (1,000 dollars)		
U.S. consumption	424,244	405,491	335,989
	Share of value (percent)		
Share of U.S. consumption:			
U.S. producers' share	65.0	60.5	58.4
U.S. importers' share:			
Russia	6.2	6.3	10.5
All other sources	28.8	33.2	31.1
Total imports	35.0	39.5	41.6
	Quantity (short tons contained silicon), Value ($1,000)		
U.S. imports from Russia:			
Quantity	25,158	24,643	34,153
Value	26,201	25,529	35,325
Unit value	$1,041	$1,036	$1,034
Nonsubject sources:			
Quantity	97,499	116,908	92,279
Value	122,231	134,819	104,420
Unit value	$1,254	$1,153	$1,132
All countries:			
Quantity	122,657	141,551	126,431
Value	148,432	160,349	139,745
Unit value	$1,210	$1,133	$1,105

Table continued on following page.

Table I-1 –Continued
Silicon Metal: Summary data from the original investigation, 1999-2001

Item	Original investigation		
	1999	2000	2001
U.S. industry:			
Capacity (quantity)	243,667	215,245	198,363
Production (quantity)	209,376	195,660	145,324
Capacity utilization (percent)	85.9	90.9	73.3
U.S. shipments:			
Quantity	201,545	187,951	151,766
Value	275,812	245,142	196,244
Unit value	$1,368	$1,304	$1,293
Ending inventory	9,135	11,110	2,306
Inventories/total shipments	***	***	***
Production workers	719	637	523
Hours worked (1,000)	1,632	1,471	1,210
Wages paid (1,000 dollars)	32,438	29,055	23,675
Hourly wages	$19.88	$19.75	$19.57
Productivity (short tons per 1,000 hours)	128.3	133.0	120.1
Financial data:			
Net sales:			
Quantity	207,173	202,463	169,520
Value	293,831	267,227	219,034
Unit value	$1,418	$1,320	$1,292
Cost of goods sold	251,913	242,020	214,672
Gross profit or (loss)	41,918	25,207	4,362
Selling, General and Administrative Expenses	16,743	15,964	14,703
Operating income or (loss)	25,175	9,243	(10,341)
Unit COGS	$1,216	$1,195	$1,266
Unit operating income	$122	$46	$(61)
COGS/ Sales (percent)	85.7	90.6	98.0
Operating income or (loss)/ Sales (percent)	8.6	3.5	(4.7)

Source: Investigation No. 731-TA-991 (Final): *Silicon Metal from Russia*—Staff Report, INV-Z-046, April 15, 2002, table C-1.

Table I-2

Silicon metal: Summary data from the expedited first five-year review and full second five-year review, 2007-13

Item	First Review	Second Review					
	2007	2008	2009	2010	2011	2012	2013
	Quantity (short tons contained silicon)						
U.S. consumption	***	***	***	***	***	***	***
Share of U.S. consumption: U.S. producers' share	***	***	***	***	***	***	***
U.S. importers' share: Russia	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***
	Value (1,000 dollars)						
U.S. consumption	***	***	***	***	***	***	***
	Share of value (percent)						
Share of U.S. consumption: U.S. producers' share	***	***	***	***	***	***	***
U.S. importers' share: Russia	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***
	Quantity (short tons contained silicon), Value ($1,000)						
U.S. imports from Russia							
Quantity	0	0	0	([2])	131	44	0
Value	0	0	0	15	415	133	0
Unit value	$0	$0	$0	$33,568	$3,176	$3,057	$0
Nonsubject sources:							
Quantity	159,097	182,393	131,465	195,056	200,859	147,019	126,540
Value	286,171	446,551	299,498	466,855	606,095	414,506	328,991
Unit value	$1,799	$2,448	$2,278	$2,393	$3,018	$2,819	$2,600
All countries:							
Quantity	159,097	182,393	131,465	195,056	200,990	147,062	126,540
Value	286,171	446,551	299,498	466,870	606,510	414,639	328,991
Unit value	$1,799	$2,448	$2,278	$2,394	$3,018	$2,819	$2,600

Table continued on following page.

Table I-2—Continued

Silicon metal: Summary data from the expedited first five-year review and full second five-year review, 2007-13

Item	First Review	Second Review					
	2007	2008	2009	2010	2011	2012	2013
U.S. industry: Capacity (quantity)	***	***	***	***	***	***	***
Production (quantity)	***	***	***	***	***	***	***
Capacity utilization (percent)	***	***	***	***	***	***	***
U.S. shipments: Quantity	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***
Ending inventory	([3])	***	***	***	***	***	***
Inventories/total shipments	([3])	***	***	***	***	***	***
Production workers	([3])	***	***	***	***	***	***
Hours worked (1,000)	([3])	***	***	***	***	***	***
Wages paid (1,000 dollars)	([3])	***	***	***	***	***	***
Hourly wages	([3])	***	***	***	***	***	***
Productivity (short tons per hour)	([3])	***	***	***	***	***	***
Financial data: Net sales: Quantity	([3])	***	***	***	***	***	***
Value	([3])	***	***	***	***	***	***
Unit value	([3])	***	***	***	***	***	***
Cost of goods sold	([3])	***	***	***	***	***	***
Gross profit or (loss)	([3])	***	***	***	***	***	***
Selling, General and Administrative Expenses	([3])	***	***	***	***	***	***
Operating income or (loss)	([3])	***	***	***	***	***	***
Unit COGS	([3])	***	***	***	***	***	***
Unit operating income	([3])	***	***	***	***	***	***
COGS/ Sales (percent)	([3])	***	***	***	***	***	***
Operating income or (loss)/ Sales (percent)	([3])	***	***	***	***	***	***

[1] Less than 0.05 percent
[2] Less than 1.0 short ton
[3] Not available

Source: Compiled from Investigation No. 731-TA-991: *Silicon Metal from Russia*, INV-FF-063, June 2, 2008, table I-7, data submitted in response to Commission questionnaires and official Commerce statistics.

STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

Statutory criteria

Section 751(c) of the Act requires Commerce and the Commission to conduct a review no later than five years after the issuance of an antidumping or countervailing duty order or the suspension of an investigation to determine whether revocation of the order or termination of the suspended investigation "would be likely to lead to continuation or recurrence of dumping or a countervailable subsidy (as the case may be) and of material injury."

Section 752(a) of the Act provides that in making its determination of likelihood of continuation or recurrence of material injury--

> *(1) IN GENERAL.-- . . . the Commission shall determine whether revocation of an order, or termination of a suspended investigation, would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time. The Commission shall consider the likely volume, price effect, and impact of imports of the subject merchandise on the industry if the order is revoked or the suspended investigation is terminated. The Commission shall take into account--*
>
> *(A) its prior injury determinations, including the volume, price effect, and impact of imports of the subject merchandise on the industry before the order was issued or the suspension agreement was accepted,*
>
> *(B) whether any improvement in the state of the industry is related to the order or the suspension agreement,*
>
> *(C) whether the industry is vulnerable to material injury if the order is revoked or the suspension agreement is terminated, and*
>
> *(D) in an antidumping proceeding . . ., (Commerce's findings) regarding duty absorption . . ..*
>
> *(2) VOLUME.--In evaluating the likely volume of imports of the subject merchandise if the order is revoked or the suspended investigation is terminated, the Commission shall consider whether the likely volume of imports of the subject merchandise would be significant if the order is revoked or the suspended investigation is terminated, either in absolute terms or relative to production or consumption in the United States. In so doing, the Commission shall consider all relevant economic factors, including--*
>
> *(A) any likely increase in production capacity or existing unused production capacity in the exporting country,*
>
> *(B) existing inventories of the subject merchandise, or likely increases in inventories,*
>
> *(C) the existence of barriers to the importation of such merchandise into countries other than the United States, and*
>
> *(D) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products.*

(3) PRICE.--In evaluating the likely price effects of imports of the subject merchandise if the order is revoked or the suspended investigation is terminated, the Commission shall consider whether--

> *(A) there is likely to be significant price underselling by imports of the subject merchandise as compared to domestic like products, and*
> *(B) imports of the subject merchandise are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of domestic like products.*

(4) IMPACT ON THE INDUSTRY.--In evaluating the likely impact of imports of the subject merchandise on the industry if the order is revoked or the suspended investigation is terminated, the Commission shall consider all relevant economic factors which are likely to have a bearing on the state of the industry in the United States, including, but not limited to–

> *(A) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity,*
> *(B) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, and*
> *(C) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.*

The Commission shall evaluate all such relevant economic factors . . . within the context of the business cycle and the conditions of competition that are distinctive to the affected industry.

Section 752(a)(6) of the Act states further that in making its determination, "the Commission may consider the magnitude of the margin of dumping or the magnitude of the net countervailable subsidy. If a countervailable subsidy is involved, the Commission shall consider information regarding the nature of the countervailable subsidy and whether the subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement."

Organization of report

Information obtained during the course of the review that relates to the statutory criteria is presented throughout this report. A summary of trade and financial data for silicon metal as collected in the review is presented in appendix C. U.S. industry data are based on the questionnaire responses of two U.S. producers of silicon metal that are believed to have accounted for all of domestic production of silicon metal in 2013. U.S. import data and related information are based on Commerce's official import statistics and the questionnaire responses of seven U.S. importers of silicon metal that are believed to have accounted for *** subject U.S. imports during 2013. No Russian producers submitted questionnaires. Responses by U.S. producers, importers, and purchasers of silicon metal to a series of questions concerning the

significance of the existing antidumping and countervailing duty orders and the likely effects of revocation of such orders are presented in appendix D.

COMMERCE'S REVIEWS

Commerce's Original and Review Determinations

Since the issuance of the antidumping duty order, Commerce has conducted no administrative reviews with respect to imports of silicon metal from Russia. There have been no new shipper reviews, no changed circumstances determinations, no duty absorption findings, and no scope clarifications or scope rulings concerning the antidumping duty order. No HTS categories have been added to the scope and the scope description itself has not changed. The order remains in effect for all manufacturers, producers, and exporters of the subject merchandise. Information on Commerce's final determination, antidumping duty order, and expedited five-year review determination is presented in table I-3.

Table I-3
Product: Commerce's original and first five-year dumping margins for producers/exporters in Russia

Action	Date of action	Federal Register citation	Antidumping duty margins	
			Firm-specific	Country-wide
			Percent ad valorem	
Final determination	2/11/2003	68 FR 6885	54.77[1] 77.51[2]	77.51
Amended final determination	03/13/2003	68 FR 12037	56.11[1] 79.42[2]	79.42
Antidumping duty order	03/26/2003	68 FR 14578	56.11[1] 79.42[2]	79.42
Amended final determination pursuant to court decision	02/16/2006	71 FR 8277	61.61[1] 87.08[2]	79.42
Continuation of antidumping duty order	05/30/2008	73 FR 31064	61.61[1] 87.08[2]	79.42
Final results of the second expedited five-year review	10/3/2013	78 FR 61334	61.61[1] 87.08[2]	79.42

[1] *ZAO Kremny/Sual-Kremny-Ural Ltd.*
[2] *Bratsk Aluminum Smelter and Rual Trade Limited.*

Source: Cited Federal Register Notices.

THE SUBJECT MERCHANDISE

Commerce's scope

Commerce has defined the scope of this investigation as follows:

> *silicon metal, which generally contains at least 96.00 percent but less than 99.99 percent silicon by weight. The merchandise covered by this investigation also includes silicon metal from Russia containing between 89.00 and 96.00 percent silicon by weight, but containing more aluminum than the silicon metal which contains at least 96.00 percent but less than 99.99 percent silicon by weight.*[32]

Tariff treatment

Silicon metal, provided for under subheading 2804.69.10 (containing by weight less than 99.99 percent but not less than 99 percent of silicon), has a normal trade relations tariff rate of 5.3 percent applicable to imports from Russia.[33] When provided for under subheading 2804.69.50 (containing by weight less than 99 percent of silicon), it has a normal trade relations tariff rate of 5.5 percent applicable to imports from Russia. The Harmonized System tariff nomenclature treats silicon as a chemical element when it is unworked as drawn or in the form of cylinders or rods.[34]

THE PRODUCT

Description and applications[35]

Silicon is a chemical element, metallic in appearance, solid in mass, and steel gray in color, that is commonly found in nature in combination with oxygen either as silica (SiO_2) or in

---

[32] 68 FR 14578, March 26, 2003; 73 FR 31064, May 30, 2008; and 78 FR 61334, October 3, 2013.

[33] Imports from Russia under this tariff subheading would be eligible for duty-free treatment under the Generalized System of Preferences (GSP), however GSP legislation expired effective July 1, 2013. On May 7, 2014, The White House issued a press release stating the President's intent to withdraw the designation of Russia as a beneficiary developing country under the GSP program (President Barack Obama, http://www.whitehouse.gov/the-press-office/2014/05/07/message-congress-respect-russia-s-status-under-generalized-system-prefer, on May 7, 2014, retrieved on May 9, 2014).

[34] Under the HTS, silicon is classified as a nonmetal. See Explanatory Notes for Harmonized System heading 2804. When cut into wafers, discs or similar forms, imported silicon is classified in HTS heading 3818.

[35] The discussion in this section is based on information from *Silicon Metal From Russia, Investigation No. 731-TA-991 (Review)* USITC Publication 4018, June 2008, pp. I-9-11.

combination with both oxygen and a metal in silicate minerals. Although commonly referred to as metal, silicon exhibits characteristics of both metals and nonmetals. Silicon metal is a polycrystalline material whose crystals have a diamond cubic structure at atmospheric pressure. Whether imported or domestic, it is usually sold in lump form typically ranging from 6 inches x ½ inch to 4 inches x ¼ inch.[36]

There are four broadly defined categories, or grades, of silicon metal, which are ranked in generally descending order of purity as: (1) semiconductor grade;[37] (2) chemical grade; (3) a metallurgical grade used to produce primary aluminum (aluminum produced from ore); and (4) a metallurgical grade used to produce secondary aluminum (aluminum produced from scrap).[38] However, higher grade silicon metal is frequently shipped to a purchaser with a lower specification requirement.[39] The silicon metal content for all four grades of silicon metal is typically at least 98.5 percent.

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[36] The dimensions refer to the maximum and minimum dimensions of the silicon metal lumps.

[37] Semiconductor-grade silicon, used in the electronics industry, is a high-purity product generally containing over 99.99 percent silicon and therefore not included within the scope of this investigation. Subject silicon metal may be used as a starting material for the manufacture of semi-conductor-grade silicon.

[38] Although silicon metal has been described in terms of different grades, there is no uniformly accepted grade classification system. Silicon metal "grades" actually refer to ranges of specifications that are typically sold to particular groups of customers. These specifications, which exist within very narrow bands and are often proprietary, establish the minimum amounts of silicon and the maximum amounts of impurities such as iron, calcium, aluminum, or titanium that the silicon metal may contain. Specifications for chemical-use silicon metal typically require silicon that contains less than 0.4 percent iron, less than 0.025 percent calcium, and less than 0.25 percent aluminum. Specifications for the metallurgical primary-aluminum use silicon metal typically require silicon that contains less than 0.5 percent iron (although some low-iron specifications call for less than 0.35 percent) and less than 0.07 percent calcium (although some specifications call for less than 0.015 percent). Specifications for silicon metal used in metallurgical secondary-aluminum product typically allow for no more than 1 percent iron and no more than 0.35 percent calcium. Chemical customers each have their own detailed specifications. Requirements also vary widely among primary aluminum customers. Even some secondary aluminum customers, whose product comes closest to representing a commodity, have differences in tolerances with regard to impurities.

The type and level of impurities rather than the precise silicon content (assuming it is near 99 percent) is the principal factor determining whether the silicon metal product can be used in a given application. As such, it is not possible to assume that silicon metal imported under HTS subheading 2804.69.10 (silicon containing by weight less than 99.99 percent but not less than 99.00 percent silicon) is necessarily better quality than silicon metal imported under HTS subheading 2804.69.50 (silicon containing by weight less than 99.00 percent silicon) even though the silicon content of the former is higher.

[39] According to petitioners in the original investigation on silicon metal from Russia, producers "make the best quality silicon metal they can possibly make and sell it down into the various chemical and aluminum applications" and "to the knowledge of domestic producers, no producer purposely sets out to produce a secondary aluminum product." U.S. producers of silicon metal produce silicon metal with specifications designed to meet the most stringent requirements of their customers (which is not

(*continued*...)

There are no known substitutes for silicon metal. Silicon metal is used in the chemical industry to produce silanes which are, in turn, used to produce a family of organic chemicals known as silicones. Silicones are used in a wide variety of applications including resins, lubricants, plastomers, anti-foaming agents, and water-repellent compounds that are employed in the chemical, pharmaceutical, automotive, and aerospace industries. Silicon metal employed in the production of primary and secondary aluminum is an alloying agent (it is a required component in aluminum casting alloys) because the silicon increases fluidity and reduces shrinkage while it enhances strength, castability, and weldability.[40] Primary aluminum applications include the manufacture of components that require higher purity aluminum, such as automobile wheels. Secondary-aluminum applications apply primarily to other automotive castings. Other applications for silicon metal include the production of brass and bronzes, steel, copper alloys, ceramic powders, and refractory coatings. Silicon metal is used in solar panels for the generation of electricity. Silicon metal for this application is of metallurgical grade and is further refined to a purity suitable for electronic applications by the manufacturers or suppliers of the solar panels.

According to information provided to the Commission by Globe in the second five-year review on silicon metal from Brazil and China, "Silicon metal is a commodity product. While the silicon metal purchased by a particular customer may need to conform to that customer's specifications, the differences in such specifications among buyers in the three main market segments (chemical, primary aluminum, and secondary aluminum) tend to be relatively minor and can be met by both domestic and import suppliers." However, the staff report in the original investigation reported that an official of purchaser Alcoa appeared to suggest that the silicon metal that it purchased was not a commodity product. He stressed the rigorous qualification process to which silicon suppliers to Alcoa were subject and the fact that the company required at least seven specifications for the silicon it purchased. He indicated that he did not believe that silicon producers typically made large batches of one set of products and indicated that the silicon used by Alcoa did not have the "sameness" characteristics of a commodity. In particular, he stated that Russia could not provide Alcoa with low-iron silicon metal.

(…*continued*)
necessarily identical to the silicon metal produced by the other producers). If necessary, an adjustment may be made which simply involves the change of an input (e.g., the types of coal used to achieve a lower iron content) to meet the special needs of an established or new customer.

Globe essentially reiterated this position in the recent second five-year review on silicon metal from Brazil and China: "In fact, if there has been a change it's been in the direction of a convergence to producing what is fundamentally a single high-quality product" and "Just to clarify one point, Globe fundamentally produces a single product which is sold to all types of customers." In its posthearing brief in those recent reviews, Globe quantified this statement, indicating that most of the silicon metal it sold exceeded customer specifications; for iron, this amounted to about *** percent of customers and, for calcium, *** percent.

[40] Because iron interferes with these functions, the iron content of silicon metal used in the production of aluminum is usually limited to a maximum of 1 percent or less.

Manufacturing processes[41]

Silicon metal is produced from mined quartzite (a rock consisting principally of quartz, a natural crystallized silica) which is washed, crushed, and screened. Only material containing a high percentage of silica (over 99 percent) and a low iron content (less than one percent) can be used to produce silicon metal. Quartzite is combined with a carbon-containing reducing agent (low-ash coal, petroleum coke, charcoal, or coal char) and a bulking agent (such as wood chips) in a submerged-arc electric furnace to produce molten silica, which is reduced to silicon metal.[42] The overall chemical reaction is summarized as:

SiO_2 (silica) + 2C (carbon) → Si (silicon metal) + 2CO (carbon monoxide).

The molten metal is poured into iron molds or onto beds of silicon metal fines for cooling, and is then shaped into ingots or crushed to the desired size for shipping. Lumps of chemical-grade silicon are of smaller size (about 1 inch maximum) compared with lumps for the metallurgical grades. Additionally, the more refined grades of silicon metal require an oxidative refining step that is not required to produce secondary aluminum. There are differences in the costs of production of the more refined grades versus the secondary aluminum grade, assuming that the oxidative refining step is eliminated in producing the latter. In practice, however, U.S. producers "sell down" higher-grade silicon metal to secondary aluminum customers even though these have less stringent purity specifications. Differences in costs may also arise because some forms of silicon metal (e.g., low-iron grades) require more costly raw materials.

Production capability is limited by the ***.

Silicon furnaces are basically the same worldwide. Physical differences are in the size of furnaces and the electrodes. Purities of the raw materials and the carbon sources used can vary widely. There are, however, characteristics that silicon production facilities share worldwide. For example, given the large amounts of quartz required to produce silicon metal, quartz sources need to be reasonably near the silicon furnace.

Some producers of silicon metal also produce ferrosilicon, which is used in the production of steel (especially stainless and heat-resisting steel) and cast iron.[43] In the United States, Globe produced both silicon metal and ferrosilicon, but did not use the same furnaces for both. Producers can switch production on a furnace between ferrosilicon and

[41] The discussion in this section is based on information from *Silicon Metal From Russia, Investigation No. 731-TA-991 (Review)* USITC Publication 4018, June 2008, pp. I-11-12.

[42] The process relies on electricity from a transformer system and is extremely energy-intensive.

[43] Ferrosilicon is a product used by the steel industry as an alloying agent. Ferrosilicon differs from silicon metal in that it has much lower silicon content and contains 4 percent or more of iron.

silicon metal with varying degrees of cost, downtime, and efficiency loss.[44] It is generally easier for firms to switch from silicon metal production to ferrosilicon production than the reverse. Iron and other elements that may be contained in ferrosilicon tend to remain in a furnace lining and result in impurities intolerable in silicon metal production. In addition, certain furnace designs are more efficient at producing one product than another, leading to possible efficiency loss when switching production. According to Globe, in the United States, economic incentives for converting ferrosilicon furnaces to silicon furnaces may exist if the margins for silicon metal are better than the margins for ferrosilicon. Globe indicated that conversion from ferrosilicon to silicon can be conducted relatively quickly, easily, and "at a relatively moderate cost." Such a conversion, which reportedly could take just a few days, would require removal of the material from the furnace, the replacement of the electrodes, and possibly some modifications to the supporting materials.

Globe indicated in its response to the Commission's notice of institution in the first five-year review that silicon metal producers in many countries, including Russia and the United States, often produce other ferroalloys using the same production process and equipment. The ability of these producers to convert their furnaces from producing ferrosilicon and other ferroalloys to the production of silicon metal allows them to adjust their mix of products to take advantage of changing market conditions.[45]

DOMESTIC LIKE PRODUCT ISSUES

In its original determination and the first five-year review, the commission defined the domestic like product as all silicon metal, regardless of grade, consistent with Commerce's scope and it defined a single domestic industry consisting of all domestic producers of silicon metal. Globe indicated in its response to the Commission's notice of institution in the second review that it agrees with the domestic like product and domestic industry definitions used by the Commission in the original investigations. Rusal did not indicate its position regarding the definition of domestic like product and domestic industry.

U.S. MARKET PARTICIPANTS

U.S. producers

During the original investigation, the Commission reported that, at that time, there were three firms (i.e., Elkem, Globe, and SIMCALA) that produced silicon metal in the United

[44] A representative of Globe testified in the original final investigation that the company would strongly consider reconverting ferrosilicon production facilities back to silicon metal production with a market recovery, as it is more profitable to produce silicon metal than ferrosilicon.

[45] Response of Globe, March 24, 2008, p. 14.

States.[46] During 2001 (i.e., the latest annual period for which the Commission collected information in the original investigation), Elkem was the largest producer of silicon metal, accounting for *** of all domestic production.[47] Globe and SIMCALA accounted for *** and *** percent of 2001 domestic silicon metal production, respectively.[48] In these current proceedings, the Commission issued U.S. producers' questionnaires to two firms, both of which provided the Commission with information on their product operations. These firms are believed to account for all of U.S. production of silicon metal in 2013.[49] Presented in table I-4 is a list of current domestic producers of silicon metal and each company's position on continuation of the orders, production locations(s), and share of reported production of silicon metal in 2013.

Table I-4
Silicon metal: U.S. producers, positions on orders, U.S. production locations and shares of 2008-2013 reported U.S. production

Firm	Position on order	Production location(s)	Share of production (percent)
DC Alabama - A Dow Corning Company	***	Mt. Meigs, AL	***
Globe Metallurgical Inc.	***	Selma, AL Niagara Falls, NY Beverly, OH Alloy, WV	***
Total			***

Source: Compiled from data submitted in response to Commission questionnaires.

In 2009, Dow Corning Inc. acquired a chemical grade silicon manufacturing plant in Pará, Brazil from Globe.[50] In 2012, Globe acquired a 51.0 percent interest in Becancour Silicon Limited Partnership, the only silicon metal producer in Canada. Dow Corning Inc. has the right to

[46]A fourth producer, American Silicon Technologies, ceased production operations in September 1999. Staff Report on Silicon Metal from Russia, Investigation No. 731-TA-991 (Final), February 23, 2003 (INV-AA-017), p. III-1.

[47] An agreement was reached to sell Elkem's Alloy, WV facility to Globe in 2005 (American Metal Market, *Norway's Elkem in separate deals to sell silicon, hydropower plants*, December 19, 2005, found at http://www.amm.com/Article/2545683/Norways-Elkem-in-separate-deals-to-sell-silicon-hydropower-plants.html, retrieved May 8, 2014).

[48] Staff Report on Silicon Metal from Russia, Investigation No. 731-TA-991 (Final) February 23, 2003 (INV-AA-017),pp. III-1-III-2.

[49] Since 2009, Globe and Dow Corning Inc. jointly own a silicon metal plant in Alloy, WV (Dow Corning Inc., *Dow Corning acquires U.S. and Brazilian silicon metal manufacturing assets,* November 5, 2009, found at http://www.dowcorning.com/content/news/dow_corning_mfg_acquisition.aspx, retrieved on May 8, 2014).

[50] Dow Corning Inc., *Dow Corning acquires U.S. and Brazilian silicon metal manufacturing assets,* November 5, 2009, found at http://www.dowcorning.com/content/news/dow_corning_mfg_acquisition.aspx, retrieved on May 8, 2014.

purchase the other 49.0 percent of the plant's output.[51] *** silicon metal from nonsubject sources.[52]

U.S. importers

In the original investigation, the Commission sent importer questionnaires to approximately 32 firms and received responses from *** importing silicon metal from Russia and 11 firms importing from all other sources. U.S. import data presented in the staff report in the original investigation were based on official Commerce statistics and U.S. importer inventory data were based on the questionnaire responses of firms accounting for approximately *** percent of U.S. imports from Russia during the period examined.[53]

In the current proceedings, the Commission issued U.S. importers' questionnaires to 20 firms believed to be importers of silicon metal, as well as to all U.S. producers of silicon metal. Usable questionnaire responses were received from seven firms, representing *** subject imports from Russia in 2012. Table I-5 lists all responding U.S. importers of silicon metal from Russia and other sources, their locations, and their shares of U.S. imports from 2008-2013.

Table I-5
Silicon Metal: U.S. importers, source(s) of imports, U.S. headquarters, and shares of imports, 2008-2013

Firm	Headquarters	Share of imports by source (*percent*)		
		Russia	All other sources	Total
Dow Corning Corp.	Midland, MI	***	***	***
Elkem Materials Inc.	Moon Township, PA	***	***	***
Greenwich Metals, Inc.	Greenwich, CT	***	***	***
Mitsubishi Polycrystalline Silicon America Corp.	Theodore, AL	***	***	***
Polymet Alloys, Inc.	Birmingham, AL	***	***	***
Rusal America Corp.	Harrison, NY	***	***	***
TST Inc.	Fontana, CA	***	***	***
Total		***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. purchasers

The Commission received 18 purchaser questionnaire responses from firms that have purchased silicon metal since January 1, 2008. These purchasers reported purchasing silicon

[51] Globe Specialty Metals, *Globe Specialty Metals Closes Its Acquisition of Becancour Silicon Metals Inc's 51% Equity Interest in a 47,000 MT Silicon Metal Plant*, found at http://investor.glbsm.com/releasedetail.cfm?ReleaseID=683361, retrieved on May 8, 2014.

[52] In 2013, ***.

[53] Response of Globe, March 24, 2008, pp. 23-26.

metal containing more than 168,000 short tons of silicon in 2013, which accounted for *** percent of 2013 U.S. silicon metal consumption. Purchasers reported that 55.5 percent of their 2013 purchases were of U.S.-produced silicon metal and 44.5 percent were of silicon metal imported from nonsubject countries.[54] The two largest reporting purchasers were ***.[55] Eleven firms reported that they were secondary aluminum producers,[56] two chemical producers,[57] two distributors,[58] two primary aluminum producers, one aluminum die caster, and one automotive manufacturer that uses silicon metal in foundry operations.

APPARENT U.S. CONSUMPTION

Data concerning apparent U.S. consumption of silicon metal during the period for which data were collected in this proceeding are shown in table I-6. Apparent U.S. consumption decreased by *** percent over the period of review. The decline in apparent U.S. consumption after 2011 is largely due to the establishment of FTZ manufacturing subzones by ***.[59] In 2011, 5,869 tons of silicon metal imports were admitted into FTZs. In the following two years, imports admitted into FTZs increased to 37,467 tons in 2012 and 46,950 tons in 2013. Apparent U.S. consumption calculated to include silicon metal imports into FTZs is presented in table C-2. *** reported using FTZs for silicon metal from ***.[60] Another factor contributing to the decline in apparent consumption is the decrease in ***.[61]

[54] Purchasers reported purchasing silicon metal from the following nonsubject countries: Australia, Brazil, Canada, China, France, Kazakhstan, Laos, Norway, Philippines, South Africa, Spain, and Thailand. No purchaser reported purchasing Russian silicon metal.

[55] Purchaser ***. Email from ***, February 24, 2014.

[56] Five firms that identified themselves as secondary aluminum producers specified the type of secondary aluminum that they produce (aluminum billet, alloying agents, foundry and die cast aluminum alloys, and secondary aluminum for the auto industry).

[57] Firms that identified themselves as chemical producers reported that they produce silicones and polysilicon.

[58] One distributor reported competing with its supplier ***.

[59] Imports in the FTZ would not be reported under imports for consumption and therefore not counted in the apparent U.S. consumption data.

[60] Email from ***, April 30, 2014.

[61] Globe's posthearing brief, pp 13-14.

Table I-6
Silicon metal: U.S. shipments of domestic product, U.S. shipments of imports, and apparent U.S. consumption, 2008-13

Item	Calendar year					
	2008	2009	2010	2011	2012	2013
	Quantity (*short tons contained silicon*)					
U.S. producers' U.S. shipments	***	***	***	***	***	***
U.S. imports from.-- Russia	0	0	([1])	131	44	0
All other sources	182,393	131,465	195,056	200,859	147,019	126,540
Total U.S. imports	182,393	131,465	195,056	200,990	147,062	126,540
Apparent U.S. consumption	***	***	***	***	***	***
	Value (*1,000 dollars*)					
U.S. producers' U.S. shipments	***	***	***	***	***	***
U.S. imports from.-- Russia	0	0	15	415	133	0
All other sources	446,551	299,498	466,855	606,095	414,506	328,991
Total U.S. imports	446,551	299,498	466,870	606,510	414,639	328,991
Apparent U.S. consumption	***	***	***	***	***	***

[1] Less than one short ton.

Source: Compiled from data submitted in response to Commission questionnaires and official Commerce statistics.

U.S. MARKET SHARES

U.S. market share data are presented in table I-7. U.S. producers' market share based on quantity increased by *** percent over the period of review. While the U.S. producers' market share based on value increased by *** percent.

Table I-7
Silicon Metal: U.S. consumption and market shares, 2008-13

* * * * * * *

PART II: CONDITIONS OF COMPETITION IN THE U.S. MARKET

U.S. MARKET CHARACTERISTICS

Silicon metal is a polycrystalline material typically sold in lump form. There are three main end users of silicon metal in the U.S. market: chemical producers, primary aluminum producers, and secondary aluminum producers. Demand for silicon metal is derived from the demand for the silicon-based chemicals and aluminum alloys in which it is used as an input.

U.S. producers' market share increased from *** percent of the U.S. market in 2008 to *** percent in 2013. Imports from Russia accounted for *** percent of the U.S. market in 2010-12,[1] and imports from nonsubject countries supplied the remainder of the U.S. market in each year of the POR. One U.S. producer and 5 of 7 importers reported that there have been no changes in the product range, product mix, or marketing of silicon metal since 2008 and also reported that they do not anticipate any changes.

CHANNELS OF DISTRIBUTION

U.S. producers reported primarily shipping their U.S.-produced silicon metal to *** during 2008-13 (table II-1). The sole responding importer of silicon metal from Russia *** reported selling *** percent of its silicon metal to ***.[2] Importers of silicon metal from nonsubject countries shipped primarily to *** with some shipments to ***.

Table II-1
Silicon metal: U.S. producers' and importers' share of reported U.S. shipments (percent), by sources and channels of distribution, 2008-13

* * * * * * *

GEOGRAPHIC DISTRIBUTION

Silicon metal produced in the United States is sold in all regions of the continental United States, while silicon metal imported from Russia is concentrated in one region (table II-2). U.S. producer Globe reported selling silicon metal ***, and U.S. producer DC Alabama reported selling ***. Imports of silicon metal from Russia were sold in the ***. U.S. producers reported that *** percent of sales were within 100 miles of their production facility, ***

[1] According to official import statistics, there were no imports from Russia during 2008-09 and 2013.

[2] In the original investigation, importers from Russia reported shipping a majority of their imported silicon metal to secondary aluminum producers with some shipments to ***. *Silicon Metal from Russia,* Inv. No. 731-TA-991 (Final), USITC Publication 3584 (March 2003), p. I-12.

percent were within 101 to 1,000 miles, and *** percent were over 1,000 miles. U.S. importer *** reported that 100 percent of its sales of silicon metal from Russia were within *** miles of its U.S. point of shipment.[3]

Table II-2
Silicon metal: Geographic market areas in the United States served by U.S. producers and importers

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SUPPLY AND DEMAND CONSIDERATIONS

U.S. supply

Domestic production

Based on available information, U.S. producers of silicon metal have the ability to respond to changes in demand with moderate to large changes in the quantity of shipments of U.S.-produced silicon metal to the U.S. market. The main contributing factors to this degree of responsiveness of supply are availability of unused capacity, limited alternative markets, limited availability of inventory, and the existence of alternative products.

*** U.S. producers, 2 of 5 responding importers, and 8 of 18 purchasers reported changes in factors affecting the availability of U.S.-produced silicon metal in the U.S. market since 2008. Firms reported that ***, increasing electricity prices, and transportation costs are factors that affect the availability of U.S.-produced silicon metal. *** also reported that it expects the availability of U.S.-produced silicon metal to increase in the future due to the announcement of Brazilian producer Rima's new U.S. production facility in Alabama. *** also noted the new production facility, but reported that it does not anticipate changes in the availability of U.S.-produced silicon metal in the future.

Industry capacity

U.S. producers have some unused capacity with which they could increase production of silicon metal in the event of a price change.[4] Domestic capacity utilization increased from *** percent in 2008 to *** percent in 2013. U.S. producers' reported capacity and production both increased from 2008 to 2013; production increased at a greater rate than capacity.

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[3] *** only reported importing silicon metal from Russia during 2012.

[4] U.S. producer Globe accounted for *** percent of total reported U.S. production of silicon metal during 2008-13 and *** percent of U.S. producers' total capacity, and DC Alabama accounted for the remaining *** percent of production and *** percent of capacity.

Alternative markets

U.S. producers have limited ability to divert shipments of silicon metal to or from alternative markets in response to changes in the price of silicon metal. U.S. producer Globe's exports as a share of its total shipments *** from *** percent in 2008 to *** percent in *** due to ***.[5] Globe's exports *** to *** percent of its total shipments in 2013. Globe reported that ***.[6] Globe's principal export markets are ***. Globe added that ***.[7] U.S. producer DC Alabama[8] reported that ***.

Inventory levels

U.S. producers have limited ability to use inventories as a means of increasing shipments of silicon metal to the U.S. market. The ratio of end-of-period inventories to total shipments for U.S producers increased from *** percent in 2008 to *** percent in 2013.

Production alternatives

U.S. producer Globe reported that it ***.[9] Globe reported that ferrosilicon and silicomanganese are produced using materials and production processes similar to those used to produce silicon metal.[10] Globe also reported that the conversion of ferrosilicon furnaces to silicon metal production can be done relatively quickly and at a low cost.[11] Globe reported ***. When ***, Globe reported that it ***.[12] Globe added that re-lining the furnace is not necessary when converting a furnace from ferrosilicon to silicon metal production as it is ***.[13] U.S. producer DC Alabama stated that, ***.[14]

Subject imports from Russia

Limited information is available on the Russian silicon metal industry; no foreign producers or exporters of silicon metal from Russia submitted a response to the Commission's questionnaire. LLC SUAL-Kremny-Ural and JSC Kremny are the only Russian producers of silicon

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[5] Email from ***, February 21, 2014.

[6] Email from ***, February 21, 2014.

[7] Globe noted that ***. Globe's U.S. producer questionnaire response, section IV-18.

[8] U.S. producer DC Alabama is ***. DC Alabama's U.S. producer questionnaire response, section II-10. DC Alabama reported that approximately *** percent of its silicon metal production was *** during 2008-13. DC Alabama's U.S. producer questionnaire response, section II-8.

[9] Globe reported that it allocated production capacity between silicon metal and other products primarily based on ***. Globe's posthearing brief, Responses of Globe Metallurgical Inc. to Commission Questions, p. 17.

[10] Globe's posthearing brief, p. 6.

[11] Globe's prehearing brief, p. 16.

[12] Globe's U.S. producer questionnaire response, section II-7.

[13] Globe's posthearing brief, Responses of Globe Metallurgical Inc. to Commission Questions, p. 11.

[14] DC Alabama's U.S. producer questionnaire response, section II-7.

metal.[15] The two companies are wholly-owned by Rusal, a leading global aluminum producer based in Russia. In 2012, LLC SUAL-Kremny-Ural and JSC Kremny produced a total of *** short tons of silicon metal, which accounted for 100 percent of Russian silicon metal production for that year.[16] [17] The Commission received one importer questionnaire from a Russian importer. *** reported importing *** short tons of silicon metal from Russia in ***.[18] [19] Most responding importers (5 of 6) do not anticipate any changes in the availability of silicon metal imported from Russia in the U.S. market.

Nonsubject imports

Nonsubject imports accounted for approximately *** percent of the U.S. market during the POR. The largest sources of nonsubject imports during 2013 were Australia, Brazil, Canada, Norway, South Africa, and Thailand. Combined, these countries accounted for 94.8 percent of nonsubject imports in 2013.

*** U.S. producers and 4 of 6 importers reported changes in the availability of silicon metal imported from nonsubject sources since 2008. Firms reported new production sources and increased production capacity in Australia, Brazil, France, Kazakhstan, Laos, Norway, South Africa, and Thailand. Most responding importers (4 of 6) of silicon metal from nonsubject sources reported that they do not export silicon metal to alternative country markets, are not interested in shifting sales due to their own consumption of silicon metal, or that it would be very difficult to shift their sales of silicon metal to alternative markets due to their limited experience in and knowledge of other markets.

New suppliers

Eight of 18 purchasers indicated that new suppliers entered the U.S. market since 2008, and 9 of 18 purchasers expect additional entrants. Purchasers cited CCMA, Elkem (Norway), FerroAtlantica, and GS Energy (Thailand) as new entrants into the market since 2008. Purchasers reported that Brazilian producer Rima has plans to build a new silicon metal

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[15] Rusal's response to the notice of institution, pp. 2 and 5.

[16] Rusal's response to the notice of institution, pp. 2 and 7.

[17] Rusal asserts that these producers utilized their full production capacity in 2012. U.S. producer Globe asserts that Russia also has a large capacity to produce other ferroalloys that could be converted to silicon metal production. However, the Ministry of Economic Development of the Russian Federation asserts that it is impossible to convert a ferrosilicon production facility to a silicon metal production facility as the technical limitations of Russian ferroalloy plants would require a huge capital investment in order to convert from ferrosilicon production to silicon metal production. Rusal's response to the notice of institution, p. 3; Globe's posthearing brief, p. 5; and Ministry of Economic Development of the Russian Federation's prehearing brief, section II-A.

[18] ***. ***, and Rusal's response to the notice of institution, p. 5.

[19] *** accounted for *** percent of imports from Russia during 2010-12 and *** percent of imports in 2012. ***. See p*art IV* of this report for additional information on subject imports.

production facility in Mississippi.[20] [21] The new plant is expected to be built in two years and produce 36,000 tons of silicon metal annually once fully operational.[22]

U.S. demand

Based on available information, the overall demand for silicon metal is likely to experience small changes in response to changes in price. While silicon metal accounts for a varying amount of the total cost of its end use products, demand responsiveness is constrained by the lack of substitute products.

End uses

Silicon metal is primarily used by chemical producers in the production of silicones and by aluminum producers as an alloying agent. Specific aluminum end uses identified by firms include aluminum alloys, aluminum billet used in a direct extrusion process, aluminum casting, aluminum die-casting, die cast alloys, elastomers, foundry alloys, high silicon aluminum alloys, ingot, molten metal, primary aluminum, secondary aluminum, secondary aluminum alloys, and secondary aluminum ingot. Specific chemical end uses identified by firms include chlorosilanes, polycrystalline silicon, polysilicon, sealants, silicones, and silicone adhesive sealants.

Most responding firms reported no changes in the end uses of silicon metal since 2008, and stated that they do not anticipate changes in the end uses of silicon metal. However, one importer noted increased sales of silicon metal for use in polysilicon, and one purchaser reported an increase in automotive production.[23]

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[20] The new facility, Mississippi Silicon, is a partnership between the owners of Brazilian silicon metal producer Rima and investment group Clean Tech I LLC. "Globe contests Mississippi Silicon mill," American Metal Market, February 13, 2014.

[21] Purchasers also reported that FerroAtlantica has plans to build a production facility in Canada and that new production facilities have been announced in Iceland, Malaysia, and Oman. The Canadian facility is expected to begin production in late 2016. However, Globe asserts that planning is still in the preliminary stages and a site for the potential new plant has not been selected. *** U.S. purchaser questionnaire response, section III-20; *** U.S. purchaser questionnaire response, section III-20; *** U.S. purchaser questionnaire response, section III-20; "FerroAtlantica to build silicon plant in Quebec," American Metal Market, February 4, 2014; and Globe's posthearing brief, Responses of Globe Metallurgical Inc. to Commission Questions, p. 7 .

[22] U.S. producer Globe asserts that the facility was improperly permitted by the Mississippi Department of Envrionmental Quality, and that it is unclear whether the plant will meet air pollution standards or use the best available air pollution control technology. "Globe contests Mississippi Silicon mill," American Metal Market, February 13, 2014, and Globe's posthearing brief, Responses of Globe Metallurgical Inc. to Commission Questions, p. 6.

[23] Two additional purchasers reported that end uses of silicon metal have changed since 2008, but did not identify any specific changes.

Cost share

U.S. producers and purchasers generally reported that silicon metal accounted for a small-to-moderate cost share of the total cost of end-use products in aluminum applications and a large cost share in chemical applications. U.S. producer DC Alabama reported that silicon metal accounts for *** percent of the total cost of the end use product in *** and *** percent of the total cost of ***.[24] Purchasers reported that silicon metal accounts for 19 to 48 percent of the total cost of the end use product in chemical applications and 12 percent or less of the total production cost in aluminum applications.[25]

Business cycles

Most responding firms reported that the silicon metal market is not subject to business cycles or other conditions of competition distinctive to silicon metal. However, one U.S. producer, three importers, and two purchasers reported that the silicon metal market is subject to business cycles and stated that the demand for silicon metal is directly tied to general economic performance and to demand for the downstream products that are produced using silicon metal. Both U.S. producers reported that the silicon metal market *** subject to distinctive conditions of competition. Two importers and six purchasers identified end user demand, oversupply of silicon metal in the global market, production costs (specifically energy), transportation costs, and product quality as other conditions of competition distinctive to silicon metal. One purchaser added that silicon metal prices historically exhibit an 18 to 24 month cycle that is generally affected by global economic conditions.

U.S. producer Globe reported that ***. Two of 3 responding importers and 6 of 7 responding purchasers reported that the business cycles or conditions of competition for silicon metal have changed since 2008. Most firms reported fluctuations in the silicon metal market due to the overall condition of the economy.

Apparent consumption

Apparent U.S. consumption of silicon metal fluctuated during 2008-13. Overall, apparent U.S. consumption in 2013 was approximately *** percent lower than in 2008.

Demand trends

Firms' responses regarding U.S. demand for silicon metal since 2008 were varied (table II-3). U.S. producer DC Alabama reported that demand for silicon metal *** while U.S producer Globe reported *** in demand. Most importers and purchasers reported that demand for silicon metal has either fluctuated with no clear trend or increased overall since 2008. Firms that reported an overall increase in demand cited reasons including improved economic conditions and increased use of silicon metal in electronics, automotive manufacturing, and

[24] U.S. producer Globe reported that ***.

[25] No importers provided cost share information.

building products. One purchaser who reported that demand fluctuated with no clear trend indicated that demand for silicon metal fluctuates based on the automotive industry.

Table II-3
Silicon metal: Firms' responses regarding U.S. demand, by number of responding firms

Item	Number of firms reporting			
	Overall increase	No change	Overall decrease	Fluctuate with no clear trend
Demand inside the United States since 2008:				
U.S. producers	***	***	***	***
Importers	3	0	1	2
Purchasers	9	1	3	4
Anticipated future demand inside the United States:				
U.S. producers	***	***	***	***
Importers	4	0	0	2
Purchasers	10	2	0	5
Demand for purchasers' final products since 2008:				
U.S. purchasers	5	2	4	5

Source: Compiled from data submitted in response to Commission questionnaires.

Most firms anticipate future U.S. demand for silicon metal to increase. Reasons cited for the anticipated increase in demand include increased silicon metal consumption in the production of polysilicon and aluminum and improved economic conditions. According to data from ***, demand for silicon metal ***.[26]

Purchasers that use silicon metal in aluminum production reported that demand for their final products fluctuated with no clear trend or increased overall since 2008, while purchasers who use silicon metal in chemical applications (silicones and polysilicon) reported that demand for their final products fluctuated or decreased overall. Fourteen of 15 purchasers reported that demand for their final products affects their demand for silicon metal.

Substitute products

All responding U.S. producers, importers and purchasers reported that there are no substitutes for silicon metal. All firms also reported that there have been no changes in substitutes since 2008, and no responding firm anticipates future changes in substitutes for silicon metal.

SUBSTITUTABILITY ISSUES

The degree of substitution between domestic and imported silicon metal depends upon such factors as relative prices, quality (*e.g.*, silicon content, iron content, calcium content, size, and amount of fines or dust), and conditions of sale (*e.g.*, discounts, lead times, and payment

[26] Attachment to Globe's U.S. producer questionnaire response, ***.

terms). Based on available data, staff believes that there is a high degree of substitutability between domestically produced silicon metal and silicon metal imported from Russia.

Lead times

U.S. producer DC Alabama reported that *** percent of its sales were ***. U.S. producer Globe reported that *** percent of its sales were ***. Globe reported that *** percent of its sales were ***. No importers reported lead times.

Knowledge of country sources

Sixteen purchasers indicated that they had marketing/pricing knowledge of domestic silicon metal, three of silicon metal from Russia, and 15 of nonsubject sources.[27]

As shown in table II-4, all purchasers reported that their customers "never" make purchasing decisions based on the producer or the country of origin of the silicon metal. Purchasers' responses regarding their purchasing decisions were mixed, with most purchasers reporting either "always" or "never" making purchasing decisions based on the producer and country of origin. Reasons for "always" making decisions based on the producer or country of origin included: product quality, avoiding antidumping duties, price, service, reliability of supply, and delivery time.

Table II-4
Silicon metal: Purchasing decisions based on producer and country of origin

	Number of reporting firms			
Decision	**Always**	**Usually**	**Sometimes**	**Never**
Purchases based on producer:				
Purchaser's decision	6	3	3	6
Purchaser's customer's decision	0	0	0	16
Purchases based on country of origin:				
Purchaser's decision	5	1	4	8
Purchaser's customer's decision	0	0	0	16

Source: Compiled from data submitted in response to Commission questionnaires.

Factors affecting purchasing decisions

The most often cited top three factors firms consider in their purchasing decisions for silicon metal were price (20 firms),[28] quality (16 firms), and availability (7 firms) as shown in

[27] Purchasers identified these nonsubject sources as Australia, Brazil, Canada, China, France, Laos, Malaysia, Norway, Philippines, South Africa, and Thailand.

[28] Globe contends that competition among suppliers is fundamentally based on price and asserts that price changes are quickly communicated throughout the market. Globe stated that price information is available through industry publications such as *Ryan's Notes*, *Metals Week*, and *CRU Monitor*. Globe's prehearing brief, p. 6.

table II-5. Quality and price were the most frequently cited first-most important factor (cited by 7 firms each); quality was also the most frequently cited second-most important factor (cited by 7 firms), followed by price (6 firms). Nine purchasers also reported factors that they consider in their purchasing decisions in addition to their top three factors. These factors include: on time delivery/delivery schedules (3 firms), traditional suppliers (2), credit terms (2), quality (1), and quantity (1).

Table II-5
Silicon metal: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by number of reporting firms

Factor	First	Second	Third	Total
Price[1]	7	6	7	20
Quality[2]	7	7	2	16
Availability	2	4	1	7
Other[3]	2	2	9	13

[1] Purchaser ***.
[2] Purchasers defined quality as chemistry (silicon content, iron content, and calcium content), size, minimal fines (dust), packaging, furnace recovery, and low metallic recovery.
[3] Other factors include country of origin, credit terms, dependability, delivery, quantity/volume, service, and traditional/direct producer.

Source: Compiled from data submitted in response to Commission questionnaires.

The majority of purchasers (16 of 18) reported that they "usually" or "sometimes" purchase the lowest-priced product for their purchases. Thirteen purchasers reported purchasing silicon metal from one source although a comparable product was available at a lower price from another source and cited reasons including reliability of supplier, delivery/lead times, availability, packaging, product consistency, supplier's proximity to purchaser, quality, and supplier diversification. Two of 17 purchasers reported that certain types of product were only available from a single source. Purchaser *** reported that silicon metal with *** is only available from ***, and purchaser *** reported that silicon metal with ***.

Importance of specified purchase factors

Purchasers were asked to rate the importance of 15 factors in their purchasing decisions (table II-6). The factors rated as "very important" by more than half of responding purchasers were product consistency (17 firms), availability (16), price (16), delivery time (15), reliability of supply (15), delivery terms (14), and quality meets industry standards (13).

Table II-6
Silicon metal: Importance of purchase factors, as reported by U.S. purchasers

Factor	Number of responding firms		
	Very important	Somewhat important	Not important
Availability	16	2	0
Delivery terms	14	3	1
Delivery time	15	3	0
Discounts offered	9	7	2
Extension of credit	9	6	3
Minimum quantity requirements	4	4	9
Packaging	8	6	4
Price	16	2	0
Product consistency	17	1	0
Product range	3	4	11
Quality exceeds industry standards	5	7	6
Quality meets industry standards	13	5	0
Reliability of supply	15	3	0
Technical support/service	3	7	8
U.S. transportation costs	8	4	6

Source: Compiled from data submitted in response to Commission questionnaires.

Supplier certification

Eleven of 18 purchasers require their suppliers to become certified or qualified for their purchases of silicon metal. When qualifying a supplier, purchasers look at product chemistry and consistency and ISO certifications and conduct sample analyses and material trials to assess product quality. Purchaser *** reported that it has a ***. Most purchasers reported that it takes 60 to 90 days to qualify a supplier. Two purchasers reported qualifying a supplier in as few as 5 to 7 days, and one purchaser reported that it takes as long as 180 days to qualify a supplier.

Two of 18 responding purchasers reported that a supplier had failed to certify or qualify. Purchaser *** reported that one supplier, ***, had failed to qualify because its product quality was not consistent with other suppliers. Purchaser *** reported that five suppliers had failed to qualify due to product quality. *** identified the suppliers as ***. *** reported that each of these suppliers except for *** have since re-qualified as a supplier.

Changes in purchasing patterns

Purchasers mostly reported either increasing or decreasing their purchases of silicon metal from the United States and nonsubject sources since 2008 (table II-7).[29] Reasons reported for increasing purchases of U.S.-produced silicon metal included price, quantity, reliability, delivery, and extension of credit. Reasons reported for decreasing purchases of U.S.-produced

[29] All 18 purchasers reported that they have not purchased Russian-produced silicon metal since 2008.

silicon metal and increasing purchases of nonsubject silicon metal included supplier diversification, decreased silicon metal consumption, and one purchaser reported that U.S. producer ***. Purchaser *** reported that it increased purchases of nonsubject silicon metal because of increased automobile production.[30] Reasons reported for decreased nonsubject silicon metal included higher prices, delivery, product inconsistency, and an increase in consumption of U.S.-produced silicon metal.

Table II-7
Silicon metal: Changes in purchase patterns from U.S., subject, and nonsubject countries

Source of purchases	Did not purchase	Decreased	Increased	Constant	Fluctuated
United States	1	6	5	4	3
Russia	18	0	0	0	0
All other sources	3	6	5	2	2

Source: Compiled from data submitted in response to Commission questionnaires.

Thirteen of 18 purchasers reported that they had changed suppliers since 2008, and identified a variety of reasons for these changes. Firms reported changing suppliers because of increased/decreased silicon metal consumption, price, delivery, quality, minimum volume requirements, and supplier consolidation.

Importance of purchasing domestic product

Sixteen of 17 responding purchasers reported that 100 percent of their silicon metal purchases did not require domestic product. One purchaser, ***, reported that approximately 51 percent of its purchases were required to be of domestic product due to ***.

Comparisons of domestic products, subject imports, and nonsubject imports

Purchasers were asked a number of questions comparing silicon metal produced in the United States, subject countries, and nonsubject countries. First, purchasers were asked for a country-by-country comparison on the same 15 factors (table II-8) for which they were asked to rate the importance.

While no purchaser reported purchasing Russian silicon metal during 2008-13, most purchasers reported that U.S.-produced and Russian silicon metal were comparable on discounts offered, extension of credit, packaging, price, product consistency, and product range. Most purchasers also reported that U.S.-produced silicon metal is superior to Russian silicon metal on delivery time and U.S. transportation costs, and a plurality of purchasers reported that U.S.-produced silicon metal is superior to Russian silicon metal on availability, quality meets industry standards, and technical support/service. Most purchasers reported that U.S. and nonsubject product were comparable on all factors.

[30] *** is a secondary aluminum producer that makes die casters and foundries.

Table II-8

Silicon metal: Purchasers' comparisons between U.S.-produced and imported product

Factor	Number of firms reporting								
	U.S. vs. Russia			U.S. vs. all other sources			Russia vs. all other sources		
	S	C	I	S	C	I	S	C	I
Availability	5	5	1	6	10	0	0	5	4
Delivery terms	4	6	1	5	11	0	0	7	2
Delivery time	7	3	1	7	9	0	1	5	3
Discounts offered	1	8	1	0	13	2	0	5	3
Extension of credit	3	7	1	1	13	1	0	5	4
Minimum quantity requirements	2	6	2	0	13	1	0	4	3
Packaging	3	7	0	1	14	0	0	7	1
Price[1]	2	8	0	0	13	2	0	6	2
Product consistency	2	7	1	0	14	1	0	6	2
Product range	2	7	1	0	15	0	0	7	1
Quality exceeds industry standards	4	6	0	1	14	0	0	7	1
Quality meets industry standards	5	5	0	1	14	0	0	7	1
Reliability of supply	4	5	1	3	13	0	0	5	3
Technical support/service	5	4	1	2	13	0	0	4	4
U.S. transportation costs[1]	8	3	0	4	9	1	1	4	3

[1] A rating of superior means that price/U.S. transportation costs is generally lower. For example, if a firm reported "U.S. superior," it meant that the U.S. product was generally priced lower than the imported product.

Note: S=first listed country's product is superior; C=both countries' products are comparable; I=first list country's product is inferior.

Source: Compiled from data submitted in response to Commission questionnaires.

Comparison of U.S.-produced and imported silicon metal

In order to determine whether U.S.-produced silicon metal can generally be used in the same applications as imports from Russia and nonsubject countries, U.S. producers, importers, and purchasers were asked whether the products can "always," "frequently," "sometimes," or "never" be used interchangeably. As shown in table II-9, U.S. producers reported that silicon metal from all sources is *** used interchangeably. The majority of importers and purchasers reported that U.S.-produced silicon metal and silicon metal imported from Russia and nonsubject countries is "always" or "frequently" interchangeable.

Table II-9

Silicon metal: Interchangeability between silicon metal produced in the United States and in other countries, by country pairs

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
	A	F	S	N	A	F	S	N	A	F	S	N
U.S. vs. subject countries:												
U.S. vs. Russia	***	***	***	***	3	2	0	0	4	1	0	0
Nonsubject countries comparisons:												
U.S. vs. nonsubject	***	***	***	***	2	4	1	0	10	5	1	0
Russia vs. nonsubject	***	***	***	***	2	3	0	0	5	1	0	0

Note.—A=Always, F=Frequently, S=Sometimes, N=Never.

Source: Compiled from data submitted in response to Commission questionnaires.

Twelve responding purchasers reported that domestically-produced product "always" met minimum quality specifications (table II-10). Three responding purchasers reported that Russian silicon metal "always" met minimum quality specifications. Most purchasers also reported that nonsubject silicon metal from Australia, Brazil, Canada, France, Laos, Norway, Philippines, and South Africa "always" met minimum quality specifications.

Table II-10

Silicon: Ability to meet minimum quality specifications, by source and number of reporting firms[1]

Source	Always	Usually	Sometimes	Rarely or never
United States	12	4	0	0
Russia	3	0	0	0

[1] Purchasers were asked how often domestically produced or imported silicon metal meets minimum quality specifications for their own or their customers' uses.

Source: Compiled from data submitted in response to Commission questionnaires.

In addition, producers, importers, and purchasers were asked to assess how often differences other than price were significant in sales of silicon metal from the United States, subject, or nonsubject countries. As seen in table II-11, U.S. producers reported that differences other than price were *** a significant factor in their sales. U.S. importers reported that differences other than price were "sometimes" or "never" a significant factor in their sales, and most purchasers reported that differences other than price were "sometimes" or "never" a significant factor in their purchases.

Table II-11

Silicon metal: Significance of differences other than price between silicon metal produced in the United States and in other countries, by country pairs

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of purchasers reporting			
	A	F	S	N	A	F	S	N	A	F	S	N
U.S. vs. subject countries:												
U.S. vs. Russia	***	***	***	***	0	0	4	1	0	0	4	1
Nonsubject countries comparisons:												
U.S. vs. nonsubject	***	***	***	***	0	0	5	1	2	1	6	4
Russia vs. nonsubject	***	***	***	***	0	0	3	1	0	0	3	2

Note.--A = Always, F = Frequently, S = Sometimes, N = Never.

Source: Compiled from data submitted in response to Commission questionnaires.

ELASTICITY ESTIMATES

This section discusses elasticity estimates; there were no comments on the elasticity estimates in prehearing or posthearing briefs.

U.S. supply elasticity

The domestic supply elasticity for silicon metal measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of silicon metal. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the existence of inventories, and the availability of alternate markets for U.S.-produced silicon metal. Earlier analysis of these factors indicates that the U.S. industry has a moderate to large ability to increase or decrease shipments to the U.S. market. Staff estimates that the supply elasticity is between 2 to 5.

U.S. demand elasticity

The U.S. demand elasticity for silicon metal measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of silicon metal. This estimate depends on factors discussed earlier such as the existence, availability, and commercial viability of substitute products, as well as the component share of the silicon metal in the production of any downstream products. Based on the available information, the demand elasticity for silicon metal is likely to be in the range of -0.25 to -0.50.

Substitution elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.[31] Product differentiation, in turn, depends upon such factors as quality (*e.g.*, chemistry, appearance, etc.) and conditions of sale (*e.g.*, availability, sales terms/ discounts/ promotions, etc.). Based on available information, the elasticity of substitution between U.S.-produced silicon metal and subject imported silicon metal is likely to be in the range of 3 to 5.

[31] The substitution elasticity measures the responsiveness of the relative U.S. consumption levels of the subject imports and the domestic like products to changes in their relative prices. This reflects how easily purchasers switch from the U.S. product to the subject products (or vice versa) when prices change.

PART III: CONDITION OF THE U.S. INDUSTRY

OVERVIEW

The information in this section of the report was compiled from responses to the Commission's questionnaires. Two firms, which accounted for the all of U.S. production of silicon metal during the period for which data were collected, supplied information on their operations in this review and other proceedings on silicon metal.

Changes experienced by the industry

Domestic producers were asked to indicate whether their firm had experienced any plant openings, relocations, expansions, acquisitions, consolidations, closures, or prolonged shutdowns because of strikes or equipment failure; curtailment of production because of shortages of materials or other reasons, including revision of labor agreements; or any other change in the character of their operations or organization relating to the production of silicon metal since 2008. ***. ***.

Anticipated changes in operations

Neither domestic producer reported any anticipated changes in the character of their operations relating to the production of silicon metal.

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-1 and figure III-1 present U.S. producers' production, capacity, and capacity utilization. Domestic capacity increased over the period of investigation. This increase is a result of ***. Production and capacity utilization increased during the period of investigation.

Table III-1
Silicon metal: U.S. producers' production, capacity, and capacity utilization, 2008-13

* * * * * * *

Figure III-1
Silicon metal: U.S. producers' production, capacity, and capacity utilization, 2008-13

* * * * * * *

Globe reported ***.[1] ***.[2] DC Alabama reported ***.

[1] Globe reported ***.
[2] ***." Globe's producer questionnaire, question II-7.

Constraints on capacity

Both domestic producers reported that production constraints depend on the capacity of the existing assets. *** specifically named *** as assets limiting production.

U.S. PRODUCERS' U.S. SHIPMENTS AND EXPORTS

Table III-2 presents U.S. producers' U.S. shipments, export shipments, and total shipments. The quantities of U.S. commercial shipments increased overall by *** percent. The value of commercial U.S. shipments increased by *** percent between 2008 and 2013.

***. *** reported ***.

Table III-2
Silicon metal: U.S. producers' U.S. shipments, exports shipments, and total shipments, 2008-13

* * * * * * *

U.S. PRODUCERS' INVENTORIES

Table III-3 presents U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments over the period examined. U.S. producers' end-of-period inventories increased over the period of investigation, peaking in 2012.

Table III-3
Silicon metal: U.S. producers' inventories, 2008-13

* * * * * * *

U.S. PRODUCERS' IMPORTS AND PURCHASES

Table III-4 presents data on individual U.S. producers' U.S. production and U.S imports of silicon metal from subject sources over the period examined.

Table III-4
Silicon metal: U.S. producers' U.S. production, imports, and import ratios to U.S. production, 2008-13

* * * * * * *

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-5 shows U.S. producers' employment-related data during the period examined. Production-related workers increased between 2008 and 2013 by *** percent. Wages and

labor cost per short ton of contained silicon rose as well. Productivity fluctuated between *** and *** shorts tons of contained silicon per 1,000 hours.

Table III-5
Silicon metal: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2008-13

* * * * * * *

FINANCIAL EXPERIENCE OF U.S. PRODUCERS

Introduction

Two U.S. producers (DC Alabama and Globe) provided usable financial data on their operations on silicon metal. These data are believed to account for *** of silicon metal in 2013. *** reported internal consumption or tolling operations; however, *** reported transfers to related firms. ***.

Operations on Silicon Metal

Income-and-loss data for U.S. producers on their operations on silicon metal are presented in table III-6, while selected financial data, by firm, are presented in table III-7. The domestic industry experienced positive operating income in all six full year periods. Operating income declined from 2008 to 2010, sharply increased in 2011, then declined in 2012 and 2013. The reported aggregate net sales quantity *** from 2008 to 2013, while the aggregate net sales value *** during this time. Collectively, the aggregate cost of goods sold ("COGS") and selling, general, and administrative ("SG&A") expenses *** during this time. As a result of the *** in operating costs and expenses as compared to revenue, aggregate operating income *** from 2008 to 2013.

Table III-6
Silicon metal: Results of operations of U.S. producers, 2008-13

* * * * * * *

Table III-7
Silicon metal: Results of operations of U.S. producers, by firm, 2008-13

* * * * * * *

On a per short ton basis and as a ratio to net sales, nearly all operating costs and expenses *** from 2008 to 2013. Raw materials, direct labor, and other factory costs accounted for an average ***, ***, and *** percent, respectively, of total COGS during the

period examined. [3] [4] SG&A expenses accounted for *** percent of overall operating costs and expenses during the period examined and *** of the industry.

While *** reported commercial sales and transfers to related firms, ***. *** reported that *** percent of the firm's sales were *** during the period examined, while Globe reported that *** sales were *** with the exception of ***, which amounted to *** percent of the firm's sales in that year.

According to DC Alabama, ***.[5]

As noted earlier in this report, ***.[6] ***.[7] ***.[8] ***.[9]

Variance analysis

The variance analysis presented in table III-8 is based on the data in table III-6.[10] The analysis shows that the *** in operating income from 2008 to 2013 is primarily attributable to a *** unfavorable net cost/expense variance despite *** price and volume variances (that is, costs and expenses *** more than prices).

Table III-8
Silicon metal: Variance analysis on the operations of U.S. producers, 2008-13

* * * * * * *

Capital expenditures and total assets

The responding firms' aggregate data on capital expenditures and total assets are shown in table III-9. ***. Aggregate capital expenditures irregularly increased from 2008 to 2011, then declined in 2012 and 2013. DC Alabama reported that its capital expenditures reflect ***.[11] Globe reported that its capital expenditures primarily reflect ***.[12]

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[3] ***. E-mail from ***, February 21, 2014.

[4] ***.

[5] E-mail from ***, February 24, 2014. ***. U.S. producers' questionnaire response, question II-10.

[6] E-mail from ***, February 21, 2014.

[7] ***. E-mails from ***, February 21, 2014, and March 11, 2014.

[8] ***. U.S. producers' questionnaire response, question II-2.

[9] ***.

[10] The Commission's variance analysis is calculated in three parts: sales variance, cost variance, and SG&A expense variance. Each part consists of a price variance or a cost variance, and a volume variance. The sales or cost variance reflects the change in unit price or unit cost/expense times the new volume, while the volume variance reflects the change in volume times the old unit price or unit cost. Summarized at the bottom of the table, the price variance is from sales, the cost/expense variance is the sum of those items above, and the volume variance is the sum of those items above.

[11] E-mail from ***, February 24, 2014.

[12] E-mail from ***, February 21, 2014.

The total assets utilized in the production, warehousing, and sales of silicon metal increased from $*** in 2008 to $*** in 2013.

Table III-9
Silicon metal: Capital expenditures and total assets of U.S. producers, 2008-13

* * * * * * *

PART IV: U.S. IMPORTS AND THE FOREIGN INDUSTRIES

U.S. IMPORTS

Overview

The Commission issued questionnaires to 20 firms believed to have imported product between 2008 to 2013. Seven firms provided data and information in response to the questionnaires, while three firms indicated that they had not imported product during the period for which data were collected. Based on official Commerce statistics for imports of subject product, importers' questionnaire data accounted for 83.7 percent of total U.S. imports in 2013 and *** total subject imports in 2012. Import data in this report are based on official Commerce statistics for silicon metal.[1]

Imports from subject and nonsubject countries

Table IV-1 presents information on U.S. imports of silicon metal from Russia and all other sources over the period examined. Of the responding importers, *** was the only importer to report Russian imports. The largest nonsubject importer of silicon metal was *** which accounted for *** percent of the total U.S. imports of silicon metal from 2008 to 2013.[2] Nonsubject imports increased 10.1 percent from 2008 to 2011, then fell 37.0 percent from 2011 to 2013.

[1] HTS 2804.6910 and 2804.6950
[2] ***.

Table IV-1
Silicon metal: U.S. imports by source, 2008-13

Item	Calendar year					
	2008	2009	2010	2011	2012	2013
	Quantity (short tons)					
U.S. importers' U.S. imports from.--Russia[1]	0	0	(2)	131	44	0
All other sources	182,393	131,465	195,056	200,859	147,019	126,540
Total U.S. imports	182,393	131,465	195,056	200,990	147,062	126,540
	Value (1,000 dollars)					
U.S. importers' U.S. imports from.--Russia[1]	0	0	15	415	133	0
All other sources	446,551	299,498	466,855	606,095	414,506	328,991
Total U.S. imports	446,551	299,498	466,870	606,510	414,639	328,991
	Unit value (dollars per short ton)					
U.S. importers' U.S. imports from.--Russia[1]	(3)	(3)	1,292.95	3,138.26	2,367.55	(3)
All other sources	2,448.30	2,278.16	2,393.45	3,017.51	2,819.41	2,599.89
Total U.S. imports	2,448.30	2,278.16	2,393.52	3,017.61	2,819.48	2,599.89
	Share of quantity (percent)					
U.S. importers' U.S. imports from.--Russia[1]	0.0	0.0	0.0	0.1	0.0	0.0
All other sources	100.0	100.0	100.0	99.9	100.0	100.0
Total U.S. imports	100.0	100.0	100.0	100.0	100.0	100.0
	Share of value (percent)					
U.S. importers' U.S. imports from.--Russia[1]	0.0	0.0	0.0	0.1	0.0	0.0
All other sources	100.0	100.0	100.0	99.9	100.0	100.0
Total U.S. imports	100.0	100.0	100.0	100.0	100.0	100.0
	Ratio to U.S. production (percent)					
U.S. importers' U.S. imports from.--Russia[1]	0.0	0.0	0.0	0.1	0.0	0.0
All other sources	124.3	129.2	132.6	123.3	88.5	77.9
Total U.S. imports	124.3	129.2	132.6	123.3	88.5	77.9

[1] ***.
[2] Less than one short ton
[3] Not available

Source: Compiled from official Commerce statistics.

U.S. IMPORTERS' IMPORTS SUBSEQUENT TO DECEMBER 31, 2013

No responding importers indicated that they had imported or arranged for the importation of silicon metal from Russia for delivery after January 1, 2014.

U.S. IMPORTERS' INVENTORIES

Table IV-2 presents data for inventories of U.S. imports of silicon metal held in the United States. Russian importers reported *** inventories during the period of review. For nonsubject importers, inventories peaked in 2012. This is largely due to ***.

Table IV-2
Silicon metal: U.S. importers' end-of-period inventories of imports, by source, 2008-13

* * * * * * *

SUBJECT COUNTRY PRODUCERS

The industry in Russia

Limited information is available on the Russian silicon metal industry; no foreign producers or exporters of silicon metal from Russia submitted a response to the Commission's questionnaire. Only two Russian producers exist: JSC Kremny (Silicon Ltd.) and LLC Sual-Kremny-Ural (Urals Silicon), ***.[3] ***. Russian production has ***. ***.[4] In 2012, LLC SUAL-Kremny-Ural and JSC Kremny produced a total of ***.[5] Only one importer, ***, reported importing from Russia in ***.[6]

GLOBAL MARKET

Production capacity

World production of silicon metal was estimated by USGS to have been over 2.5 million short tons in 2012, excluding that produced in the United States. Table IV-3 shows production of silicon metal, by country. About 65 percent of silicon metal was produced in China.

[3] Rusal's response to the notice of institution, pp. 2 and 5.
[4] Attachment to Globe's U.S. producer questionnaire response, ***.
[5] Rusal's response to the notice of institution, pp. 2 and 7.
[6] ***. ***, p. 5.

Table IV-3

Silicon Metal: World Production, By Country, 2008-12

Country[1]	Short tons, gross weight				
	Calendar year				
	2008	2009	2010	2011	2012
China	1,210,000	1,090,000	1,260,000	1,160,000	1,650,000
Norway	171,000	165,000	187,000	193,000	220,000
Brazil	145,000	146,000	146,000	146,000	147,000
France	130,000	88,000	123,000	141,000	143,000
Spain	36,000	25,000	36,000	47,000	68,000
South Africa	57,000	43,000	51,000	65,000	61,000
Russia	60,000	26,000	54,000	57,000	57,000
Canada	55,000	33,000	33,000	33,000	39,000
Australia	39,000	33,000	33,000	33,000	33,000
Germany	32,000	30,000	33,000	33,000	33,000
Kazakhstan	(2)	(2)	2,000	9,000	20,000
Bosnia and Herzegovina	14,000	12,000	19,000	19,000	18,000
Laos	3,000	8,000	9,000	3,000	17,000
Uzbekistan	(2)	(2)	(2)	(2)	2,000
Total	1,950,000	1,710,000	1,980,000	1,940,000	2,510,000

[1] Excluded United States

[2] Not available

Note: Totals are rounded to no more than three significant digits and may not add to totals shown.

Source: U.S. Geological Survey, Minerals Yearbook 2012.

Exports of silicon metal, by country, are shown in table IV-4. Reported exports totaled 1.2 million tons in 2012 and 1.4 million tons in 2013.

Table IV-4

Silicon metal: World Exports, By Country, 2008-13

Reporting Country	Short tons, gross weight					
	Calendar year					
	2008	2009	2010	2011	2012	2013
China	763,583	464,745	698,274	643,747	529,243	776,337
Norway	171,134	119,409	177,111	165,907	176,495	191,154
Brazil	201,832	156,725	196,833	224,106	209,795	159,217
Thailand	66	864	11,015	27,777	48,472	72,508
Australia	31,149	33,389	34,553	31,351	39,785	54,504
South Africa	72,156	33,880	48,183	58,226	49,160	41,308
Russia	30,510	13,138	23,161	31,871	26,441	24,959
Canada	47,451	25,091	46,878	47,435	45,717	21,628
Bosnia and Herzegovina	14,813	12,133	19,617	19,419	17,548	17,354
Laos	3,351	8,432	8,630	3,411	16,877	14,630
All other countries	40,653	25,480	51,003	87,015	51,622	44,302
Total	1,376,698	893,287	1,315,258	1,340,266	1,211,155	1,417,900

[1] Not available

Notes: Laos: Export data not available; data are imports from Laos reported by all countries. Internal European Union trade is excluded. External EU trade is included in "all other."

Source: GTIS Global Trade Atlas

Major nonsubject countries

China

China has the largest capacity in the world and is believed to have over 200 producers of silicon metal with a total annual capacity of 1.65 million short tons.[7] Most of the producers are small, there being only 7 producers having capacity in excess of 30 thousand tons per year.[8] China is the largest export source for silicon metal, accounting for about 55 percent of world

[7] Roskill Information Services Ltd., *Silicon and Ferrosilicon: Global Industry Markets and Outlook, Thirteenth Edition, 2011*, para. 5.9.1.

[8] Ibid.

exports in 2013, with most directed to markets in Asia. China also exports large quantities of silicon metal to Europe, the Middle East, Canada and Mexico. Antidumping orders on imports into the United States have been in place since 1991 and there have been no consequential U.S. imports of silicon metal from China since then.

Norway

There are two producers of silicon metal in Norway, with combined annual capacity of 211 thousand short tons.[9] Elkem (owned by China National Bluestar (Group) Co., Ltd.) is the larger producer, operating three plants in Norway with combined capacity of 158 thousand tons.[10] The second producer, Wacker Chemie Ag, operates a single plant with capacity of 53 thousand tons.[11] Norway's production is almost all exported, mostly to other European countries, with smaller quantities to Korea, Japan and the United States.

Brazil

There are five producers of silicon metal in Brazil, with a combined annual capacity of 315 thousand short tons.[12] Dow Corning is the largest producer, with three plants and annual capacity of 112 thousand tons.[13] Dow Corning acquired one of the plants in November 2009 from Globe Specialty Metals.[14] Four other producers each have capacity ranging from 44 to 55 thousand tons.[15] Exports of silicon metal from Brazil are primarily to Europe and the United States, with small quantities to Asia.

Thailand

In Thailand, a single producer of silicon metal, G.S. Energy Co., Ltd., began operations in 2008.[16] Output is almost all for export. China, other Asia, and the United States have been the main destinations for exports from Thailand.

Australia

There is a single producer of silicon metal in Australia, Simcoa Operations, a subsidiary of Shin-Etsu Chemical of Japan, a major producer of silicon chemicals and silanes.[17] Simcoa has

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[9] Roskill, para. 5.25.1.
[10] Ibid.
[11] Ibid.
[12] Roskill, para. 5.5.1.
[13] Ibid.
[14] Ibid.
[15] Ibid.
[16] G.S. Energy Co., Ltd., http://www.gs99g.com/en/, accessed 02/28/2014.
[17] Roskill, para. 5.2.1.

annual capacity of 55 thousand short tons.[18] Exports are primarily to Europe and the United States.

South Africa

There are two plants producing silicon metal in South Africa, both owned by Grupo Ferroatlántica of Spain.[19] The two plants have capacity of 74 thousand short tons per year, most of which is exported.[20] The United States is the largest destination of South African exports of silicon metal, accounting for 84 percent of such exports in 2013. Markets in Asia account for almost all of the other 16 percent.

Canada

There is a single producer of silicon metal in Canada, Quebec Silicon Limited Partnership ("QSLP"), owned jointly by Globe and Dow Corning. Globe acquired its 51 percent share of QSLP in 2012.[21] QSLP has annual capacity of 50 thousand short tons, however, during 2013, Globe and the union representing workers at the QSLP plant did not reach agreement on a collective bargaining contract and Globe operated only one of three furnaces at the plant during a lockout that began on May 3 and ended December 27.[22] Exports of silicon metal from Canada are about two-thirds to the United States and the balance to Europe.

Europe

The Spanish firm Grupo FerroAtlántica is the largest producer of silicon metal in the world. In addition to the two plants in South Africa, mentioned above, FerroAtlántica owns five plants producing silicon metal in Europe--one in Spain with capacity of 44 thousand short tons and four in France with total capacity of 164 thousand tons--accounting for all of the production in those two countries.[23] FerroAtlántica also owns a single plant in China, with 40 thousand tons of capacity.[24] There is a single producer of silicon metal in Germany and another in Bosnia-Herzegovina with capacity of 33 thousand and 17 thousand short tons respectively.[25] Most silicon metal produced in Europe is consumed there. Exports outside of Europe are almost all to the United States.

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[18] Ibid.

[19] Ferroatlántica, http://www.ferroatlantica.es/index.php/en/cifras-relevantes/cifras-tecnicas, accessed 02/28/2014.

[20] Ibid.

[21] Globe Specialty Metals, Inc., http://investor.glbsm.com/releasedetail.cfm?ReleaseID=683361, accessed 09/18/2013.

[22] Globe Specialty Metals, Inc., http://investor.glbsm.com/releasedetail.cfm?ReleaseID=816316, accessed 01/23/2014.

[23] FerroAtlántica, op. cit.

[24] Ibid.

[25] Roskill, para.

Prices

Producers and importers were asked to compare prices of silicon metal in U.S. and foreign markets. Overall, most responding firms reported that prices for silicon metal in the United States are higher than prices in other markets. U.S. producer Globe and importers *** reported that U.S. prices for silicon metal are higher than prices in EU markets.[26] *** specified that U.S. prices for silicon metal were mostly higher than EU prices from January 2008 to April 2011, after which U.S prices were consistently higher than EU prices. *** and importers *** reported that silicon metal prices in Japan have been lower than prices in the United States and European Union. *** added that foreign exchange rates and imports of Chinese silicon metal into Japan have kept Japanese silicon metal prices low. Importer *** also reported that prices for silicon metal in Canada were also lower than prices in the United States until recently when the Canadian government introduced antidumping duties on silicon metal from China.

Foreign demand

Firms' responses regarding demand outside the United States since 2007 and anticipated future demand are summarized in table IV-5. The majority of firms reported that demand has increased or fluctuated since 2008, and indicated that they expect these trends to continue.

Table IV-5
Silicon metal: Firms' responses regarding demand outside of the United States

Item	Number of firms reporting			
	Overall increase	No change	Overall decrease	Fluctuate with no clear trend
Demand outside the United States since 2008:				
U.S. producers	***	***	***	***
Importers	4	0	0	2
Purchasers	7	2	0	4
Anticipated future demand outside the United States:				
U.S. producers	***	***	***	***
Importers	4	0	0	2
Purchasers	7	3	1	3

Source: Compiled from data submitted in response to Commission questionnaires.

In additional comments, firms stated that demand outside of the United States increased overall due to increased silicon metal consumption in Asia, specifically China. Several firms added that demand for silicon metal fluctuates or increases based on the needs of the automobile industry. Firms anticipate future growth as the global economy recovers from the

[26] Globe asserts that one reason prices in the U.S. silicon metal market are higher than in other markets is due to the antidumping duty on imports of silicon metal from China. Globe's prehearing brief, pp. 12-13, and Globe's posthearing brief, pp. 3-4.

recession and also anticipate increased consumption of silicon metal in polysilicon and aluminum production.

According to ***, ***.[27] ***.[28]

[27] Attachment to Globe's U.S. producer questionnaire response, ***.
[28] Attachment to Globe's U.S. producer questionnaire response, ***.

PART V: PRICING DATA

FACTORS AFFECTING PRICES

Raw material costs

Silicon metal is produced from mined quartzite containing a high percentage of silica and low iron content. U.S. producers reported that raw materials as a share of cost of goods sold increased from *** percent in 2008 to *** percent in 2013. U.S. producer Globe reported increasing input costs[1] and stated that ***.[2] U.S. importers added that raw material prices are directly correlated to the price of silicon metal and have increased since 2008. Both U.S. producers and 3 of 4 importers ***. U.S. producer DC Alabama and importer Dow Corning stated that ***, and Globe reported that it ***. Globe added that the electricity rate for its silicon metal plants *** from 2008 to 2013.[3]

Transportation costs to the U.S. market

In 2012, transportation costs for silicon metal were approximately 5.1 percent from Russia to the U.S. market.[4] Four of six responding importers reported that the exporter typically arranges international transportation for their imports of silicon metal. No importers reported the cost per short ton to ship typical volumes of silicon metal from Russia to the United States.

U.S. inland transportation costs

Both U.S. producers reported that *** and that their U.S. inland transportation costs ranged from *** to *** percent of the total delivered cost. Three of four importers reported that they typically arrange transportation to their customers. The one responding importer of silicon metal from Russia (***) reported shipping its Russian silicon metal from ***, and that its U.S. inland transportation costs were *** percent of the total delivered cost of the silicon metal.

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[1] Globe's posthearing brief, p. 11.

[2] Globe's U.S. producer questionnaire response, section IV-14.

[3] Globe's prehearing brief, p. 32.

[4] The estimated transportation costs were obtained by comparing the customs and c.i.f. values during 2012, the last year with reported imports from Russia, for HTS subheadings 2804.69.10 and 2804.69.50.

PRICING PRACTICES

Pricing methods

Price determination

U.S. producers and importers reported primarily using transaction-by-transaction negotiations and contracts for determining their sales prices for silicon metal (table V-1). Both U.S. producers reported using ***. U.S producer Globe also reported using ***. Two importers reported using transaction-by-transaction negotiations, one importer reported using contracts, and two importers reported using both methods.

Table V-1
Silicon metal: U.S. producers and importers reported price setting methods, by number of responding firms[1]

Method	U.S. producers	Importers
Transaction-by-transaction	***	4
Contract	***	3
Set price list	***	0
Other	***	0

[1] The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

Source: Compiled from data submitted in response to Commission questionnaires.

Contract and spot sales

U.S. producer DC Alabama reported selling *** percent of its silicon metal through ***. U.S. producer Globe reported selling *** percent of its silicon metal through ***, *** percent through ***, and *** percent through ***. Globe reported that its *** were *** and its *** were ***. Globe reported that both ***.[5] Globe added that its ***. Globe reported that contracts frequently based prices on formulas tied to reference prices that are published in *Metals Week*, *Ryan's Notes*, and *CRU Monitor*.[6] Globe noted that these published prices are often the primary basis for negotiating spot prices as well.[7] Globe added that ***.[8]

[5] There were no imports of silicon metal from Russia in 2013, therefore no importers provided information on their contract and spot sales.

[6] Globe's prehearing brief, p. 6, and Globe's posthearing brief, Responses of Globe Metallurgical Inc. to Commission Questions, p. 3.

[7] Globe's posthearing brief, p. 2.

[8] Globe's prehearing brief, p. 31.

Negotiations

Of the 18 responding purchasers, nine purchase annually, five purchase monthly, four purchase quarterly, one purchases biannually, and one purchases as needed.[9] Seventeen of 18 purchasers do not expect their purchasing patterns to change in the next two years.

Fourteen purchasers reported contacting six or fewer suppliers before making a purchase, three reported contacting as many as seven or eight suppliers, and one reported contacting as many as ten suppliers. Most (15 of 18) purchasers reported negotiating with the supplier when purchasing silicon metal, and 11 purchasers indicated that the negotiations are based on price.[10] Several purchasers stated that negotiations are also based on availability, delivery, payment terms, quality, and inventory storage. Seven of 18 purchasers reported that they vary their purchases from a given supplier within a specified time period based on the price offered for that period.

Sales terms and discounts

Both U.S. producers reported quoting prices for silicon metal on an ***. Both U.S. producers reported offering sales terms of ***, and U.S. producer Globe also reported offering sales terms of ***. Two importers reported quoting prices for silicon metal on a delivered basis, and two importers reported quoting prices f.o.b., one from the supplier's factory and the other from the U.S. port terminal. One importer reported quoting prices both delivered and f.o.b. from the Baltimore port. Four importers reported sales terms of net 30 days, one reported net 45 days, and one reported sales terms of net 60 days. One importer (***) reported that it required cash against release of the silicon metal in the U.S. port. All responding U.S. producers and importers reported that they do not offer discounts.

Price leadership

U.S. producer Globe was identified as a price leader in the U.S. silicon metal market by 14 purchasers. Three purchasers also named FerroAtlantica as a price leader, and Elkem, Polymet, and Rima were each identified by one purchaser as a price leader. Purchasers reported that Globe's position as the only domestic silicon metal supplier allows it to be a price leader.[11]

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[9] Purchaser *** reported purchasing ***. *** reported purchasing ***. *** reported purchasing ***.

[10] Globe stated that purchasers are often willing to reveal competing suppliers' prices to a supplier. Globe's prehearing brief, p. 6.

[11] The other U.S. producer, DC Alabama, ***.

PRICE DATA

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following silicon metal products shipped to unrelated U.S. customers during January 2008-December 2013.

Product 1.-- Sold to primary aluminum producers-silicon metal less than 99.99% pure that contains a minimum of 98.5% silicon, a maximum of 1.00% iron, a maximum of 0.07% calcium, and no restriction of the aluminum content.

Product 2.-- Sold to secondary aluminum producers-silicon metal less than 99.99% pure that contains a minimum of 98.0% silicon, a maximum of 1.00% iron, a maximum of 0.4% calcium, and no restriction of the aluminum content.

Product 3.-- Sold to chemical manufacturers-silicon metal less than 99.99% pure that contains a minimum of 98.5% silicon, a maximum of 0.65% iron, a maximum of 0.2% calcium, and a maximum of 0.35% aluminum.

Both U.S. producers and one importer provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[12] Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. commercial shipments of silicon metal and approximately *** percent of U.S. imports from Russia during 2008-13.[13]

Price data for products 1-3 are presented in tables V-2 to V-4 and figures V-1 to V-3. Prices for silicon metal sold to primary and secondary aluminum producers were higher than prices for silicon metal sold to chemical manufacturers. U.S. producers also reported selling ***.

Table V-2

Silicon metal: Weighted-average f.o.b. prices and quantities of domestic product 1[1], by quarters, January 2008-December 2013

* * * * * * *

[12] U.S. producer ***. Staff telephone interview with ***, February 12, 2014.

[13] ***. Pricing data reported by ***, the importer of silicon metal from Russia, accounted for *** percent of the imports from Russia for 2012.

Table V-3

Silicon metal: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1] and margins of underselling/(overselling), by quarters, January 2008-December 2013

* * * * * * *

Table V-4

Silicon metal: Weighted-average f.o.b. prices and quantities of domestic product 3[1], by quarters, January 2008-December 2013

* * * * * * *

Figure V-1

Silicon metal: Weighted-average prices and quantities of domestic product 1[1], by quarters, January 2008-December 2013

* * * * * * *

Figure V-2

Silicon metal: Weighted-average prices and quantities of domestic and imported product 2[1], by quarters, January 2008-December 2013

* * * * * * *

Figure V-3

Silicon metal: Weighted-average prices and quantities of domestic product 3[1], by quarters, January 2008-December 2013

* * * * * * *

Price trends and comparisons

Prices for U.S.-produced silicon metal sold to primary aluminum producers (product 1) fluctuated during 2008-13, increasing overall by *** percent from first quarter 2008 to fourth quarter 2013 (table V-5). Prices for U.S.-produced silicon metal sold to secondary aluminum producers (product 2) fluctuated during 2008-13 with prices in fourth quarter 2013 relatively the same as in first quarter 2008. Prices for U.S. produced silicon metal sold to chemical manufacturers fluctuated with an upward trend during 2008-13, and increased overall by *** percent. Prices for all three products peaked in 2011.

U.S. importer *** reported imports of silicon metal from Russia in ***. Prices for Russian silicon metal were below those of U.S.-produced silicon metal in *** (table V-6). The margin of underselling was *** percent.

Table V-5

Silicon metal: Summary of weighted-average f.o.b. prices for products 1-3 from the United States and Russia

* * * * * * *

Table V-6

Silicon metal: Instances of underselling/overselling and the range and average of margins, by country, January 2008-December 2013[1]

* * * * * * *

Purchasers' perceptions of relative price trends

Purchasers were asked how the prices of silicon metal from the United States had changed relative to the prices of product from Russia since 2008. Five of eight responding purchasers reported that prices had changed by the same amount,[14] two purchasers reported that U.S. prices for silicon metal are now higher than prices for product from Russia, and one purchaser reported that U.S. prices for silicon metal are now lower than prices for product from Russia.

[14] Two purchasers, ***, reported that prices for silicon metal in the United States and Russia had changed by the same amount but also reported that U.S. prices for silicon metal are now higher than prices for silicon metal from Russia.

APPENDIX A

FEDERAL REGISTER NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, www.usitc.gov. In addition, the following tabulation presents, in chronological order, *Federal Register* notices issued by the Commission and Commerce during the current proceeding.

Citation	Title	Link
78 FR 33063 June 3, 2013.	*Initiation of Five-Year ("Sunset") Review*	http://www.gpo.gov/fdsys/pkg/FR-2013-12-04/pdf/2013-29028.pdf
78 FR 33064 June 3, 2013	*Silicon Metal from Russia; Institution of Five-year Reviews Concerning the Antidumping Duty Orders on Silicon Metal from Russia*	http://www.gpo.gov/fdsys/pkg/FR-2013-10-03/pdf/2013-24117.pdf
78 FR 61384, October 3, 2013	*Silicon Metal from Russia; Notice of Commission Determination To Conduct Full-Five-Year Reviews*	http://www.gpo.gov/fdsys/pkg/FR-2013-06-03/pdf/FR-2013-06-03.pdf
78 FR 61334, October 3, 2013	*Silicon Metal from Russia: Final Results of the Expedited Second Sunset Review of the Antidumping Duty Order*	http://www.gpo.gov/fdsys/pkg/FR-2013-10-03/pdf/2013-24273.pdf
78 FR 76856, December 19, 2013	*Silicon Metal from Russia Scheduling of Full Five-Year Reviews Concerning the Antidumping Duty Orders on Silicon Metal from Russia*	http://www.gpo.gov/fdsys/pkg/FR-2013-12-19/pdf/FR-2013-12-19.pdf
79 FR 19921, April 10, 2014	*Silicon Metal From Russia; Revised Schedule for the Subject Review*	http://www.gpo.gov/fdsys/pkg/FR-2014-04-10/pdf/2014-08066.pdf
Note.–The press release announcing the Commission's determinations concerning adequacy and the conduct of a full or expedited review can be found at http://usitc.gov/press_room/news_release/2013/er0906ll3.htm. A summary of the Commission's votes concerning adequacy and the conduct of a full or expedited review can be found at http://pubapps2.usitc.gov/sunset/caseProfSuppAttmnt/download/11631 . The Commission's explanation of its determinations can be found at http://pubapps2.usitc.gov/sunset/caseProfSuppAttmnt/download/11630.		

APPENDIX B

Revised Schedule Federal Register Notice

Alternative A: Current Management (No Action)

This alternative reflects current management, including activities previously undertaken, or already planned or approved, and is the baseline for comparing the other two alternatives. In addition to actions identified as common to all, under alternative A, there would be little or no change in our current refuge programs at Monomoy NWR. We would initiate few, if any, new wildlife population, habitat, or ecosystem management activities. No new public recreational opportunities would be undertaken, and there would be no enhancements to existing programs and opportunities. The Monomoy Wilderness would continue to be managed to protect wilderness character. The refuge would continue its current operations and maintenance activities within its current staffing and funding levels.

Alternative B: Enhanced Management of Habitat and Public Uses (Service-Preferred Alternative)

Alternative B, in comparison to alternative A, represents an extension and progression of all areas of refuge management. Under alternative B, new biological program activities would be initiated. Special emphasis would be placed on obtaining baseline data to increase our knowledge of wildlife populations and habitats in this dynamic coastal environment, enhance our ability to evaluate those resources in a regional context, and anticipate the effects of climate change. The new information would be used to develop the detailed step-down plans proposed under this alternative. Wildlife and habitat surveys and inventories would be prioritized to provide the data needed to evaluate the effectiveness of refuge management, and to adapt management as warranted, in order to achieve long-range refuge goals and objectives.

Under alternative B, new and existing compatible wildlife-dependent recreational opportunities would be provided consistent with refuge purposes for protecting migratory birds and wilderness character. Special emphasis would be placed on providing enhanced, sustainable, and compatible opportunities for all six priority wildlife-dependent recreational uses defined in the Administration Act. Staffing would be modestly increased to accommodate new programs and activities, and proposed new visitor contact facilities would provide better access to information and support quality educational and interpretive programs.

Alternative C: Natural Processes

Alternative C proposes less intensive management on all refuge lands. It would be guided by a philosophy of allowing natural processes and succession of habitats to progress, consistent with preserving wilderness character, and to the extent that it does not compromise refuge purposes and goals. Generally, wildlife and habitat management, and inventories and monitoring efforts, would be reduced from those planned under alternative A. We would manage the refuge visitor services program with an emphasis on providing wildlife-dependent recreation that uses hand tools and non-motorized equipment, protects naturalness, and provides solitude or primitive, unconfined recreation.

Under all alternatives, the boundary of the refuge would be modified to include an area on Nauset/South Beach, approximately 717 acres, that is within the Cape Cod National Seashore boundary, but which accreted and joined the refuge's South Monomoy Island. With this addition, the refuge comprises 8,321 acres. We would incorporate the Nauset/South Beach addition into, and manage it consistent with, the refuge's existing designated wilderness area.

Public Involvement

We will give the public an opportunity to provide input at public meetings. You can obtain the schedule from the address or Web site listed in this notice (see **ADDRESSES**). You may also submit comments anytime during the public comment period.

Public Availability of Comments

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Dated: March 5, 2014.

Deborah Rocque,

Acting Regional Director, Northeast Region.

[FR Doc. 2014–07531 Filed 4–9–14; 8:45 am]

BILLING CODE 4310–55–P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 731–TA–991 (Second Review)]

Silicon Metal From Russia; Revised Schedule for the Subject Review

AGENCY: United States International Trade Commission.

ACTION: Notice.

DATES: *Effective:* April 7, 2014.

FOR FURTHER INFORMATION CONTACT: Elizabeth Haines (202–205–3200), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202–205–1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000. General information concerning the Commission may also be obtained by accessing its Internet server (*http://www.usitc.gov*). The public record for this review may be viewed on the Commission's electronic docket (EDIS) at *http://edis.usitc.gov.*

SUPPLEMENTARY INFORMATION:

Background. On December 11, 2013, the Commission established a schedule for the conduct of this review (78 FR 76856, December 19, 2013). Subsequently, counsel for the domestic interested party filed a request to appear at the hearing or, in the alternative, for consideration of cancellation of the hearing. Counsel indicated a willingness to submit responses to any Commission questions in lieu of an actual hearing. No other party filed a timely request to appear at the hearing. Consequently, the public hearing in connection with the review, scheduled to begin at 9:30 a.m. on April 10, 2014, at the U.S. International Trade Commission Building, is cancelled. Parties to the investigation should respond to any written questions posed by the Commission in their post-hearing briefs, which are due to be filed on April 21, 2014.

For further information concerning this investigation see the Commission's notice cited above and the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR Part 201), and part 207, subparts A and C (19 CFR Part 207).

Authority: This review is being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.62 of the Commission's rules.

By order of the Commission.

Issued: April 7, 2014.

William R. Bishop,

Supervisory Hearings and Information Officer.

[FR Doc. 2014–08066 Filed 4–9–14; 8:45 am]

BILLING CODE 7020–02–P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 337–TA–501 (Remand Proceeding)]

Certain Encapsulated Integrated Circuit Devices and Products Containing Same; Notice of a Commission Final Determination of Violation of Section 337; Issuance of a Limited Exclusion Order; Termination of Investigation

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined that there is a violation of section 337 of the Tariff Act of 1930, as amended, by respondents Carsem (M) Sdn Bhd; Carsem Semiconductor Sdn Bhd; and Carsem, Inc. (collectively, ''Carsem,'' or respondents) in the above-captioned investigation. The Commission has issued a limited exclusion order directed to the infringing products of Carsem and has terminated the investigation.

FOR FURTHER INFORMATION CONTACT: Michael Liberman, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436, telephone (202) 205–3115. 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 at *http://www.usitc.gov.* The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *http://edis.usitc.gov.* Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205–1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation under section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. 1337, on December 19, 2003, based on a complaint filed by Amkor Technology Inc. (''Amkor''). *See* 68 FR 70836 (Dec. 19, 2003). Amkor alleged a violation of section 337 by respondents Carsem in the importation, sale for importation, and sale within the United States after importation of certain encapsulated integrated circuit devices and products containing same in connection with claims 1–4, 7, 17, 18 and 20–23 of U.S. Patent No. 6,433,277 (''the '277 patent''); claims 1–4, 7 and 8 of U.S. Patent No. 6,630,728 (''the '728 patent''); and claims 1, 2, 13 and 14 of U.S. Patent No. 6,455,356 (''the '356 patent''). All three patents are owned by Amkor. The investigation also concerns a third-party, ASAT, Inc. (''ASAT''), and its invention (''ASAT invention''), which Carsem argued was invalidating prior art to Amkor's asserted patents.

On November 18, 2004, the ALJ issued a final initial determination (''Final ID'') finding no violation of section 337. After reviewing the Final ID in its entirety, the Commission on March 31, 2005, modified the ALJ's claim construction and remanded the investigation to the ALJ with instructions ''to conduct further proceedings and make any new findings or changes to his original findings that are necessitated by the Commission's new claim construction.'' Commission Order ¶ 8 (March 31, 2005). On November 9, 2005, the ALJ issued a remand initial determination (''Remand ID''). The Remand ID found a violation of section 337 with regard to six claims of the '277 patent, but found no violation in connection with the asserted claims of the '728 or '356 patents.

Completion of this investigation was delayed because of difficulty in obtaining from third-party ASAT certain documents that Carsem asserted were critical for its affirmative defenses. The Commission's efforts to enforce a February 11, 2004, subpoena *duces tecum* and *ad testificandum* directed to ASAT resulted in a July 1, 2008, order and opinion of the U.S. District Court for the District of Columbia granting the Commission's second enforcement petition. On July 1, 2009, after ASAT had complied with the subpoena, the Commission issued a notice and order remanding this investigation to the ALJ so that the ASAT documents could be considered. On October 30, 2009, the ALJ issued a supplemental ID (''First Supplemental ID''), finding that the ASAT invention was not prior art, and reaffirming his finding of a violation of section 337.

On February 18, 2010, the Commission reversed the ALJ's finding that ASAT invention is not prior art to Amkor's asserted patents, and remanded the investigation to the ALJ to make necessary findings in light of the Commission's determination that the ASAT invention is prior art. On March 22, 2010, the ALJ issued a Supplemental ID (''Second Supplemental ID'') in which he found that the '77 and '728 patents were invalid in view of ASAT prior art and determined that there was no violation of Section 337 in the present investigation. On July 20, 2010, the Commission determined not to review the ALJ's Remand ID and Second Supplemental ID. As a result, the Commission determined that there is no violation of section 337 in this investigation. Amkor appealed the Commission's decision to the U.S. Court of Appeals for the Federal Circuit (''the Court'').

On August 22, 2012, the Court ruled on Amkor's appeal reversing the Commission's determination that the '277 Patent is invalid under 35 U.S.C. 102(g)(2), declining to affirm the Commission's invalidity determination on the alternative grounds raised by Carsem, and remanding for further proceedings consistent with its opinion. *Amkor Technology Inc.* v. *International Trade Commission,* 692 F.3d 1250 (Fed. Cir. 2012) (''*Amkor Technology''*). On October 5, 2012, Carsem filed a combined petition for panel rehearing and for rehearing *en banc.* The Court denied Carsem's petition on December 7, 2012, and issued its mandate on December 19, 2012, returning jurisdiction to the Commission.

On January 14, 2013, the Commission issued an Order (''Commission's Order'') directing the parties to the investigation to submit their comments regarding what further proceedings must be conducted to comply with the August 22, 2012, judgment of the Court in *Amkor Technology.* The parties filed their initial and responsive submissions.

On June 5, 2013, the Commission issued a Notice (''Commission's Notice'') requesting briefing on remedy, bonding and the public interest in the above-captioned investigation, as well as responses to certain questions posed by the Commission regarding the economic prong of the domestic industry requirement and the public interest. 78 FR 35051 (June 11, 2013). The Commission also set a schedule for the filing of written submissions. The parties have filed their initial and reply submissions pursuant to the Commission Notice.

Having examined the record in this investigation, including the parties'

APPENDIX C

SUMMARY DATA

Table C-1
Silicon Metal: Summary data concerning the U.S. market, 2008-13

(Quantity=short tons contained Si; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton contained Si; Period changes=percent--exceptions noted)

	Report data						Period changes					
	Calendar year									Calendar year		
	2008	2009	2010	2011	2012	2013	2008-13	2008-09	2009-10	2010-11	2011-12	2012-13
U.S. consumption quantity:												
Amount	***	***	***	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***	***	***	***
Importers' share (fn1):												
Russia	***	***	***	***	***	***	***	***	***	***	***	***
All others sources, nonsubject	***	***	***	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***	***	***	***
U.S. consumption value:												
Amount	***	***	***	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***	***	***	***
Importers' share (fn1):												
Russia	***	***	***	***	***	***	***	***	***	***	***	***
All others sources, nonsubject	***	***	***	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***	***	***	***
U.S. Imports from:												
Russia:												
Quantity	0	0	fn3	131	44	0	fn4	fn4	fn4	fn4	(66.7)	(100.0)
Value	0	0	15	415	133	0	fn4	fn4	fn4	2,704.7	(67.9)	(100.0)
Unit value	fn2	fn2	$33,568	$3,176	$3,057	fn2	fn4	fn4	fn4	(90.5)	(3.8)	fn4
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***
All other sources:												
Quantity	182,393	131,465	195,056	200,859	147,019	126,540	(30.6)	(27.9)	48.4	3.0	(26.8)	(13.9)
Value	446,551	299,498	466,855	606,095	414,506	328,991	(26.3)	(32.9)	55.9	29.8	(31.6)	(20.6)
Unit value	$2,448	$2,278	$2,393	$3,018	$2,819	$2,600	6.2	(6.9)	5.1	26.1	(6.6)	(7.8)
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***
Total imports:												
Quantity	182,393	131,465	195,056	200,990	147,062	126,540	(30.6)	(27.9)	48.4	3.0	(26.8)	(14.0)
Value	446,551	299,498	466,870	606,510	414,639	328,991	(26.3)	(32.9)	55.9	29.9	(31.6)	(20.7)
Unit value	$2,448	$2,278	$2,394	$3,018	$2,819	$2,600	6.2	(6.9)	5.1	26.1	(6.6)	(7.8)
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***
U.S. producers':												
Average capacity quantity	***	***	***	***	***	***	***	***	***	***	***	***
Production quantity	***	***	***	***	***	***	***	***	***	***	***	***
Capacity utilization (fn1)	***	***	***	***	***	***	***	***	***	***	***	***
U.S. shipments:												
Quantity	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***
Export shipments:												
Quantity	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***
Inventories/total shipments (fn1)	***	***	***	***	***	***	***	***	***	***	***	***
Production workers	***	***	***	***	***	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***	***	***	***	***	***	***	***
Productivity (short tons per 1,000 hours)	***	***	***	***	***	***	***	***	***	***	***	***
Unit labor costs (Dollars per short ton containing Si)	***	***	***	***	***	***	***	***	***	***	***	***
Net Sales:												
Quantity	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***	***	***	***
Gross profit of (loss)	***	***	***	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***	***	***	***

Source: Department of Commerce and Questionnaire responses

fn1.--Report data are in percent and period changes are in percentage points.
fn2.--less than 0.05 percent
fn3.--less than 1
fn4.--Undefined.

Table C-2 (Using General Imports)
Silicon Metal: Summary data concerning the U.S. market, 2008-13
(Quantity=short tons contained Si; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per short ton contained Si; Period changes=percent--exceptions noted)

	Report data						Period changes					
	Calendar year									Calendar year		
	2008	2009	2010	2011	2012	2013	2008-13	2008-09	2009-10	2010-11	2011-12	2012-13
U.S. consumption quantity:												
Amount	***	***	***	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***	***	***	***
Importers' share (fn1):												
Russia	***	***	***	***	***	***	***	***	***	***	***	***
All others sources, nonsubject	***	***	***	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***	***	***	***
U.S. consumption value:												
Amount	***	***	***	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***	***	***	***
Importers' share (fn1):												
Russia	***	***	***	***	***	***	***	***	***	***	***	***
All others sources, nonsubject	***	***	***	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***	***	***	***
U.S. Imports from:												
Russia:												
Quantity	0	0	0	131	86	0	fn4	fn4	fn4	29,540.0	(34.3)	(100.0)
Value	0	0	15	394	241	0	fn4	fn4	fn4	2,562.0	(38.8)	(100.0)
Unit value	fn3	fn3	$33,568	$3,015	$2,806	fn3	fn4	fn4	fn4	(91.0)	(6.9)	fn4
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***
All other sources:												
Quantity	182,810	121,838	183,912	206,729	184,486	173,490	(5.1)	(33.4)	50.9	12.4	(10.8)	(6.0)
Value	376,684	253,115	401,414	524,740	458,972	398,120	5.7	(32.8)	58.6	30.7	(12.5)	(13.3)
Unit value	2,061	2,077	2,183	2,538	2,488	2,295	11.4	0.8	5.1	16.3	(2.0)	(7.8)
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***
Total imports:												
Quantity	182,810	121,838	183,912	206,859	184,572	173,490	(5.1)	(33.4)	50.9	12.5	(10.8)	(6.0)
Value	376,684	253,115	401,428	525,134	459,213	398,120	5.7	(32.8)	58.6	30.8	(12.6)	(13.3)
Unit value	$2,061	$2,077	$2,183	$2,539	$2,488	$2,295	11.4	0.8	5.1	16.3	(2.0)	(7.8)
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***
U.S. producers':												
Average capacity quantity	***	***	***	***	***	***	***	***	***	***	***	***
Production quantity	***	***	***	***	***	***	***	***	***	***	***	***
Capacity utilization (fn1)	***	***	***	***	***	***	***	***	***	***	***	***
U.S. shipments:												
Quantity	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***
Export shipments:												
Quantity	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***	***	***	***
Inventories/total shipments (fn1)	***	***	***	***	***	***	***	***	***	***	***	***
Production workers	***	***	***	***	***	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***	***	***	***	***	***	***	***
Productivity (short tons per 1,000 hours)	***	***	***	***	***	***	***	***	***	***	***	***
Unit labor costs (Dollars per short ton containing Si)	***	***	***	***	***	***	***	***	***	***	***	***
Net Sales:												
Quantity	***	***	***	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***	***	***	***
Gross profit of (loss)	***	***	***	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***	***	***	***

Notes: Department of Commerce General Import statistics

fn1.--Report data are in percent and period changes are in percentage points.
fn2.--less than 0.05 percent
fn3.--less than 1
fn4.--Undefined.

APPENDIX D

COMMENTS BY U.S. PRODUCERS, IMPORTERS, AND PURCHASERS REGARDING THE EFFECTS OF THE ORDERS AND THE LIKELY EFFECTS OF REVOCATION

U.S. PRODUCERS' COMMENTS REGARDING THE SIGNIFICANCE OF THE ANTIDUMPING DUTY ORDERS

Describe the significance of the existing antidumping duty orders on silicon metal from Russia in terms of its effect on your firm's production capacity, production, U.S. shipments, inventories, purchases, employment, revenues, costs, profits, cash flow, capital expenditures, research and development expenditures, and asset values. You may wish to compare your firm's operations before and after the imposition of the orders.

Note.– Throughout this appendix, responses have been presented as received.

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U.S. PRODUCERS' COMMENTS REGARDING THE LIKELY EFFECTS OF REVOCATION OF THE ANTIDUMPING DUTY ORDERS

Would your firm anticipate any changes in its production capacity, production, U.S. shipments, inventories, purchases, employment, revenues, costs profits, cash flow, capital expenditures, research and development expenditures, or asset values relating to the production of silicon metal in the future if the antidumping duty orders on silicon metal from Russia were to be revoked?

Note.–Throughout this appendix, response have been presented as received.

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U.S. IMPORTERS' COMMENTS REGARDING THE SIGNIFICANCE OF THE ANTIDUMPING DUTY ORDERS

Describe the significance of the existing antidumping duty orders covering imports of silicon metal from Russia in terms of its effect on your firm's imports, U.S. shipments of imports, and inventories. You may wish to compare your firm's operations before and after the imposition of the orders.

Note.–Throughout this appendix, responses have been presented as received.

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U.S. IMPORTERS' COMMENTS REGARDING THE LIKELY EFFECTS OF REVOCATION OF THE ANTIDUMPING DUTY ORDERS

Would your firm anticipate any changes in its imports, U.S. shipments of imports, or inventories of silicon metal in the future if the antidumping duty orders on silicon metal from Russia were to be revoked?

Note.– Throughout this appendix, responses have been presented as received.

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PURCHASERS' COMMENTS REGARDING THE CHANGES IN THE U.S. INDUSTRY CAUSED BY THE ANTIDUMPING DUTY ORDERS

Please identify and discuss any improvements/changes in the U.S. silicon metal industry since January 1, 2008 and explain the factors, including the order(s) under review, that were responsible for each improvement/change.

Note.–Throughout this appendix, responses have been presented as received.

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PURCHASERS' COMMENTS REGARDING THE CHANGES IN THE U.S. INDUSTRY CAUSED BY THE ANTIDUMPING DUTY ORDERS

Please discuss any improvements/changes that you anticipate in the future in the U.S. silicon metal industry. Identify the time period and causes for these improvements/changes.

Note.–Throughout this appendix, responses have been presented as received.

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PURCHASERS' COMMENTS REGARDING THE CHANGES IN THE U.S. INDUSTRY CAUSED BY THE ANTIDUMPING DUTY ORDERS

What do you think will be the likely effects of any revocation of the antidumping duty orders for imports of silicon metal from Russia? As appropriate, please discuss any potential effects of revocation of the antidumping duty order on (1) the future activities of your firm and (2) the U.S. market as a whole. Please note the future time period to which you are referring.

Activities of your firm:
Note.–Throughout this appendix, responses have been presented as received.

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Entire U.S. market:
Note.–Throughout this appendix, responses have been presented as received.

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