

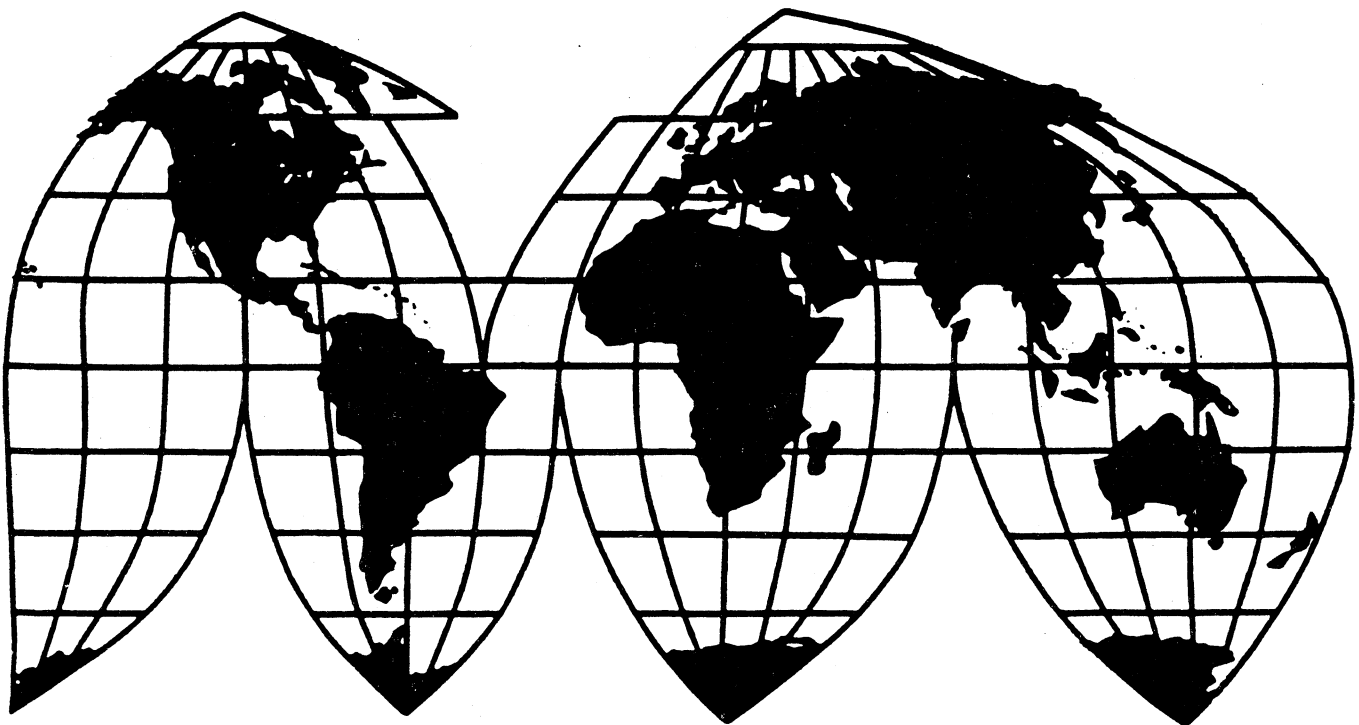
# Clad Steel Plate from Japan

Investigation No. 731-TA-739 (Final)

Publication 2972

June 1996

**U.S. International Trade Commission**



Washington, DC 20436

# **U.S. International Trade Commission**

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# **U.S. International Trade Commission**

Washington, DC 20436

## **Clad Steel Plate from Japan**



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Note.--Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report. Such deletions are indicated by asterisks.



## GLOSSARY OF ABBREVIATIONS

Ametek .....	Ametek, Inc.
ASTM .....	American Society for Testing and Materials
AT&V .....	American Tank & Vessel
COGS .....	Cost of goods sold
Commerce .....	U.S. Department of Commerce
Commission .....	U.S. International Trade Commission
Creusot .....	Creusot-Marrel, Inc.
Customs .....	U.S. Customs Service
DuPont .....	E.I. DuPont de Nemours & Company
Dynamic .....	Dynamic Materials Corporation
FGD .....	Flue gas desulfurization
EAF .....	Electric arc furnace
HPI .....	Hydrocarbon processing industry
HTS .....	Harmonized Tariff Schedule
Inco .....	International Nickel Company
Itochu .....	Itochu Pipe & Tube, Inc.
JSW .....	Japan Steel Works
JSWA .....	Japan Steel Works America, Inc.
Kawasaki .....	Kawasaki Steel Corporation
LTFV .....	Less than fair value
Lukens .....	Lukens Steel Company
MFN .....	Most-favored-nation
MITI .....	Ministry of International Trade and Industry
Mitsui .....	Mitsui & Company (U.S.A.), Inc.
Nippon .....	Nippon Steel Corporation
NKK .....	NKK Corporation
Okura .....	Okura & Company (America), Inc.
PCC .....	Precision Components Corporation
PRW .....	Production and related worker
SG&A expenses .....	Selling, general, and administrative expenses
Sumitomo .....	Sumitomo Corporation of America
TIB .....	Temporary import bond
Vessel .....	Vessel Clads, Inc.
Voest-Alpine .....	Voest-Alpine Stahl Linz



# UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-739 (Final)

## CLAD STEEL PLATE FROM JAPAN

### Determination

On the basis of the record<sup>2</sup> developed in the subject investigation, the Commission determines, pursuant to section 735(b) of the Tariff Act of 1930 (19 U.S.C. § 1673d(b)) (the Act), that an industry in the United States is materially injured by reason of imports from Japan of clad steel plate, provided for in subheading 7210.90.10 of the Harmonized Tariff Schedule of the United States, that have been found by the Department of Commerce to be sold in the United States at less than fair value (LTFV).

### Background

The Commission instituted this investigation effective February 27, 1996, following a preliminary determination by the Department of Commerce that imports of clad steel plate from Japan were being sold at LTFV within the meaning of section 733(b) of the Act (19 U.S.C. § 1673b(b)). Notice of the institution of the Commission's investigation 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* of March 13, 1996 (61 F.R. 10380). The hearing was held in Washington, DC, on May 7, 1996, and all persons who requested the opportunity were permitted to appear in person or by counsel.

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<sup>2</sup> The record is defined in sec. 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR § 207.2(f)).



## VIEWS OF THE COMMISSION

Based on the record in this final investigation, we find that an industry in the United States is materially injured by reason of imports of clad steel plate from Japan that have been found by the Department of Commerce ("Commerce") to be sold in the United States at less than fair value ("LTFV").<sup>1 2</sup>

### I. DOMESTIC LIKE PRODUCT AND DOMESTIC INDUSTRY

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of the subject imports, the Commission first defines the "domestic like product" and the "industry."<sup>3</sup> Section 771(4)(A) of the Act defines the relevant industry as the "producers as a [w]hole 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 that product."<sup>4</sup> In turn, 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 . . . ."<sup>5</sup>

Our decision regarding the appropriate domestic like product(s) in an investigation is a factual determination, and we apply the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.<sup>6</sup> No single factor is dispositive, and the Commission may consider other factors it deems relevant based upon the facts of a particular investigation.<sup>7</sup> The Commission looks for clear dividing lines among possible like products and disregards minor variations.<sup>8</sup>

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<sup>1</sup> The question of whether the establishment of an industry in the United States is materially retarded by reason of LTFV imports is not an issue in this investigation.

<sup>2</sup> This investigation is subject to the Uruguay Round Agreements Act ("URAA") amendments to the Tariff Act of 1930 ("the Act"). P.L. 103-465, approved Dec. 8, 1994, 108 Stat. 4809, amending section 701 et seq. of the Trade Act of 1930, 19 U.S.C. § 1671 et seq.

<sup>3</sup> 19 U.S.C. § 1677(4)(A).

<sup>4</sup> Id.

<sup>5</sup> 19 U.S.C. § 1677(10).

<sup>6</sup> See, e.g., Nippon Steel Corp. v. United States, 19 CIT \_\_\_, Slip Op. 95-55 at 11 (Apr. 3, 1995). The Commission generally considers a number of factors including: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) common manufacturing facilities, production processes, and production employees; (5) customer or producer perceptions; and, where appropriate, (6) price. Timken Co. v. United States, Slip Op. 96-8 at 9 (Ct. Int'l Trade, Jan. 3, 1996).

<sup>7</sup> E.g., S. Rep. No. 249, 96th Cong., 1st Sess. 90-91 (1979).

<sup>8</sup> 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).

The imported product subject to investigation has been defined by the Department of Commerce ("Commerce") as:

... all clad steel plate of a width of 600 millimeters ("mm") or more and a composite thickness of 4.5mm or more. Clad steel plate is a rectangular finished steel mill product consisting of a layer of cladding material (usually stainless steel or nickel) which is metallurgically bonded to a base or backing of ferrous metal (usually carbon or low alloy steel) where the latter predominates by weight.<sup>9 10</sup>

Clad steel plate is a flat-rolled, corrosion-resistant, "composite" steel plate product, composed of cladding material that is metallurgically bonded to a base of carbon or low-alloy steel plate.<sup>11</sup> Cladding is the association of layers of alloy metal (such as stainless steel, nickel-based alloys, chromium, copper, or titanium) by molecular interpenetration of the surfaces in contact. The cladding layer generally constitutes about 10 to 20 percent of the plate's composite thickness.<sup>12</sup> The two layers are metallurgically bonded across their entire interface either by a roll-bonding process, an explosion-bonding process, or a combination of the two.<sup>13</sup>

Clad steel plate is used in the manufacture of vessels or structures used in heavy industrial projects where corrosion resistance qualities are required.<sup>14</sup> The principal end users of clad steel plate are the petrochemical industry, the pulp and paper industry, the power/utilities industry, and the shipbuilding industry.<sup>15</sup>

In the preliminary investigation, we found a single like product encompassing all clad steel plate covered by Commerce's scope of investigation, *i.e.*, all clad steel plate of a width of 600mm or more and a composite thickness of 4.5mm or more, regardless of cladding alloy. No party has raised any like product issues in this final investigation, nor do the facts warrant a different conclusion from that made

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<sup>9</sup> Notice of Final Determination of Sales at LTFV: Clad Steel Plate from Japan, 61 Fed. Reg. 21158 (May 9, 1996)(footnote omitted).

<sup>10</sup> Commissioner Newquist notes that in Certain Flat-Rolled Carbon Steel Products, he found a like product consisting of corrosion-resistant flat-rolled carbon steel products, including clad steel plate. See Inv. Nos. 701-TA-319-332, 334, 336-342, 344 and 347-53, and 731-TA-573-79, 581-92, 594-97, 599-609, and 612-619 (Final), USITC Pub. 2664 (Aug. 1993). Here, because Commerce's scope is substantially narrower, Commissioner Newquist does not expand the like product definition to include all corrosion-resistant flat-rolled carbon steel products. Commissioner Newquist also notes that in Certain Flat-Rolled Carbon Steel Products, unlike his colleagues, he made an affirmative determination with regard to corrosion-resistant flat-rolled carbon steel products from Japan.

<sup>11</sup> Confidential Staff Report ("CR") at I-3, Public Staff Report ("PR") at I-2; Transcript of Proceedings, May 7, 1996 ("Hearing Tr.") at 15.

<sup>12</sup> CR at I-2 n.5, I-3, PR at I-2; Hearing Tr. at 16.

<sup>13</sup> CR at I-2 n.5, I-6-I-8, PR at I-2.

<sup>14</sup> CR at I-4, PR at I-3.

<sup>15</sup> CR at I-4, II-1, PR at I-3, II-1; Hearing Tr. at 76-77.

in our preliminary determination.<sup>16</sup> Accordingly, we again find that there is one like product coextensive with Commerce's scope of investigation.

We therefore find that the domestic industry consists of producers of clad steel plate of a width of 600mm or more and a composite thickness of 4.5mm or more.

## II. CONDITION OF THE DOMESTIC INDUSTRY

In assessing whether the domestic industry is materially injured or threatened with material injury by reason of LTFV imports, we consider all relevant economic factors that bear on the state of the industry in the United States. These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, profits, cash flow, return on investment, ability to raise capital, and research and development.<sup>17</sup> No single factor is dispositive and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."<sup>18</sup>

We note several conditions of competition pertinent to our analysis of the domestic clad steel plate industry. First, one domestic producer captively consumed small amounts of clad steel plate during the period of investigation. We therefore must decide whether to apply the statutory captive production provision in this investigation.<sup>19</sup> The provision can be applied only if, as a threshold matter, significant production of the domestic like product is internally transferred and significant production is sold in the merchant market. We find that this threshold requirement has not been met in this investigation since only minute quantities of domestic production were captively consumed during the period of investigation.<sup>20</sup> Accordingly, the captive production provision is inapplicable to this investigation.

Another condition of competition in this industry is that demand for clad steel plate is derived from end users in the petrochemical industry, the power/utilities industry, the pulp and paper industry, and the shipbuilding industry.<sup>21</sup> The record indicates that, during the period of investigation, the petrochemical industry consumed most of the clad steel plate sold in the U.S. market, and more than the other three industries combined.<sup>22</sup> Virtually all of the Japanese clad steel plate sold in the U.S. market

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<sup>16</sup> See Clad Steel Plate From Japan, Inv. No. 731-TA-739 (Preliminary), USITC Pub. 2936 (Nov. 1995) at I-4-I-5.

<sup>17</sup> 19 U.S.C. § 1677(7)(C)(iii).

<sup>18</sup> Id.

<sup>19</sup> 19 U.S.C. § 1677(7)(C)(iv) sets forth the factors to be considered by the Commission in determining whether the captive production provision is applicable.

<sup>20</sup> \*\*\* captively consumed approximately \*\*\* percent of total industry production in 1993, \*\*\* percent in 1994, \*\*\* percent in 1995, and \*\*\* percent in interim 1996. Table III-1, CR at III-4, PR at III-2. The parties agree that the captive production provision should not apply to this investigation. Petitioner's Posthearing Brief, Answers to Staff Questions at 3; Respondent's Posthearing Brief, Answers to Staff Questions at 7.

<sup>21</sup> See, e.g., CR at I-4, II-1, PR at I-3, II-1; Hearing Tr. at 76-77.

<sup>22</sup> Petitioner Lukens Steel Co. ("Lukens") estimates that the hydrocarbon processing portion of the petrochemical industry consumed approximately \*\*\* percent by quantity and \*\*\* percent by value of clad steel products in the United States over the past few years. Petitioner's Posthearing Brief, Answers to Staff Questions at 4-5; CR at I-4, PR at I-3.

during the period of investigation was to the petrochemical industry.<sup>23</sup> A large percentage of domestic production of clad steel plate was also sold to the petrochemical industry.<sup>24</sup>

Another important condition of competition in this industry is that sales are made through a multi-level competitive bidding process. General contractors or engineers design process vessels for inclusion in larger industrial projects, and they solicit bids from fabricators who compete for contracts to produce these process vessels. Clad steel plate producers, in turn, compete to supply fabricators with the clad plate used to manufacture the process vessels.<sup>25</sup> Because each contract has fairly exact specifications for clad plate, clad plate offered by different suppliers bidding on the same project is generally fungible.<sup>26</sup> Clad steel plate produced for different projects, however, may vary significantly due to the unique specifications of each project.<sup>27</sup> Moreover, not all producers can bid for every type of project, due to their differing production capabilities.

Clad plate in the range of ½ inch to 2 inches in thickness is generally specified in the larger contracts for the petrochemical industry.<sup>28</sup> In general, roll bonding is more cost-effective than explosion bonding for the production of these sizes of clad plate.<sup>29</sup> Petitioner Lukens and respondent JSW are the two largest suppliers in the U.S. market of roll-bonded clad steel plate in these size ranges.<sup>30</sup> Other

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<sup>23</sup> Respondent Japan Steel Works, Ltd. ("JSW") reported that all of the Japanese clad steel plate sold for U.S. consumption has been to the oil refinery and petrochemical market during the period of investigation. See CR at II-1, PR at II-1; Respondent's Posthearing Brief, Answers to Staff Questions at 8. Lukens claimed that JSW sold clad steel plate to other sectors as well based on statements made in JSW's 1995 annual report. We note, however, that the annual report does not specify to which country JSW sold its products in these other sectors. Respondent acknowledged that in the case of certain small vessels and tanks, JSW \*\*\*. However, to the best of respondent's knowledge, all sales for U.S. consumption were destined for the petrochemical market. Respondent's Posthearing Brief, Answers to Staff Questions at 3-5; CR at I-5, PR at I-3-I-4. Respondent reported one sale, however, in which its clad steel plate entered the United States under temporary importation under bond (TIB) procedures, which was for the pulp and paper segment. CR at II-1, PR at II-1. See discussion infra regarding the Commission's treatment of TIB imports for purposes of this investigation.

<sup>24</sup> Lukens estimated that \*\*\* percent of its sales by value or volume were to the petrochemical industry during the period 1993 to 1995; its sales to the power/utilities industry accounted for \*\*\* percent of total sales during the period of investigation; and sales to the other market segments accounted for \*\*\* percent of sales. CR at II-1, PR at II-1. Respondent argued that JSW is foreclosed from the growing market for flue gas desulfurization projects, which require steel plate clad with a special alloy known as "Hastealloy," for which JSW claims to have no reliable and economical source of supply. See, e.g., Respondent's Posthearing Brief at 2. While JSW did not supply clad plate for desulfurization projects, JSW nevertheless competed in the petrochemical portion of the market which accounts for a large percentage of total U.S. clad plate sales.

<sup>25</sup> CR at V-2-V-3, PR at V-2. Clad plate producers may respond to several requests for bids on the same job: first to one or more fabricators who prepare their own bids to present to general contractors, and then again based on final specifications provided by the fabricator that won the contract. Id.

<sup>26</sup> CR at II-7, PR at II-4; Hearing Tr. at 7-8.

<sup>27</sup> Hearing Tr. at 86.

<sup>28</sup> CR at II-3, PR at II-2.

<sup>29</sup> See generally Hearing Tr. at 49-54.

<sup>30</sup> Hearing Tr. at 50, 129.



domestic producers compete with Lukens in other size ranges.<sup>31</sup> Lukens and JSW compete principally with each other for large sales to the petrochemical industry, which represent a substantial proportion of total U.S. sales of clad steel plate.<sup>32</sup>

We have considered that certain purchasers of clad steel plate have domestic content (“Buy American”) requirements or domestic preferences. We do not, however, find that such requirements or preferences significantly constrain competition from imports. Most purchasers reported that the majority of their purchases are not restricted to domestic suppliers. We find that there is a substantial high-value portion of the market, involving significant sales quantities, where imported clad steel plate from Japan is able to, and does, compete directly with the domestic product.<sup>33 34</sup>

Finally, we note that a substantial proportion of the annual sales volume of clad steel plate is derived from large contracts that are made on a sporadic basis.<sup>35 36</sup> As a result, demand patterns for clad steel plate are irregular and render year-to-year comparisons of the data collected in this investigation less probative than in other industries where demand is more consistent from year to year.<sup>37</sup> We also find year-to-year comparisons less reliable in this investigation due to the pendency at the beginning of the

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<sup>31</sup> The record indicates that Lukens competes with \*\*\*, for the production of clad steel plate in sizes ranging from \*\*\* in thickness. See CR at I-10, III-1, PR at I-6, I-7, III-1. \*\*\* capacity, however, represents \*\*\* percent of total U.S. production. Table III-1, CR at III-4, PR at III-2. As such, \*\*\* does not represent significant competition for Lukens. In the production of clad steel plate above 2 inches in thickness, Lukens competes with domestic producers utilizing the explosion bonding process, \*\*\*. CR at I-10, III-1, PR at I-7, III-1. According to Lukens, its competition with other domestic producers is limited to approximately 20 percent of all Lukens’ sales. Hearing Tr. at 50, 53.

<sup>32</sup> CR at I-4, PR at I-3; Hearing Tr. at 22, 27, 30.

<sup>33</sup> Nine purchasers responded to the request in the Commission questionnaires for the percentage of purchases during the period of investigation that were subject to “Buy American” restrictions. Two of the nine purchasers reported no domestic content restrictions while one purchaser, \*\*\*, reported that all its purchases were “Buy American.” CR at II-7, PR at II-5. \*\*\*, however, only represented \*\*\* percent of overall reported purchases during the period of investigation. Purchasers’ Questionnaire Response of \*\*\*. Purchasers’ median response was that 20 percent of their purchases were subject to domestic content requirements or preferences. CR at II-7, PR at II-5. Therefore, our record indicates that Japanese imports are able to compete for a significant percentage of U.S. purchases.

<sup>34</sup> Commissioner Crawford and Commissioner Watson find that subject imports and the domestic product are good substitutes. Commissioner Crawford and Commissioner Watson further note that overall demand appears to be somewhat inelastic, at least in the short-run, in spite of the fact that clad steel plate represents only a small portion of the cost of the end industrial product. Demand is heavily influenced by the business cycle and alternative products do not appear to be viable substitutes for clad steel plate in most applications. See generally CR at II-4-II-6, II-9-II-10, PR at II-3-II-4, II-6.

<sup>35</sup> Petitioner’s Posthearing Brief at 6 (citing Hearing Tr. at 63).

<sup>36</sup> Commissioner Crawford believes the concentration of sales in large volume contracts is relevant only in that such shipments may create economies in shipping and, to the extent that the products in a given contract sale are somewhat unique, in production. The concentration of such sales may also raise the level of uncertainty as producers are more dependent on a smaller number of large individual sales. Otherwise, such large sales do not appear to be inherently any more or less critical to domestic producers than an equivalent amount of total sales split up into smaller volume contract sales.

<sup>37</sup> See, e.g., Hearing Tr. at 80 (demand for clad plate is uneven and irregular).

period of the Commission's 1992-93 investigation of clad steel plate from Japan, which may have affected the level and market penetration of subject imports, as well as other market conditions, during the early part of the period of this investigation.<sup>38</sup> Similarly, we find that the pendency of this investigation likely further affected import levels of clad steel plate from Japan, as well as other market conditions, during the latter portion of the period of investigation.<sup>39</sup> Thus, although our discussion of industry performance is based on year-to-year developments, we consider trends in the data for this industry with caution.<sup>40 41</sup>

The quantity and value of apparent U.S. consumption of clad steel plate fluctuated but declined overall between 1993 and 1995.<sup>42 43</sup> Consumption measured both by quantity and value was lower in

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<sup>38</sup> See Certain Flat-Rolled Carbon Steel Products, Inv. Nos. 701-TA-319-332, 334, 336-342, 344 and 347-53, and 731-TA-573-79, 581-92, 594-97, 599-609, and 612-619 (Final), USITC Pub. 2664 (Aug. 1993). We issued the affirmative preliminary determination with respect to clad plate in the Flat-Rolled Products investigations in August of 1992, liquidation was suspended in February of 1993, and we issued the final negative determination in that investigation in August of 1993.

<sup>39</sup> See 19 U.S.C. § 1677(7)(I).

<sup>40</sup> Commissioner Crawford does not rely on trends in the market over the period of investigation in her determination of material injury by reason of dumped imports.

<sup>41</sup> Commissioner Crawford and Commissioner Watson generally decline to ascribe significant weight to interim data. Interim data are often incomplete and cover periods as short as a quarter of a year. Moreover, interim data gathered after a petition is filed may be skewed by increased imports in anticipation of suspension of liquidation of duties. In addition, these data may not reflect normal seasonal and/or cyclical variations in the domestic industry over the course of an entire year. Commissioner Watson also notes that the CIT has consistently stated that the ITC is responsible for weighing the evidence and determining its probative value, see, e.g., Iwatsu Electric Co. v. United States, 758 F. Supp. 1506, 1517 (Ct. Int'l Trade 1991).

In this investigation, the interim period covers only a quarter-year, the pendency of the investigation may have affected imports of clad steel plate, and the industry features sporadic large purchases that appear to follow no regular annual seasonal or cyclical variation. Accordingly, Commissioner Crawford and Commissioner Watson place relatively less weight on the interim data.

<sup>42</sup> For the reasons discussed infra, the data on which the Commission majority relies were calculated exclusive of TIB imports.

<sup>43</sup> Commissioner Bragg considers it appropriate in this investigation to include TIB imports, which are sold to U.S. purchasers in direct competition with domestic clad steel plate and are used in the fabrication of industrial equipment in the United States, in the apparent consumption, import and market share data for purposes of determining the effects of subject imports on U.S. producers of clad steel plate. In this regard, she notes that the statute requires the Commission to examine the effect on U.S. producers of all imports (or sales or likely sales for importation) "of the merchandise with respect to which the administering authority has made [a final determination of less-than-fair-value sales] . . ." 19 U.S.C. § 1673d(b)(1). Commerce made an affirmative final determination that clad steel plate from Japan is being sold, or is likely to be sold, at LTFV; nowhere did Commerce indicate that any particular types of sales or entries were excluded from its affirmative finding. Accordingly, she finds for purposes of this investigation that the subject imports include all imports of Japanese clad steel plate, regardless of the form of entry. She notes, however, that her determination would have been the same regardless of whether the TIB imports are included. With regard to the trends in apparent U.S. consumption discussed in the text above, she notes that these trends were the same regardless of whether TIB imports are included in the data; however, there was less of a decline in apparent consumption from 1993 to 1995 if the TIB imports are included. See Staff Submission to Commissioner Nuzum, June 13, 1996.

interim (January-March) 1996 than in interim 1995.<sup>44 45</sup> The domestic industry's share of the total market for clad steel plate by quantity and value also fluctuated and was lower in interim 1996 compared with interim 1995.<sup>46 47</sup>

U.S. producers' average-of-period capacity to produce clad plate remained constant throughout the period of investigation.<sup>48</sup> U.S. producers' production volume increased irregularly between 1993 and 1995, but was lower in interim 1996 than in interim 1995.<sup>49</sup> Capacity utilization, which was low throughout the period of investigation, also increased irregularly between 1993 and 1995, but was lower in interim 1996 than in interim 1995.<sup>50</sup> The domestic industry's total U.S. shipments, by quantity and value, of clad steel plate fluctuated but declined overall between 1993 and 1995, and were also lower in interim 1996 than in interim 1995.<sup>51</sup> Year-end inventories held by domestic producers \*\*\* from 1993 to 1995 and were \*\*\* in interim 1996 compared with interim 1995.<sup>52 53</sup>

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<sup>44</sup> Apparent U.S. consumption by quantity declined from \*\*\* tons in 1993 to \*\*\* tons in 1994 before rising to \*\*\* tons in 1995, an overall decline of \*\*\* percent. Apparent consumption by quantity was \*\*\* tons in interim 1996, compared with \*\*\* tons in interim 1995. Table IV-2, CR at IV-5, PR at IV-2. The value of apparent U.S. consumption declined from \*\*\* in 1993 to \*\*\* in 1994 before rising to \*\*\* in 1995, and was \*\*\* in interim 1996 compared with \*\*\* in interim 1995. *Id.* We recognize that our data on apparent consumption of clad steel plate may be slightly overstated, since they include small quantities of non-subject imports of clad steel plate of dimensions outside the scope of investigation established by Commerce. CR at IV-7, PR at IV-3.

<sup>45</sup> Because data regarding the condition of the domestic industry are based on questionnaire responses from only three domestic producers, much of the data is confidential. Thus, our discussion in the public opinion is general in nature.

<sup>46</sup> The domestic industry's market share by quantity declined from \*\*\* percent in 1993 to \*\*\* percent in 1994, and then rose to \*\*\* percent in 1995. U.S. producers' market share by quantity was \*\*\* percent in interim 1996 compared with \*\*\* percent in interim 1995. Market share by value rose from \*\*\* percent in 1993 to \*\*\* percent in 1994 to \*\*\* percent in 1995, and was \*\*\* percent in interim 1996 compared with \*\*\* percent in interim 1995. Table IV-3, CR at IV-7, PR at IV-3.

<sup>47</sup> Commissioner Bragg notes that if TIB imports are included, the market share of domestic producers \*\*\* in 1995, the year in which the TIB imports entered the U.S. market. Compare Table C-1, CR at C-3, PR at C-3, with Staff Submission to Commissioner Nuzum, June 13, 1996.

<sup>48</sup> Capacity for the full-year periods was \*\*\* tons and was \*\*\* tons during the interim periods. Table III-1, CR at III-4, PR at III-2.

<sup>49</sup> U.S. production declined from \*\*\* tons in 1993 to \*\*\* tons in 1994 and then increased to \*\*\* tons in 1995, an overall increase of \*\*\* percent. Production was \*\*\* tons in interim 1996 compared with \*\*\* tons in interim 1995. CR at III-3, PR at III-2; Table III-1, CR at III-4, PR at III-2; Table C-1, CR at C-3, PR at C-3.

<sup>50</sup> Domestic producers' average capacity utilization declined from \*\*\* percent in 1993 to \*\*\* percent in 1994, but then increased to \*\*\* percent in 1995. It was \*\*\* percent in interim 1996 compared with \*\*\* percent in interim 1995. Table III-1, CR at III-4, PR at III-2.

<sup>51</sup> Domestic producers' total U.S. shipments by quantity declined from \*\*\* tons in 1993 to \*\*\* tons in 1994 before rising to \*\*\* tons in 1995, for an overall decline of \*\*\* percent over the period of investigation. Shipments were \*\*\* tons in interim 1996 compared with \*\*\* tons in interim 1995. By value, domestic producers' U.S. shipments declined from \*\*\* in 1993 to \*\*\* in 1994 before rising to \*\*\* in 1995; shipments were \*\*\* in interim 1996 compared with \*\*\* in interim 1995. Table IV-2, CR at IV-5, PR at IV-2; Table C-1, CR at C-3, PR at C-3.

<sup>52</sup> Inventories \*\*\* tons in 1993 to \*\*\* tons in 1995, and were \*\*\* tons in interim 1996 compared with \*\*\* tons in  
(continued...)

The number of production and related workers, hours worked, and wages paid declined overall from 1993 to 1995 and were lower in interim 1996 compared with interim 1995.<sup>54</sup> Hourly wages paid to production and related workers increased from 1993 to 1995 and were slightly higher in interim 1996 compared with interim 1995.<sup>55</sup> The domestic industry's productivity increased from 1993 to 1995, but was lower in interim 1996 than in interim 1995.<sup>56</sup>

The domestic industry's net sales increased overall between 1993 and 1995. However, the industry experienced declining gross profits and mounting operating losses during this same period, concurrent with increases in cost of goods sold and SG&A expenses. In interim 1996, the industry continued to experience gross and operating losses while unit cost of goods sold and SG&A expenses continued to increase.<sup>57</sup>

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<sup>52</sup>(...continued)

interim 1995. Table III-3, CR at III-6, PR at III-3.

<sup>53</sup> Commissioner Bragg notes that both the petitioner and subject importers report \*\*\*. See CR at II-3, PR at II-2. Accordingly, she places less weight on the data regarding inventory levels in this investigation than in other cases in which inventories are a more significant indicator.

<sup>54</sup> The number of production and related workers ("PRWs") declined from \*\*\* in 1993 and 1994 to \*\*\* in 1995; there were \*\*\* PRWs in interim 1996 compared with \*\*\* in interim 1995. Hours worked by PRWs declined from \*\*\* in 1993 to \*\*\* in 1995, and were \*\*\* in interim 1996 compared with \*\*\* in interim 1995. Wages paid to PRWs remained virtually unchanged in 1995 (at \*\*\*) compared with wages paid in 1993, and were \*\*\* in interim 1996 compared with \*\*\* in interim 1995. Table III-4, CR at III-8, PR at III-3.

<sup>55</sup> Hourly wages increased from \*\*\* in 1993 to \*\*\* in 1994 to \*\*\* in 1995 and were \*\*\* in interim 1996 compared with \*\*\* in interim 1995. Table III-4, CR at III-8, PR at III-3.

<sup>56</sup> Productivity increased from \*\*\* to \*\*\* tons per 1,000 hours between 1993 and 1995. Productivity was \*\*\* tons per 1,000 hours in interim 1996 compared with \*\*\* tons in interim 1995. Table III-4, CR at III-8, PR at III-3.

<sup>57</sup> Net sales declined from \*\*\* in 1993 to \*\*\* in 1994, and then increased to \*\*\* in 1995. Net sales were \*\*\* in interim 1996 compared with \*\*\* in interim 1995. Cost of goods sold ("COGS") increased from \*\*\* in 1993 to \*\*\* in 1994 to \*\*\* in 1995, and were \*\*\* in interim 1996 compared with \*\*\* in interim 1995. Unit COGS increased from \*\*\* per ton in 1993 to \*\*\* per ton in 1994 and then declined somewhat to \*\*\* per ton in 1995. In interim 1996 unit COGS were \*\*\* per ton compared with \*\*\* per ton in interim 1995. SG&A expenses increased from \*\*\* in 1993 to \*\*\* in 1995, and were \*\*\* in interim 1996 compared with \*\*\* in interim 1995. Unit SG&A expenses increased from \*\*\* per ton in 1993 to \*\*\* per ton in 1994 and then declined somewhat to \*\*\* per ton in 1995. In interim 1996 unit SG&A expenses were \*\*\* per ton compared with \*\*\* per ton in interim 1995. Table VI-1, CR at VI-2, PR at VI-1.

The domestic industry realized a \*\*\* gross profit in 1993, a \*\*\* gross loss in 1994 and a \*\*\* gross loss in 1995. The industry experienced a gross loss of \*\*\* in interim 1996 compared with a gross profit of \*\*\* in interim 1995. Table VI-1, CR at VI-2, PR at VI-1. Operating losses increased from \*\*\* in 1993 to \*\*\* in 1994, declined to \*\*\* in 1995, and were \*\*\* in interim 1996 compared with \*\*\* in interim 1995. *Id.*

Operating losses also increased as a percentage of net sales between 1993 and 1995, and were higher in interim 1996 compared with interim 1995. The industry's operating loss margin increased from \*\*\* percent in 1993 to \*\*\* percent in 1995 and was \*\*\* percent in interim 1996 compared with \*\*\* percent in interim 1995. *Id.* The industry's production and selling costs as a ratio of net sales similarly fluctuated, but increased overall between 1993 and 1995 and were higher in interim 1996 compared with interim 1995. The domestic industry's COGS as a share of net sales was \*\*\* percent in 1993, \*\*\* percent in 1994, \*\*\* percent in 1995, \*\*\* percent in interim 1995, and \*\*\* percent in interim 1996. The domestic industry's SG&A expenses as a share of net sales were \*\*\* percent in 1993, \*\*\* percent in 1994, \*\*\* percent in 1995, \*\*\* percent in interim 1995, and \*\*\* percent in interim 1996.

(continued...)

Finally, the total value of assets of U.S. clad plate producers increased between 1993 and 1995 and was higher in interim 1996 compared with interim 1995. Capital expenditures by the domestic industry declined from 1993 to 1995, and there were \*\*\* capital expenditures in interim 1996. Research and development expenses fluctuated, declining overall between 1993 and 1995, and were higher in interim 1996 compared with interim 1995.<sup>58 59</sup>

### III. MATERIAL INJURY BY REASON OF LTFV IMPORTS

In antidumping investigations, the Commission determines whether an industry in the United States is materially injured by reason of the subject imports.<sup>60</sup> In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.<sup>61</sup> Although the Commission may consider causes of injury to the industry other than the allegedly LTFV imports,<sup>62</sup> it is not to weigh causes.<sup>63 64 65 66</sup>

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<sup>57</sup>(...continued)

Id.

<sup>58</sup> Tables VI-5 and VI-6, CR at VI-10, PR at VI-2.

<sup>59</sup> Based on an examination of the relevant statutory factors, particularly the consistent operating losses of the domestic industry, the decline in shipments, and the decline in the number of production and related workers, Chairman Rohr and Commissioner Newquist find that the domestic industry is presently experiencing material injury.

<sup>60</sup> 19 U.S.C. § 1673d(b). The statute defines “material injury” as “harm which is not inconsequential, immaterial, or unimportant.” 19 U.S.C. § 1677(7)(A).

<sup>61</sup> 19 U.S.C. § 1677(7)(B)(I). The Commission “may consider such other economic factors as are relevant to the determination,” but shall “identify each [such] factor . . . and explain in full its relevance to the determination.” 19 U.S.C. § 1677(7)(B).

<sup>62</sup> Alternative causes may include the following:

[T]he volume and prices of imports sold at fair value, contraction in demand or changes in patterns of consumption, trade, restrictive practices of and competition between the foreign and domestic producers, developments in technology, and the export performance and productivity of the domestic industry.

S. Rep. No. 249, 96th Cong., 1st Sess. 74 (1979). Similar language is contained in the House Report. H.R. Rep. No. 317, 96th Cong., 1st Sess. 46-47 (1979).

<sup>63</sup> See, e.g., Citrosuco Paulista, S.A. v. United States, 704 F. Supp. 1075, 1101 (Ct. Int'l Trade 1988).

<sup>64</sup> Chairman Rohr and Commissioner Newquist further note that the Commission need not determine that imports are “the principal, a substantial, or a significant cause of material injury.” S. Rep. No. 249, at 57, 74. Rather, a finding that imports are a cause of material injury is sufficient. See, e.g., Metallwerken Nederland B.V. v. United States, 728 F. Supp. 730, 741 (Ct. Int'l Trade 1989); Citrosuco Paulista, 704 F. Supp. at 1101.

<sup>65</sup> Commissioner Crawford notes that the statute requires that the Commission determine whether a domestic industry is “materially injured by reason of” the LTFV imports. She finds that the clear meaning of the statute is to  
(continued...)

For the reasons discussed below, we find that the domestic clad steel plate industry is materially injured by reason of the LTFV imports from Japan.<sup>67</sup>

#### A. Volume of LTFV Imports

We find the levels of subject imports and import penetration to be significant in this investigation.<sup>68</sup> In making this determination, we have placed particular emphasis on the importance to domestic producers of securing a sufficient number of the relatively few large-volume contracts in a given year to allow maintenance of adequate levels of capacity utilization, and the fact that subject imports compete directly for those critical sales.<sup>69</sup> We find that the sales quantities involved in those bids where there was such competition were significant.<sup>70</sup> Further, for the reasons discussed in the

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<sup>65</sup>(...continued)

require a determination of whether the domestic industry is materially injured by reason of LTFV imports, not by reason of the LTFV imports among other things. Many, if not most, domestic industries are subject to injury from more than one economic factor. Of these factors, there may be more than one that independently are causing material injury to the domestic industry. It is assumed in the legislative history that the "ITC will consider information which indicates that harm is caused by factors other than less-than-fair-value imports." S. Rep. No. 249, 96th Cong., 1st Sess. 75 (1979). However, the legislative history makes it clear that the Commission is not to weigh or prioritize the factors that are independently causing material injury. *Id.* at 74; H.R. Rep. No. 317, 96th Cong., 1st Sess. 46-47 (1979). The Commission is not to determine if the LTFV imports are "the principal, a substantial or a significant cause of material injury." S. Rep. No. 96-249 at 74 (1979). Rather, it is to determine whether any injury "by reason of" the LTFV imports is material. That is, the Commission must determine if the subject imports are causing material injury to the domestic industry. "When determining the effect of imports on the domestic industry, the Commission must consider all relevant factors that can demonstrate if unfairly traded imports are materially injuring the domestic industry." S. Rep. No. 71, 100th Cong., 1st Sess. 116 (1987) (emphasis added).

<sup>66</sup> For Commissioner Watson's interpretation of the statutory requirement regarding causation, see Certain Calcium Aluminate Cement Clinker from France, Inv. No. 731-TA-645 (Final), USITC Pub. 2772 at I-14 n.68 (May 1994).

<sup>67</sup> Because there is only one Japanese producer that exports clad steel plate to the United States, a small number of importers, and only three reporting domestic producers, much of our data is confidential and our discussion in the public opinion is in general terms.

<sup>68</sup> Commissioner Crawford joins only in the factual, numerical discussion of the volume of imports. She does not rely on any analysis of trends in the market share of subject imports and other factors in her determination of material injury by reason of dumped imports. She makes her finding of the significance of volume in the context of the price and impact effects of these imports. For the reasons discussed below, she finds that the volume of subject imports is significant in this investigation. Her views of the importance of large volume contract sales are discussed supra.

<sup>69</sup> We note that during the period of investigation, importers of Japanese clad plate were able to win several contracts for sales of clad steel plate. Japanese product won bids accounting for \*\*\* percent of total reported bid quantities and competed for \*\*\* percent of overall reported bid sales by quantity. Tables V-1 and V-2, CR at V-5-V-8, PR at V-3.

<sup>70</sup> Our coverage of bid data is not exhaustive. Petitioner submits approximately \*\*\* bids per year and respondent submitted approximately \*\*\* bids from 1994 to the end of the period of investigation, of which only \*\*\* were reported to the Commission. See Respondent's Comments on Newly-Released Information, June 17, 1996 at 4;  
(continued...)

pricing section, we find that the clad steel plate market is price sensitive and, in such circumstances, even relatively small volumes of subject imports may be injurious.<sup>71</sup> In any event, in this particular market the volume of subject imports in the last two full years of this investigation was significant, both in absolute terms and as a percentage of apparent consumption.

The quantity of subject imports was fairly low in 1993, increased substantially from 1993 to 1994, and then declined in 1995 but remained well above 1993 levels.<sup>72</sup> The quantity of subject imports dropped \*\*\* in interim 1996 compared with interim 1995.<sup>73</sup> The share of total U.S. consumption of clad steel plate held by subject imports similarly increased \*\*\* from 1993 to 1994, then declined in 1995, but nevertheless remained above 1993 levels.<sup>74</sup> Import penetration was lower in interim 1996 than in interim 1995.<sup>75</sup>

As discussed previously, we view the data concerning trends in this market with caution due to the sporadic nature of the larger contracts as well as the pendency of the previous investigation involving clad steel plate from Japan. Further, pursuant to section 777(7)(I) of the Act, we presume that declines in

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<sup>70</sup>(...continued)

Importers' Questionnaire Responses. Collecting representative bid data for comparison purposes is difficult since purchasers do not always maintain the records of competing losing bids, and suppliers are often not aware of their competitors' bid prices. However, our coverage of U.S. producers' and importers' bid data was \*\*\* and \*\*\* percent, respectively. CR at V-4 & n.7, PR at V-3 & n.6. The data collected by the Commission demonstrate head-to-head competition between domestic producers and subject imports for a substantial quantity of available purchases, and there is no record evidence to indicate that these data are unrepresentative of the broader U.S. market.

<sup>71</sup> See H.R. Rep. No. 317, 96th Cong., 1st Sess. 46 (1979).

<sup>72</sup> Commissioner Bragg notes that the volume of subject imports including TIB imports increased substantially from 1994 to 1995, rising by \*\*\* percent by quantity and \*\*\* percent by value. See Staff Submission to Commissioner Nuzum, June 13, 1996.

<sup>73</sup> The quantity of subject imports increased from \*\*\* tons in 1993 to \*\*\* tons in 1994 and then fell to \*\*\* tons in 1995. Subject imports were \*\*\* in interim 1996, compared with \*\*\* in interim 1995. Table IV-1, CR at IV-2, PR at IV-1.

As noted below, these data do not include the \*\*\* tons of clad steel plate exported to the United States by JSW in 1995 as temporary imports under bond ("TIB"). CR at IV-4, PR at IV-1 and IV-2. TIB is a procedure whereby merchandise may be entered into the customs territory of the United States duty-free by posting a bond. Under the terms of the bond, the importer agrees to export the merchandise within a specified time (usually a year) or pay liquidated damages, generally equal to twice the normal duty. JSW was able to import clad steel plate under TIB procedures because such imports will or have already been processed in the United States into a downstream product that is subsequently exported. See Harmonized Tariff Schedule of the United States, USITC Pub. 2690, Ch. 98, Subch. XIII, U.S. Notes at 98-37 (Supp. 1 1994); 19 C.F.R. §§ 10.31-10.40 (1995).

<sup>74</sup> Commissioner Bragg notes that the market share held by subject imports including TIB imports increased from 1994 to 1995 to \*\*\* percent by quantity and \*\*\* percent by value. Staff Submission to Commissioner Nuzum, June 13, 1996.

<sup>75</sup> The share of total U.S. consumption of clad steel plate held by subject imports increased from \*\*\* percent in 1993 to \*\*\* percent in 1994, and then fell to \*\*\* percent in 1995, and was \*\*\* percent in interim 1996 compared with \*\*\* percent in interim 1995. Table IV-2, CR at IV-5, PR at IV-2. The subject imports' and the domestic industry's market share may be slightly overstated due to the inclusion in our import data of clad plate products outside the scope of investigation ("non-subject" clad plate). However, such non-subject imports appear to be very minor. CR at IV-4 n.11, CR at IV- n.11, PR at IV-3.

subject imports occurring subsequent to the filing of the petition were related to the pendency of the investigation, and thus accord little weight to the level of imports in interim 1996.<sup>76</sup> Nonetheless, we note a correlation between the overall volume and market share of subject imports, which increased from 1993 to 1995, and the domestic industry's decline in shipments.<sup>77 78 79</sup>

We find subject import volumes to be significant without inclusion of the \*\*\* tons of clad steel plate exported to the United States by JSW in 1995 as temporary imports under bond ("TIB"). Such imports are technically not entries for consumption and thus are not subject to Commerce's affirmative LTFV determination.<sup>80 81</sup> While we find that inclusion of TIB entries is not dispositive to our volume analysis, we note that inclusion of TIB entries would have further reinforced our finding that subject imports are significant.

We regard TIB entries, however, as a relevant economic factor in our analysis of the volume of imports, pursuant to 19 U.S.C. § 1677(7)(b)(ii). Specifically, while subject imports declined from 1994 to 1995, we give the decline less weight in considering whether subject imports are significant. TIB

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<sup>76</sup> We note that there is some evidence that subject imports were affected by the pendency of this investigation. For example, the petitioner asserted that it was able to increase its price on a recent sale, following the Commission's preliminary determination, after JSW declined to submit a bid. Hearing Tr. at 28; Petitioner's Posthearing Brief at 14. Further, a potential new Japanese entrant into the U.S. market for clad steel plate, \*\*\*, told Commission staff that it had no plans to do so in light of the antidumping investigation. Lukens' Comments on Newly-Released Information at 5; telephone conversation, May 3, 1996. In any event, respondent has not provided sufficient evidence to persuade us that the decline in imports following the filing of the petition is related to factors other than the pendency of this investigation. See Uruguay Round Agreements Act, Statement of Administrative Action ("SAA") at 184, H.R. Doc. No. 316, Vol. 1, 103rd Cong., 2d Sess (1994) at 854.

<sup>77</sup> Table C-1, CR at C-3, PR at C-3.

<sup>78</sup> Commissioner Bragg notes that the market share held by domestic producers also declined from \*\*\* percent in 1993 to \*\*\* percent in 1995 if TIB imports are included. Staff Submission to Commissioner Nuzum, June 13, 1996.

<sup>79</sup> Commissioner Crawford does not consider TIB imports to be subject imports. She does not join in her colleagues' analysis of TIB imports. She believes the TIB imports represent an additional competitive factor in the clad steel plate market as discussed in note 89, *infra*.

<sup>80</sup> CR at IV-4, PR at IV-2. The statute directs the Commission to make its final determination of injury or threat of injury with respect to "imports or sales (or the likelihood of sales) for importation, of the merchandise with respect to which the administering authority has made an affirmative determination . . . ." 19 U.S.C. § 1673d(b)(1). In this case, it is unclear whether Commerce has made an affirmative determination with respect to clad steel plate entered under TIB procedures because Commerce did not address the status of merchandise entered under TIB procedures in this investigation. Because the Japanese respondent failed to cooperate in both the preliminary and final Commerce investigations, Commerce applied the "facts otherwise available" rate, which in this case was the margin rate set forth in the petition.

In two administrative review investigations, Commerce found that TIB entries were not entries for consumption and therefore found that they should be excluded from assessment of duties under an antidumping duty order. Titanium Sponge from Kazakhstan: Final Results of Antidumping Duty Administrative Review, 59 Fed. Reg. 16,617 (1994), *aff'd on remand*, Titanium Metals Corp. v. United States, Slip Op. 95-153 (Ct. Int'l Trade Aug. 30, 1995); Titanium Sponge From Ukraine: Final Results of Antidumping Duty Administrative Review, 61 Fed. Reg. 6350 (Feb. 20, 1996).

<sup>81</sup> Commissioner Bragg considered TIB imports to be imports subject to Commerce's affirmative LTFV determination, and included them in her analysis. See *supra* note 43.



imports compete for U.S. fabricators' purchases in the U.S. market.<sup>82</sup> Thus, there was not a wholesale decline in imports of clad plate from Japan, but rather a shift of such imports to TIB entries.

## **B. Price Effects of the Subject Imports**

We find that subject imports are having a significant adverse effect on U.S. prices. As a threshold matter, we note that the market for clad steel plate is price-sensitive, such that price plays a key role in determining which supplier will win a bid. Also, while a relatively small number of reported bids involved competition between the domestic like product and subject imports, the sales quantities involved in those bids where such competition existed were significant.<sup>83</sup>

In those bid comparisons where there was competition from more than one supplier, the low bid won in 22 out of 24 instances.<sup>84</sup> This fact demonstrates the importance of price in this market.<sup>85</sup> Twelve of these bid comparisons involved competition from both the domestic industry and importers of clad steel plate from Japan. In all but one case, the low bidder won. In five of these instances, the imported Japanese product was priced lower than the domestic product; in seven instances, the domestic product was priced lower.<sup>86 87</sup> While the Japanese bidder did not always win the contract, we find that the amount and value of sales for which it did win bids based on lower prices were significant.<sup>88 89</sup> We also

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<sup>82</sup> Hearing Tr. at 24-25.

<sup>83</sup> As noted above, Japanese product competed against domestic product in bids representing \*\*\* percent of overall bid quantities reported.

<sup>84</sup> CR at V-12, PR at V-3-V-4.

<sup>85</sup> We also note that purchasers listed price as one of the most important factors in deciding from whom to purchase clad steel plate. CR at II-6, PR at II-4. Further, because clad plate is bid and produced to exacting specifications, price is a critical factor in choosing among suppliers. See, e.g., Hearing Tr. at 26.

<sup>86</sup> CR at V-11, PR at V-3-V-4.

<sup>87</sup> Commissioner Bragg notes that if TIB sales are included, the imported product was priced below the domestic product in six of 13 instances, involving sales of \*\*\* tons -- an amount larger than the \*\*\* tons sold by domestic producers in the remaining seven bids. CR at V-6, V-11, PR at V-3-V-4.

<sup>88</sup> The five instances of Japanese underbidding represented \*\*\* tons of clad steel plate valued at \*\*\*. CR at V-11, PR at V-3-V-4.

<sup>89</sup> Commissioner Crawford does not join the remainder of this section. She finds that subject imports are having significant effects on domestic prices for clad steel plate. To evaluate the effects of the dumping on domestic prices, Commissioner Crawford compares domestic prices that existed when the imports were dumped with what domestic prices would have been if the imports had been fairly traded. In most cases, if the subject imports had not been traded unfairly, their prices in the U.S. market would have increased. In this investigation, the dumping margin is very large. Thus, prices for the subject imports likely would have risen by a significant amount if they had been priced fairly, and they would have become more expensive relative to the domestic product and nonsubject imports. In such a case, demand would have shifted away from subject imports and towards the relatively less-expensive products. In this investigation, nonsubject imports are not a major presence in the domestic market. Since subject imports and the domestic product are good substitutes, and there are no good alternative products for most applications, most of the demand for subject imports would have shifted to the domestic product had subject imports been priced fairly. As demand for the domestic product would have increased, the domestic industry would have been able to increase its prices, unless price discipline exists in the market. In this investigation, the domestic

(continued...)

note that Japanese underbidding ranged from \*\*\* to \*\*\* percent. We find such underselling or “underbidding” by subject imports to be significant given the price-sensitive nature of this market.<sup>90</sup>

The evidence in the record pertaining to possible price suppression or price depression by the subject imports is more difficult to gauge. Trends in bid prices are not probative due to the unique specifications of each contract. For the same reason, movements in average unit values are not reliable for purposes of evaluating the price effects of subject imports. Information obtained concerning lost sales and lost revenues allegations suggests that price was a factor in at least some instances where Japanese product was purchased.<sup>91 92</sup>

We find that in light of the price sensitive nature of the market, the significant underbidding by Japanese suppliers of clad plate on significant volumes of product, the success of Japanese suppliers in winning important large contracts on the basis of price, and the domestic industry's inability to recoup increases in its cost of goods sold and SG&A expenses from 1993 to 1995,<sup>93</sup> the evidence indicates that the pricing of the subject imports suppressed prices to a significant degree.

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<sup>89</sup>(...continued)

industry has \*\*\* available capacity, \*\*\* inventories, and exports which it could divert to the domestic market, with which to supply the demand satisfied by subject imports. These market conditions normally would impose price discipline on domestic prices. In this industry, however, nonsubject imports are not a major presence, and two producers, the petitioner and DuPont, dominate the market. In addition, there is only limited competition between petitioner and DuPont because petitioner generally produces thinner clad steel plate than DuPont. Indeed, when it needs a thinner product, DuPont usually \*\*\*. Two other producers have \*\*\* capacity and are not significant competitors. Thus, it is unlikely that competition among domestic producers and from nonsubject imports would have imposed discipline on domestic prices. TIB imports provide only a limited degree of competition since they can only be used in downstream products for export. Because of petitioner's and DuPont's market dominance for their respective products, they have sufficient market power to increase prices or increase production, or some combination of each, as determined by their individual economic benefit. Thus, if subject imports had been fairly traded, the domestic industry would have been able to increase its prices significantly. Consequently, Commissioner Crawford finds that subject imports are having significant effects on domestic prices for clad steel plate.

<sup>90</sup> We note that inclusion of the underbidding by the supplier of Japanese product for the one reported TIB bid further buttresses our finding of the significance of underbidding. CR at V-11, PR at V-3-V-4.

<sup>91</sup> CR at V-13, PR at V-5. We also note that petitioner reported that it was able to increase its bid price for a large contract in 1996 when JSW was no longer competing due to the pendency of the antidumping investigation. Hearing Tr. at 28. The petition alleged two lost sales valued at \*\*\*, one of which was a TIB sale. In the other instance, \*\*\*. CR at V-13-V-14, PR at V-5.

<sup>92</sup> Commissioner Bragg notes that in the second lost sales allegation, involving a TIB sale of \*\*\* tons of clad steel plate valued at approximately \*\*\*, the buyer indicated that \*\*\*. CR at V-12, PR at V-5. \*\*\*. Questionnaire Response of \*\*\* at 12 (1/4).

<sup>93</sup> Table VI-1, CR at VI-2, PR at VI-1.

**C. Impact of the Subject Imports on the Domestic Industry**<sup>94 95 96</sup>

The adverse impact on the domestic industry of the volume and prices of subject imports is reflected in the industry's low capacity utilization rates, declining shipments and employment and consistently poor financial performance and operating losses throughout the period of investigation. Moreover, the successful underbidding by the subject imports for a substantial volume of critical sales has played a significant role in preventing the industry from increasing prices sufficiently to cover costs.<sup>97 98</sup>

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<sup>94</sup> As part of its consideration of the impact of imports, the statute as amended by the URAA specifies that the Commission is to consider "the magnitude of the margin of dumping." 19 U.S.C. § 1677(7)(C)(iii)(V). The SAA indicates that the amendment "does not alter the requirement in current law that none of the factors which the Commission considers is necessarily dispositive in the Commission's material injury analysis." SAA at 180, H.R. Doc. No. 316, Vol. 1, 103rd Cong., 2nd Sess. (1994) at 850. The weighted-average dumping margin identified by Commerce in its final investigation is 118.53 percent. 61 Fed. Reg. 21158 (May 9, 1996).

<sup>95</sup> Commissioner Bragg does not consider the margin of dumping in this investigation to be of particular significance in evaluating the effects of subject imports on U.S. producers of clad steel plate. See Separate and Dissenting Views of Commissioner Lynn M. Bragg in Bicycles from China, Inv. No. 731-TA-731 (Final), USITC Pub. 2968 (June 1996).

<sup>96</sup> Commissioner Crawford finds that subject imports are having a significant impact on the domestic industry. In her analysis of material injury by reason of dumped imports, Commissioner Crawford evaluates the impact on the domestic industry by comparing the state of the industry when the imports were dumped with what the state of the industry would have been had the imports been fairly traded. In assessing the impact of the subject imports on the domestic industry, she considers, among other relevant factors, output, sales, inventories, capacity utilization, market share, employment, wages, productivity, profits, cash flow, return on investment, ability to raise capital, research and development and other relevant factors as required by 19 U.S.C. § 1677(C)(iii). These factors together either encompass or reflect the volume and price effects of the dumped imports, and so she gauges the impact of the dumping through those effects. In this regard, the impact on the domestic industry's prices, sales and overall revenues is critical, because the impact on the other industry indicators (e.g., employment, wages, etc.) is derived from this impact. As noted earlier, had subject imports been priced fairly, most of the demand for subject imports would have shifted to the domestic product. The increase in demand for the domestic product would have increased the domestic industry's output and sales significantly. In addition, the increase in demand for the domestic product would have permitted the domestic industry to increase its prices without effective discipline from competition within the industry or from nonsubject imports. TIB imports affect competition only somewhat. The combination of price increases and sales increases would have resulted in a significant increase in domestic revenues, had the subject imports been fairly traded. Consequently, the domestic industry would have been materially better off if the subject imports had been priced fairly. Therefore, Commissioner Crawford determines that the domestic industry is materially injured by reason of the subject imports.

<sup>97</sup> Commissioner Nuzum notes that the final 118.53 percent margin of dumping far exceeds the magnitude by which Japanese clad plate underbid domestic clad plate in those sales won by the subject imports. This suggests that, were the Japanese clad plate priced at fair value, it would not be underselling the U.S. product. Given the evidence that price plays an important role in the awarding of a contract for clad plate, and that Japanese clad plate tends to be bid for large volume sales in the petrochemical segment of the market, dumping of the magnitude found by the Department of Commerce appears to enhance the ability of the Japanese product to take important sales away from the domestic industry.

<sup>98</sup> Respondent argues that the Commission should take an adverse inference against two domestic producers that  
(continued...)

We find overall period trends less probative in this investigation for the reasons discussed above, as well as due to the wide variety of product mix which reduces the reliability of volume and price trends. What is apparent, however, is that the domestic industry's financial performance worsened substantially when subject import volumes were larger. In 1994, when subject imports were at their height, many of the domestic industry's economic indicators experienced their worst performance. In particular, seven of the twelve bids involving Japanese competition occurred in 1994, when industry losses were the highest during the period. Also, U.S. producers' shipments (by quantity and value), production, capacity utilization, and operating income as a percentage of sales, showed dramatic downturns from 1993 to 1994, when subject imports increased significantly.<sup>99</sup> Conversely, between 1994 and 1995, when the level of subject imports decreased, and the rate of growth in overall imports of Japanese clad plate (including TIB imports) greatly slowed, many domestic industry economic indicators improved.<sup>100 101</sup>

We recognize that fluctuations in the market for clad steel plate may have contributed to the industry's problems.<sup>102</sup> Nevertheless, the industry has not achieved operating income levels that are even close to positive since 1993, when full-year subject imports were at their lowest level. Although the industry's financial performance improved from 1994-95, domestic producers were still operating at a \*\*\* loss in 1995 and in the most recent interim period. Where, as here, price is important, industry performance is not strong, and subject imports compete with the domestic like product for a significant volume of critical sales, we find the industry is materially injured by subject imports.

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<sup>98</sup>(...continued)

did not respond to Commission questionnaires by presuming these producers are not injured. Respondent's Prehearing Brief at 44; Respondent's Posthearing Brief at 14 n.46. We note that only one producer did not respond, \*\*\*. The second producer, \*\*\*, was not sent a questionnaire because staff contacted \*\*\* during the preliminary investigation and was informed that the firm supplied very small quantities of clad plate product which staff believed was likely to be outside the scope of the investigation.

We do not find a sufficient basis to draw adverse inferences in this investigation. We are required by the statute to reach our determination with respect to the industry as a whole (see 19 U.S.C. § 1677(4)(A)), and our industry data covered \*\*\* percent of the clad steel plate industry's domestic production during 1995. CR at I-1-I-2, PR at I-1. We find no basis for drawing an adverse inference against individual industry producers under these circumstances.

<sup>99</sup> Table C-1, CR at C-3, PR at C-3. From 1993 to 1994, net sales value declined by \*\*\* percent and net sales quantity declined by \*\*\* percent, while operating losses reached a period high of \*\*\* percent of sales in 1994. CR at VI-1, PR at VI-1.

<sup>100</sup> For example, operating loss margins declined from \*\*\* percent in 1994 to \*\*\* percent in 1995, coincident with the decline in subject imports. Id.

<sup>101</sup> Commissioner Bragg concurs generally with the observations in the preceding paragraph, except to note that while subject imports including TIB imports continued to increase in 1995, the rate of growth of subject imports lessened. Nonetheless, the domestic industry continued to experience \*\*\* operating losses in 1995, as the presence of significant quantities of subject imports -- including a large TIB sale in 1995 -- continued to exert an adverse effect on domestic sales.

<sup>102</sup> See, e.g., JSW's Prehearing Brief at 40.

## **CONCLUSION**

For the foregoing reasons, we determine that the domestic clad steel plate industry is materially injured by reason of LTFV imports from Japan.



## PART I: INTRODUCTION

### BACKGROUND

This investigation results from a petition filed by Lukens Steel Company, Coatesville, PA, on September 29, 1995, alleging that an industry in the United States is materially injured and threatened with material injury by reason of less-than-fair-value (LTFV) imports of clad steel plate<sup>1</sup> from Japan. Information relating to the background of the investigation is provided below.<sup>2</sup>

<i>Date</i>	<i>Action</i>
September 29, 1995 .	Petition filed with Commerce and the Commission; institution of Commission preliminary investigation
October 25, 1995 . . .	Commerce's notice of initiation
November 13, 1995 .	Commission's preliminary determination
February 28, 1996 . .	Commerce's preliminary determination; institution of Commission final investigation (61 F.R. 10380, Mar. 13, 1996)
May 2, 1996 . . . . .	Commerce's final determination (61 F.R. 21158, May 9, 1996) <sup>3</sup>
May 7, 1996 . . . . .	Commission's hearing <sup>4</sup>
June 18, 1996 . . . . .	Commission's vote
June 25, 1996 . . . . .	Commission determination transmitted to Commerce

### SUMMARY DATA

A summary of data collected in the investigation is presented in table C-1. Except as noted, U.S. industry data are based on questionnaire responses of three firms that accounted for approximately \*\*\* percent of estimated U.S. production of clad steel plate during 1995. U.S. imports are based on adjusted Commerce statistics.

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<sup>1</sup> For purposes of this investigation, clad steel plate is all steel plate of a width of 600 millimeters ("mm") or more and a composite thickness of 4.5mm or more. Clad steel plate is a rectangular finished steel mill product consisting of a layer of cladding material (usually stainless steel or nickel) which is metallurgically bonded to a base or backing of ferrous metal (usually carbon or low alloy steel) where the latter predominates by weight. Stainless clad steel plate is manufactured to ASTM specifications A263 (400 series stainless types) and A264 (300 series stainless types). Nickel and nickel-base alloy clad steel plate are manufactured to ASTM specification A265. Clad steel plate is provided for in subheading 7210.90.10 of the Harmonized Tariff Schedule of the United States (HTS) with a 1996 most-favored-nation tariff rate of 5.2 percent *ad valorem*, applicable to imports from Japan.

<sup>2</sup> *Federal Register* notices cited in the tabulation are presented in app. A.

<sup>3</sup> Commerce found that because JSW did not answer its questionnaire, it failed to cooperate to the best of its ability to comply with Commerce's request for information. Therefore, on the basis of best information available (the petition), Commerce assigned to JSW and all other producers/exporters a margin of 118.53 percent *ad valorem*.

<sup>4</sup> A list of participants at the hearing is presented in app. B.

## THE PRODUCT

The imported product subject to this investigation is clad<sup>5</sup> steel plate, of a width of 600mm (approximately 24 inches) or greater and a thickness of 4.5mm (approximately 3/16 inch) or more. Clad steel plate of a width less than 600mm is not subject to this investigation. Likewise, clad steel flat-rolled products of a thickness of less than 4.5mm are not subject to this investigation (such products would generally be considered sheet, rather than plate). This section presents information on both imported and domestically produced clad steel plate, as well as information related to the Commission's "domestic like product" determination.

During the preliminary investigation, both petitioner Lukens and respondent JSW agreed that the domestic like product should be coextensive with the scope of the investigation established by Commerce. The Commission found no basis on the preliminary record to define the domestic like product more broadly to include clad plate less than 600mm wide or less than 4.5mm thick. In addition, the Commission found no basis for treating stainless steel clad plate as a separate domestic like product from plate clad with other alloys.<sup>6</sup>

### Physical Characteristics and Uses

Clad steel plate is a flat-rolled, corrosion-resistant, "composite" steel plate product, 4.5mm or more in thickness, composed of cladding material which is metallurgically bonded to a base carbon steel plate. The cladding material, which is usually a solid sheet or plate of alloy metal such as stainless steel, nickel-based alloys, copper, or titanium, is generally 10 to 20 percent of the total thickness of the composite.<sup>7</sup> The base metal, the thicker portion of the composite, is usually either carbon or low-alloy steel and normally provides the required strength to the clad composite. In the 1993 steel investigations, the Commission found clad steel plate to be a discrete "like product" and defined it as carbon (or alloy) steel plate that has been covered with a metallic coating such as stainless steel, nickel, copper, or titanium on one or both sides by a process that forms a physical bond between the cladding material and the carbon steel substrate.<sup>8</sup>

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<sup>5</sup> Cladding is the association of layers of metal of different colors or natures by molecular interpenetration of the surfaces in contact. This limited diffusion is characteristic of clad products and differentiates them from products metalized in other manners (e.g., by normal electroplating). The various cladding processes include pouring molten cladding metal onto the base metal followed by rolling; simple hot-rolling of the cladding metal to ensure efficient welding to the base metal; and any other method of deposition or superimposing of the cladding metal followed by any mechanical or thermal process to ensure welding (e.g., electro-cladding), in which the cladding metal (nickel, chromium, etc.) is applied to the base metal by electroplating, molecular interpretation of the surfaces in contact then being obtained by heat treatment at the appropriate temperature with subsequent cold-rolling. See Harmonized Commodity Description and Coding System Explanatory Notes, HTS, Chapter 72, General Note (IV)(C)(2)(e).

<sup>6</sup> *Clad Steel Plate from Japan*, Inv. No. 731-TA-739 (Preliminary), USITC Pub. 2936 (November 1995), p. I-5.

<sup>7</sup> Depending on customer specifications, Lukens offers the option of cladding thicknesses ranging from 5 percent to 40 percent.

<sup>8</sup> *Certain Flat-Rolled Carbon Steel Products from Argentina, Australia, Austria, Belgium, Brazil, Canada, Finland, France, Germany, Italy, Japan, Korea, Mexico, the Netherlands, New Zealand, Poland, Romania, Spain, Sweden, and the United Kingdom*, Invs. Nos. 701-TA-319-332, 334, 336-342, 344, and 347-353, and Invs. Nos. 731-TA-573-579, 581-592, 594-597, 599-609, and 612-619 (Final), USITC Pub. 2664 (Aug. 1993), Vol. I, p. 166; Vol. II, p. I-27.



At Lukens, the backing material is produced in an electric arc furnace and, depending on the desired thickness of the plate, continuously cast.<sup>9</sup> The thinner layer of the composite (stainless steel or nickel, for example) is usually selected for corrosion resistance qualities, thus allowing the designer to gain the desired benefit of solid high-alloy plate at less cost.<sup>10</sup> The predominant cladding material used in clad steel plate is stainless steel.

The most frequently specified grades of stainless steel cladding are types 304 and 304L, 316 and 316L, and 410S. These are described in the ASTM specification A240. All clad steel plate produced by Lukens meets either ASTM specification A263 (400 series stainless steel types), A264 (300 series stainless steel types), or A265 (nickel and nickel-base alloy clad).<sup>11</sup>

Clad steel plate is produced to meet exact customer specifications. It is used to manufacture vessels or structures used in heavy industry projects where corrosion resistance qualities are essential. The main end users of clad steel plate include petrochemical companies, the shipbuilding industry, electric utilities, pulp and paper companies, and other users of industrial equipment. Lukens generally sells clad plate to fabricators of process equipment and heat exchangers, and for other applications where corrosion resistance is required.<sup>12</sup> The petitioner maintains that the consistently largest market for clad steel plate is the petrochemical industry, specifically the hydrocarbon processing industry (HPI), which includes petroleum refining and petrochemical and chemical processing. Lukens estimates that over the past few years the HPI market likely consumed approximately \*\*\* of clad products used in the United States. According to Lukens, demand in the other markets has been more erratic in the United States and tends to be related to the demand for more specific process vessels, such as pulp digesters in the pulp and paper market, flue gas desulfurization (FGD) systems in the power utility market, or the construction of chemical tankers in the commercial shipbuilding market. The amount of clad steel plate required for military shipbuilding is relatively small, and limited to naval submarines.<sup>13</sup>

Respondent testified at the hearing that all of its clad steel plate sales in the United States have been to companies in the petrochemical industry. JSW maintains that it does not compete for projects in the shipbuilding, utilities, or pulp and paper industries and has not sold clad steel plate for any U.S. projects in these sectors.<sup>14 15</sup> According to respondents, demand in these markets has been irregular and

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<sup>9</sup> Thicker plate is generally rolled from ingots, according to Lukens. About \*\*\* percent of Lukens' steel is continuously cast; the remainder is bottom-poured into ingot molds. Lukens produces its backing materials, made of either carbon or low-alloy steel, as well as stainless steel used for cladding, at its own facilities, as does JSW. Nickel and copper used for cladding are purchased from outside sources; field trip, Oct. 12, 1995; hearing transcript, testimony of C. Mattia, Vice President of Sales, Lukens, p. 16.

<sup>10</sup> Ibid, pp. 16-17.

<sup>11</sup> Petition, pp. 5-6.

<sup>12</sup> Ibid, p. 6.

<sup>13</sup> Petitioner's posthearing brief, responses to staff questions, pp. 4-5. Lukens supplied clad steel plate for the first nuclear submarine, the U.S.S. Nautilus.

<sup>14</sup> Hearing transcript, testimony by N. Maakaroon, Manager, Itochu, p. 69.

<sup>15</sup> JSW argues that Lukens focuses only on competition in the petrochemical market and disregards other segments of the U.S. clad steel plate market. Thus, JSW argues, petitioner has failed to show that JSW competes in a \*\*\* of the U.S. market for clad steel plate; JSW's posthearing brief, pp. 2-3.

depends on factors unique to each industry.<sup>16</sup> Respondents claim that their ability to sell clad steel plate in the U.S. petrochemical market is limited partly because Lukens is able to supply other products to fabricators, such as carbon plates and alloy plates, and fabricators are inclined to purchase both clad and solid plates from a single source, which in most cases, is Lukens.<sup>17 18</sup>

Importers note that demand for clad steel plate products has increased since 1993 partly due to capital expenditures in the petrochemical industry.<sup>19</sup> The pulp and paper industry experienced a building cycle in the late 1980s which increased the demand for clad digesters during 1988-90. This resulted in over-capacity and reduced the demand from 1991 to 1995. Demand for FGD projects, which lower the sulfur content of coal, also has been on the rise, and has thus increased the demand for what is termed "scrubber clad" material. Lukens notes that the 1990 amendment to the Clean Air Act increased the demand for FGD systems from 1991 until 1995.<sup>20</sup>

Carbon steel clad with a high nickel-based alloy, C-276, is often specified for FGD projects that have highly corrosive environments. Importers complain that they are not competitive for scrubber clad projects in the United States because \*\*\*. Because JSW cannot obtain the material in Japan as cheaply as Lukens can in the United States, it claims to be at a competitive disadvantage for these projects.<sup>21</sup> Petitioner counters that its relationship with the nickel-based alloy producer does not preclude JSW from obtaining the material from other domestic or foreign producers.<sup>22</sup> However, JSW maintains that \*\*\*.<sup>23</sup>

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<sup>16</sup> There are three types of petrochemical industry projects that require clad steel plate: (1) large process equipment such as coke drums, the majority of which were built in 1992 and 1993; (2) reactors, which are more specialized, and generally are not produced in the United States because existing domestic fabricators lack the capability to produce them; and (3) the remaining process vessels, which are smaller in size, and constitute about 30 percent of the petrochemical business; hearing transcript, pp. 76-77.

<sup>17</sup> Ibid, pp. 77-78.

<sup>18</sup> In its posthearing brief (pp. 10-11), Lukens charged that JSW does in fact supply clad steel plate to sectors outside of the petrochemical industry. In making this charge, it cited a 1995 JSW annual report (appendix B) to this effect. However, the annual report does not specify to which countries JSW's clad steel plate sales were made. In its posthearing brief, JSW states that to the best of its knowledge it had \*\*\* in the utilities/environmental, shipbuilding, or pulp and paper markets during 1993-95. In the case of certain small vessels and tanks, JSW \*\*\*; posthearing brief, response to questions from the Commission, pp. 3-5.

<sup>19</sup> Importers' questionnaire, \*\*\*.

<sup>20</sup> Petitioner's posthearing brief, pp. 5-6.

<sup>21</sup> Respondent claims that when JSW has approached \*\*\* for pricing information, the company was asked where the final product would be sold. When told the United States, JSW says the nickel alloy manufacturer did not respond to its request for quotation; hearing transcript, p. 101.

<sup>22</sup> In making this argument, Lukens noted that it had lost an FGD project bid to \*\*\* which apparently obtained its nickel alloy cladding material from \*\*\*. This demonstrates, according to Lukens, that there are alternative sources of the nickel alloy cladding material. \*\*\*. Hastelloy is a registered trademark of Haynes, which held the original patent on this material. The patent, according to Lukens, expired several years ago, allowing a number of companies, including Inco, Haynes, Allegheny Ludlum (Pittsburgh, PA), G.O. Carlson (Coatesville, PA), and Krupp VDM GmbH (Werdahl, Germany), to develop comparable alloys; hearing transcript, testimony of M. Markward, Carbon and Alloy Plate Products Manager, Lukens, pp. 118-119.

<sup>23</sup> Respondent's posthearing brief, responses to staff questions, pp. 2-3.

## Common Manufacturing Facilities and Production Employees

There are two processes by which clad steel plate is produced, regardless of what cladding material is used. The first is the roll-bonding process, or "sandwich" process, which was first developed by Lukens and Inco in 1930. This process typically involves assembling a four-ply clad "pack" comprised of two "backing steel" slabs and two "cladding" inserts. The assembly process takes place in a facility dedicated to that purpose and involves placing two cladding inserts on top of two steel backing slabs. Before placement, the cladding inserts are submerged into a nickel solution and electrolytically plated to promote bonding. A "parting compound" is then applied to the top side of each insert to permit separation of the bonded clad plates once rolling has taken place. Steel spacer bars are placed around the periphery of one backing steel slab and the second backing/clad steel insert assembly is then placed on top of it, enclosing the four-ply pack. The assembly is welded around its edges to keep the pack in place.

Once the pack is assembled, it is transported to a soaking pit to reheat the steel and prepare it for rolling. The thickness of the steel determines how long the pack needs to soak. The assembled pack then is rolled at high temperature and pressure.<sup>24</sup> The thickness is thus reduced, and the backing steel is metallurgically bonded to the cladding. After rolling, the edges of the pack are cut and the pack is separated. From there, the resultant two clad plates are transported to the finishing line, where they are cleaned, descaled, and pickled. Each plate is then cut to its final dimensions, inspected, scrubbed, packaged, and shipped.<sup>25</sup> Both Lukens and JSW use this method to produce clad steel plate, and agree that their two processes are virtually identical.<sup>26</sup>

The second method is called explosion bonding. In this process, the base and cladding materials are inspected, abraded (scraped and roughened) for ideal surface conditioning, and matched before being transported to the cladding site. The matched plates are moved into an underground "shooting chamber," where the explosion bonding takes place. In this process, the base and clad materials are bonded by the detonation of specially formulated explosives over the cladding material. The energy produced by the explosion propels the cladding material across the "standoff" space, and the resulting "jet" at the collision point carries away surface oxide films that normally would inhibit bonding. The pressure generated by the collision creates a continuous metallurgical bond along the entire interface of the backing steel and the cladding.<sup>27</sup> Clad steel plate produced by explosion bonding may be further rolled to achieve the desired thickness. This is known as the "bang and roll" method.<sup>28</sup>

Clad steel plate less than 600mm in width, which is generally produced in thicknesses under 4.5mm, is typically used by different customers in distinctly different applications, such as coinage, cookware, and electrical applications. Most clad plate less than 600mm in width is produced on continuous strip mills. The only exception may be narrow welding transition joints, which are explosion

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<sup>24</sup> Lukens has two rolling mills, a 140-inch mill and a 206-inch mill, and uses these same mills for both plate and clad plate production. \*\*\*.

<sup>25</sup> Alternative processes may be used when actual thickness or combinations of unique materials are required by the customer.

<sup>26</sup> Conference transcript, pp. 9 and 78.

<sup>27</sup> DuPont DETACLAD Operations, "Problem-Solving Materials for the Industry," DuPont Company, Kennett Square, PA.

<sup>28</sup> DuPont developed the explosion bonding process 30 years ago. DuPont \*\*\*, then explosion bonds the materials in a mine in western Pennsylvania. \*\*\*.

bonded.<sup>29</sup> Flat-rolled clad steel products less than 4.5mm in thickness used in cookware are often comprised of a carbon core clad with stainless steel on both sides, termed "tri-ply carbon core." There is little production domestically, \*\*\* being the only domestic producer of the thin clad product used mostly in cookware. The production process is virtually the same, although the clad packs are rolled at a slightly lower temperature than the clad products of a thicker gauge.<sup>30</sup> \*\*\*<sup>31</sup>

The manufacture of clad steel plate generally utilizes the same facilities and employees as those used in the production of carbon and alloy plates.<sup>32</sup> The only facility dedicated to clad steel plate production is the assembly facility, where the employees are specially trained for its operation. \*\*\*<sup>33</sup>

Lukens testified at the hearing that its expectation of increased demand for clad steel plate, especially for petrochemical and FGD projects, helped fuel the company's decision to upgrade its facilities in 1992 and 1993. Although Lukens has not yet achieved the volume needed to make effective use of the newly upgraded facility, the company believes that it is only a matter of time before it achieves this goal. The company claims that since the market is highly cyclical and dependent on bids, the upgrades were necessary to maintain its competitiveness. Without adequate production capacity and productive facilities, it would be difficult for the company to respond quickly and cost effectively.<sup>34</sup>

### **Interchangeability and Perception of the Product**

While roll bonding and explosion bonding are distinctly different processes, clad steel products produced by these two methods are largely interchangeable. The choice of process normally depends on economic rather than technical considerations. Lukens outlined a general continuum of thickness ranges on which clad steel plate, produced by different methods, is most competitive.<sup>35</sup> The competitive ranges are dictated principally by cost, and overlap at certain thicknesses. According to this continuum, solid stainless steel is generally competitive up to ½ inch in thickness. Clad steel plate is competitive between ½ and 3½ inches; within this range, roll bonding is most cost-effective between ½ inch and 2 inches whereas explosion bonding is usually reserved for plate between 2 and 3½ inches thick, or reactive metals.<sup>36</sup> Weld overlay, which is not a product but a process performed by the fabricator for pressure

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<sup>29</sup> Petition, p. 6.

<sup>30</sup> Staff conversation with \*\*\*.

<sup>31</sup> Staff conference call with \*\*\*.

<sup>32</sup> The production facilities, however, are not the same as those used in the production of corrosion-resistant carbon steel products. Most corrosion-resistant carbon steel products are coated or plated with zinc, tin, aluminum, nickel, or a combination of these metals and are produced using a totally different production process. This is achieved by either passing the substrate through a bath of molten metal (hot-dip method) or an aqueous, often acidic, solution containing dissolved coating material, where opposing electrical charges bond the substrate and the coating metal (electroplating).

<sup>33</sup> Questionnaire response, p. 4.

<sup>34</sup> Hearing transcript, pp. 60-63.

<sup>35</sup> During the hearing, the respondent emphasized that this continuum is specific to Lukens' product.

<sup>36</sup> Lukens' petition stated that the roll bonding method is more cost-effective when rolling thinner plate, generally between 3/16 inch and 2 inches, and explosion bonding is usually reserved for plate thicker than 1½ inches, which suggests an overlap. Working from its original continuum, Lukens responded in its questionnaire that \*\*\*. The overlap between 1½ and 2 inches results because production process decisions are based on a variety of factors, including customer preference, price, and material (backing and cladding) combinations; petition, p. 5.

vessels where bonded clad cannot be produced economically, is competitive for clad products of a thickness of 3½ inches or greater.<sup>37</sup> Generally, over 80 percent of Lukens' stainless clad plate is between ½ inch and 2 inches in thickness. This is the range in which most big projects fall, and where Lukens competes most heavily with JSW.<sup>38</sup> As for domestic producers, Lukens specifically competes with \*\*\* in the \*\*\* thickness range for orders \*\*\*. Lukens competes with \*\*\* and \*\*\*'s explosion bonded material at the ±2 inch range. Both Lukens and JSW have the ability to produce clad steel plate in thicknesses up to 6 inches.<sup>39</sup>

Clad steel plate products greater than 4.5mm in thickness are not interchangeable with clad steel products less than 4.5mm in thickness, which are generally considered clad steel sheet in the industry. As mentioned earlier in the report, the two products are utilized by distinctly different markets for unique applications, the former for vessels in heavy industrial projects, and the latter for cookware production and coinage. The clad steel plate's strength and durability are largely derived from its metallurgical composition as well as its thickness, which is an essential characteristic for the industrial projects. Thus, the thinner clad product is generally considered inadequate to meet the application requirements of projects that utilize clad steel plate products, as defined in this investigation.

### **Channels of Distribution**

Both domestic and imported clad steel plate are generally sold on a competitive-bid basis to fabricators of equipment, process equipment, heat exchangers, etc., who are seeking to meet the requirements of general contractors or engineers for specific projects that incorporate vessels or other structures where corrosion resistance is required. Fabricators, in turn, compete for contract awards to construct these vessels or structures for the end user.

The bid process begins when the engineering firm retained by the eventual owner of the project solicits bids from various clad fabricators. In order to prepare a quote, the clad fabricator must specify the required materials according to the checklist provided by the firm, and solicit price and delivery for such materials. The engineering firm normally encourages solicited clad fabricators to contact several clad producers to ensure the lowest possible bid. Thus, the clad steel plate producer may receive an inquiry from one or more of the competing fabricators, and formal quotations are sent to each. Upon selection of the fabricator by the engineering firm, the bidding process becomes extremely competitive among clad producers. The successful fabricator finalizes the design details and contacts the clad plate bidders, as long as they were initially competitive, with final plate sizes and more detailed specifications. This enables the clad plate producers to prepare more exact quotations. On the basis of the final bids, the fabricator then chooses a clad producer for the project.<sup>40</sup> The process is generally the same for plate produced with any of the types of cladding material and from either production process.

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<sup>37</sup> Hearing transcript, pp. 17-18.

<sup>38</sup> Ibid, p. 53.

<sup>39</sup> Petitioner's posthearing brief, pp. 14-15.

<sup>40</sup> Hearing transcript, pp. 20-21.

## Price

The price for clad steel plate varies widely depending on the specifications (including the type of cladding material, and the thickness and length of the backing and cladding materials) required by the individual purchaser. Generally, stainless steel is a lower-valued product than nickel-based alloy. Stainless steel is a ferrous metal that is predominantly iron, while nickel-based alloys are predominantly nickel, which is more expensive.<sup>41</sup> The respondent notes that there are several other factors that influence price, including the finishing operation, edge preparation, cladding peel-back, the number of plates ordered, the tonnage needed and ordered, the delivery schedule, and the transportation and shipping arrangements required.<sup>42</sup>

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<sup>41</sup> Conference transcript, p. 33.

<sup>42</sup> Hearing transcript, pp. 72-73.

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

### **MARKET SEGMENTS AND CHANNELS OF DISTRIBUTION**

U.S. producers and importers sell clad steel plate primarily to fabricators on a competitive-bid basis. The fabricators use clad steel plate to fulfill the requirements of general contractors or engineers for specific projects that incorporate vessels or other structures made of the plate. Fabricators, in turn, compete for contract awards to construct these vessels or structures for the ultimate user.<sup>1</sup>

Respondents stated that clad steel plate is sold in four major market channels: the petrochemical industry, the power/utilities industry including FGD projects, the pulp and paper industry, and the shipbuilding industry.<sup>2</sup> Petitioners stated that the petrochemical market is consistently the largest market segment in the United States. \*\*\*.<sup>3</sup> Respondents stated that all of their U.S. sales, except one temporary import bond (TIB) sale to the pulp and paper market segment, during the period of investigation were to the petrochemical industry.

Lukens testified at the conference that, although it competes with other U.S. clad steel plate producers, Lukens and JSW, as roll-bonders, focus on different end-user markets than the explosion bonders. Lukens and JSW compete mainly in the market for large process vessels (200-800 tons), for which they typically produce clad steel plate using a 4-ply process. Explosion bonders do not normally compete in that market sector.<sup>4</sup>

Lukens, DuPont, and Ametek sell primarily to fabricators<sup>5</sup> located throughout the United States.<sup>6</sup> U.S. importers' sales are all to fabricators. \*\*\*.

### **SUPPLY AND DEMAND CONSIDERATIONS**

#### **U.S. Supply**

##### **Domestic Production**

Based on the available information, staff believes that U.S. producers have flexibility to respond to price changes with significant changes in the quantity shipped to the U.S. market. Factors enhancing supply responsiveness include low levels of capacity utilization, the availability of production alternatives, and the existence of significant export markets.

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<sup>1</sup> There are at least two, and often three, levels of distribution between the clad steel plate producer and the final user of the product. For a more detailed description of industry applications of clad steel plate, see JSW's postconference brief, p. 4, and conference transcript, pp. 10-11.

<sup>2</sup> Hearing transcript, pp. 76-77. \*\*\*.

<sup>3</sup> Petitioner's posthearing brief, answers to staff questions, pp. 4-6.

<sup>4</sup> Conference transcript, pp. 27-28, 46, and 52.

<sup>5</sup> Shipments of clad steel plate to fabricators accounted for \*\*\* percent of total U.S. producers' shipments during January 1993-March 1996.

<sup>6</sup> \*\*\*.

As discussed earlier in the report, U.S. producers of clad steel plate use both the roll-bonding and explosion-bonding methods to produce the plate.<sup>7</sup> The choice of process normally depends on economic rather than technical considerations. The petitioner stated that solid alloys are more economical than roll-bonded clad at thicknesses less than ½ inch, that explosion-bonded clad is more economical than roll-bonded clad at thicknesses greater than 2 inches, and that weld-overlay is more economical than explosion-bonded clad at thicknesses greater than 3½ inches.<sup>8</sup> The thinner stainless steel clad plate<sup>9</sup> is typically requested in the largest contracts; therefore, the explosion-bond producers are not as competitive as the roll-bond producers in this sizable market.<sup>10</sup> Lukens has emphasized the importance of these large sales to its competitiveness; sales over \*\*\* tons accounted for \*\*\* percent of its sales by tonnage, but represented \*\*\* percent of its revenue from clad plate during the 1992-95 period.<sup>11</sup>

### ***Industry capacity***

U.S. producers' capacity utilization \*\*\*.

### ***Production alternatives***

Employees and equipment used to produce clad steel plate \*\*\*.

### ***Inventory levels***

As a percentage of total shipments, inventory levels were \*\*\* during 1993-95, from \*\*\* to \*\*\* percent of shipments. Firms in the clad steel plate sector do not maintain large inventories because the product is generally produced to customer specifications.

### ***Export markets***

Export sales \*\*\* significantly during 1993-94 and then \*\*\* slightly in 1995. Export sales accounted for \*\*\* percent of shipments in 1993, \*\*\* percent in 1994, and \*\*\* percent in 1995. The existence of significant export markets provides some flexibility in shifting shipments between foreign and domestic markets.

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<sup>7</sup> Although roll-bonding and explosion-bonding processes are distinctly different, both are acceptable ways to manufacture integrally bonded clad steels; petition, p. 5.

<sup>8</sup> Hearing transcript, pp. 17-19. Lukens stated that 80 percent of sales are between ½ inch and 2 inches. Respondents challenged the petitioner's cost and product breakdown and stated that it does not apply to JSW; hearing transcript, p. 110.

<sup>9</sup> The majority of the stainless steel clad plate produced is 3 inches or less in thickness.

<sup>10</sup> Lukens maintains, however, that both processes result in products that meet the requirements of ASTM A263, A264, and A265 and that they serve the same end-use markets; petition, p. 5. See also conference transcript, pp. 28-29.

<sup>11</sup> Petitioner's posthearing brief, pp. 9-10.



## **Subject Imports**

Data provided by JSW suggest that it has some flexibility to increase or decrease its shipments to the U.S. market because of its large home and third country markets. However, JSW was operating at over \*\*\* percent of capacity during 1995 and \*\*\*.

## ***Industry capacity***

JSW's capacity utilization \*\*\*. Capacity \*\*\* during 1993-95.

## ***Inventory levels***

JSW and importers of Japanese clad steel plate reported that they held no inventories during the period 1993-95.

## ***Export markets***

JSW ships \*\*\* of its clad steel plate to the United States. During 1993-95, over \*\*\* percent of JSW's shipments were to the Japanese home market or third country markets. This enhances JSW's flexibility to increase or decrease shipments to the U.S. market.

## **U.S. Demand**

### **Demand Characteristics**

The overall demand for clad steel plate depends upon the requirements for this material in its major end-use markets, which include the petrochemical, power/utilities, pulp and paper, and shipbuilding industries. Fabricators, which are the major consumers of clad steel plate, compete for contracts in the international market. U.S. fabricators have lost some bids for pressure vessels to foreign fabricators. Factors such as the cost share of the plate in the production of final products, the responsiveness of final product demand to changes in final product prices, and the availability of substitutes influence the responsiveness of the demand for clad steel plate to changes in its price.

Consumption of clad steel plate in the United States \*\*\* during 1993-94 but then \*\*\* during 1994-95. In its questionnaire response, \*\*\*,<sup>12</sup> \*\*\*.

\*\*\*,<sup>13</sup> \*\*\*.<sup>14</sup>

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<sup>12</sup> Lukens testified at the conference that it based its recent plant upgrade on the belief that demand for clad steel plate would increase not only in the United States but worldwide. Lukens believes that clad steel plate offers a lower cost alternative to solid alloys wherever corrosion resistance is required; conference transcript, pp. 20 and 25. See also hearing transcript, pp. 16, 25-26.

<sup>13</sup> Consumption of clad steel plate in FGD projects is primarily for use in chimneys and ductwork. Power plants have similar requirements. A 1,000-foot concrete chimney at Allegheny Power System's Harrison Station contains three roll-bonded clad flues fabricated and erected by Graver Tank, Houston, TX. This is the largest application of roll-bonded clad in the electric power industry; Lukens brochure.

<sup>14</sup> See also hearing transcript, pp. 75-76.

Based on the available information regarding substitute products and the percentage of the cost of the final end-use products accounted for by clad steel plate, it is likely that in the short run the quantity of clad steel plate demanded will not change greatly with changes in its price.

### **Substitute Products**

While questionnaire responses concerning substitute products varied, a solid alloy is generally regarded as a substitute for clad steel plate in lower thicknesses, and carbon steel plate with weld overlay is viewed as a substitute in greater thicknesses. \*\*\*. However, \*\*\*.<sup>15</sup> The respondent stated that for FGD projects, there are additional substitutes, such as paint, brick, wall paper, and plastics. Parties were asked to identify all sales that were originally advertised for clad plate in which the fabricator later substituted a non-clad product. The respondent identified a bid to \*\*\*.<sup>16</sup>

### **Cost Share**

Reported cost shares of clad steel plate ranged from \*\*\* with a median of \*\*\* percent. These cost shares are typically percentage costs of pressure vessels used in the petroleum, chemical, and pulp and paper industries, and the vessels themselves are intermediate products.

## **SUBSTITUTABILITY ISSUES**

### **Factors Affecting Purchasing Decisions**

Purchasers most often listed quality, price, and delivery as the most important factors in deciding from whom to purchase clad steel plate. One purchaser, \*\*\*, cited country of origin as its most important factor since its corporate policy is to buy U.S.-produced products unless the needed item is unavailable domestically.

Purchasers were asked to rate 10 factors in terms of their importance in choosing between U.S.-produced or imported Japanese clad steel plate. On average, the responding purchasers of the domestic product ranked product consistency, quality, and delivery reliability as the most important factors in their decision to buy the domestic product. Purchasers of the imported Japanese product rated product consistency, quality, delivery reliability, price, delivery lead times, and lack of "Buy American" preferences as the most important factors in their decision to buy the imported Japanese product.

### **Comparison of Domestic Products and Subject Imports**

Since U.S. producers and importers of Japanese clad steel plate are typically bidding to supply exact specifications of clad steel plate for particular projects, there is generally very little difference between the physical characteristics of the competing clad steel plate products. Six out of seven responding purchasers reported that all grades/types/sizes of clad steel plate are available from both

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<sup>15</sup> Hearing transcript, pp. 78 and 89.

<sup>16</sup> Respondent's posthearing brief, answers to staff questions, p. 12. In its posthearing brief (answers to staff questions, p. 10), the petitioner stated that it was not aware of any such substitutions.

domestic and Japanese sources.<sup>17</sup> “Buy American” preferences sometimes limit the amount of imported clad plate that can be bought. Nine purchasers responded to the Commission’s question concerning the share of purchases that were subject to “Buy American” restrictions during the period of the investigation. The median response was 20 percent, while two purchasers reported no restrictions and another reported that all purchases were “Buy American.”

Purchasers were asked to rate how clad steel plate produced in Japan compares with the U.S. product in terms of 10 factors. On average, the responding purchasers rated the imported Japanese product as superior in terms of packaging, product consistency, and quality. The domestic product was rated as superior in terms of delivery time, price, product range, service, and transportation network.

The respondent, JSW, claims that it cannot compete for FGD projects because a “special relationship” between \*\*\* and Lukens prevents it from obtaining the necessary C-276 cladding material for sales in the U.S. market. \*\*\*.<sup>18</sup> \*\*\*.<sup>19</sup>

\*\*\*.<sup>20</sup>

### **Comparison of Domestic Products and Subject Imports to Nonsubject Imports**

Nonsubject country imports’ share of the U.S. market \*\*\* during 1993-95, from \*\*\* percent in 1993 to \*\*\* percent in 1995. \*\*\*.

### **ELASTICITY ESTIMATES**

This section discusses the elasticity estimates used in the COMPAS analysis (appendix D).

#### **U.S. Supply Elasticity<sup>21</sup>**

The domestic supply elasticity for clad steel plate measures the sensitivity of the quantity supplied by U.S. producers to a change in the U.S. market price of clad steel plate. 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 production to other products, the existence of inventories, and the availability of alternate markets for U.S.-produced clad steel plate.<sup>22</sup> Analysis of these factors earlier indicates that the U.S. industry has the flexibility to increase or decrease shipments to the U.S. market. Staff estimates that supply elasticity is between 5 and 10.

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<sup>17</sup> \*\*\*.

<sup>18</sup> See the product section of this report.

<sup>19</sup> Respondent’s posthearing brief, answers to staff questions, pp. 12-13.

<sup>20</sup> Telephone conversation with \*\*\*.

<sup>21</sup> A supply function is not defined in the case of a non-competitive market.

<sup>22</sup> Domestic supply response is assumed to be symmetrical for both an increase and a decrease in demand for the domestic product.

## **U.S. Demand Elasticity**

The U.S. demand elasticity for clad steel plate measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of clad steel plate. This estimate depends upon factors discussed earlier such as the existence, availability, and commercial viability of substitute products, the component cost share of clad steel plate in the production of downstream products, and the structure of demand for final products that incorporate clad steel plate. The respondent contested the demand elasticity estimate in the prehearing report and claimed that substitutes in the U.S. market limit the ability to increase prices.<sup>23</sup> The respondent also stated that the cost-share analysis should focus on the intermediate product and not the final product.<sup>24</sup> The petitioner supported the staff estimates and stated that competition from non-clad products is mainly at the fringes of the thickness continuum discussed in the section on substitute products.<sup>25</sup> The petitioner also supported the staff's approach to the cost share analysis and stated that industrial requirements, not the fabricators, influence demand for clad plate.<sup>26</sup>

In arriving at an estimate of demand elasticity, staff noted that, because the fabricators using clad steel plate compete in an international market, conditions in the fabricators' product market may limit their ability to pay increased prices for clad plate. Staff noted that there are substitutes for clad steel plate but that few are viable in the primary thickness ranges where Lukens and JSW compete. Although clad steel plate may account for a high percentage of the cost of the intermediate products in which it is used, it generally represents only a small share of the production costs of any final product. Therefore, demand for clad steel plate is likely to be inelastic and is estimated to be in the range of -0.5 to -1.0.

## **Substitution Elasticity**

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.<sup>27</sup> Product differentiation, in turn, depends upon such factors as quality (e.g., product consistency, ability to meet product specifications, etc.) and conditions of sale (e.g., delivery, product range, prior business relationships, service, availability, and country of origin). Most purchasers responded that the U.S.-produced and the subject imported clad steel plate are interchangeable. However, the Japanese importers did not make any sales of the nickel clad steel plate during the period of investigation, and "Buy American" restrictions limited sales of the imported clad plate somewhat. There were also differences in the terms of delivery between the U.S.-produced clad steel plate and the subject product imported from Japan. Based on this information, staff estimates the elasticity of substitution between U.S.-produced clad steel plate and subject imported clad steel plate to be in the range of 2 to 4.

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<sup>23</sup> Respondent's prehearing brief, pp. 33-34.

<sup>24</sup> Respondent's prehearing brief, pp. 35-36.

<sup>25</sup> Hearing transcript, p. 130.

<sup>26</sup> Petitioner states to claim otherwise would be analogous to saying that construction contractors, and not the demand for housing, shape the demand for building materials; hearing transcript, pp. 131-132.

<sup>27</sup> The substitution elasticity measures the responsiveness of the relative U.S. consumption levels of the subject imports and U.S. like products to changes in their relative prices. This reflects how easily purchasers switch from the U.S. product to the subject import (or vice versa) when prices change.

## PART III: CONDITION OF THE U.S. INDUSTRY

### INFORMATION PRESENTED IN THIS SECTION

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the margin of dumping was presented earlier in this report and information on the volume and pricing of imports of the subject merchandise is presented in parts IV and V. Information on the other factors specified is presented in this section and/or part VI and (except as noted) is based on the questionnaires of three firms (Lukens, DuPont, and Ametek)<sup>1</sup> that accounted for approximately \*\*\* percent of estimated U.S. production<sup>2</sup> of clad steel plate during 1995.

#### U.S. PRODUCERS<sup>3</sup>

Lukens (the petitioner) accounted for \*\*\* percent of total reported U.S. production of clad steel plate in 1995. \*\*\*. No U.S. producer reported importing clad steel plate or purchasing imported clad steel plate.

Lukens primarily produces clad steel plate by the roll-bonding method but also utilizes the "bang and roll" method, on a toll basis, for thicker plate gauges. DuPont and Dynamic are primarily explosion-bond clad steel plate producers. Ametek is a roll-bond producer of clad steel plate.

Lukens is a nonintegrated producer of carbon, alloy, stainless, and clad steel plate.<sup>4</sup> The plant in Coatesville has two 150-ton and two 100-ton electric furnaces and an 85-inch single-strand slab caster.<sup>5</sup> A second plant in Conshohocken, PA, acquired by Lukens in 1978, is equipped with a 4-high, 2-stand, 110-inch plate mill. Lukens produces carbon plate up to 30 inches thick, 195 inches wide, and 1,000 inches in length. In 1992, Lukens acquired Washington Stainless Steel, which enabled it to produce stainless steel.<sup>6</sup> Lukens \*\*\*.

DuPont has been producing clad steel plate using the explosion-bonding method for more than 30 years. The prebonding operations are located in Coatesville, PA. The explosion bonding is done in an underground shooting chamber in Dunbar, PA. The clad steel plate is then returned to the Coatesville facility for finishing. DuPont also produces clad heads and tube sheet from clad steel plate. DuPont purchases both its backing steel and cladding material from outside sources.<sup>7</sup>

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<sup>1</sup> \*\*\*.

<sup>2</sup> Lukens supplied production estimates in exhibit 1 of the petition. \*\*\*.

<sup>3</sup> The producers identified in the petition, their locations, and their shares of 1994 domestic production are: Ametek, Eighty Four, PA \*\*\*; DuPont, Kennett Square, PA \*\*\*; Dynamic, Lafayette, CO \*\*\*; Lukens, Coatesville, PA \*\*\*; and Vessel, Berwyn, PA \*\*\*; petition, exhibit 1. \*\*\*.

<sup>4</sup> Hearing transcript, p. 14, and Lukens' 1994 and 1995 Annual Reports.

<sup>5</sup> Clad plate backing and cladding metals represent a small percentage of total mill production at the EAF; conference transcript, pp. 18 and 32.

<sup>6</sup> This addition allows Lukens to better determine its product mix and avoid dependence on external companies for stainless slab. The new stainless melting and rolling capacity increased the range of specialty products available from the Lukens division and allowed it to get access to a market which is expected to grow by 5 percent a year; *Metal Bulletin Monthly*, p. 60, May 1995. See also Lukens' 1994 and 1995 Annual Reports.

<sup>7</sup> \*\*\*.

Ametek, a relatively new producer of clad steel plate, uses the roll-bond method. \*\*\*. Dynamic, formerly Explosive Fabricators, Inc., uses the explosion-bond method of clad steel plate production. Dynamic purchases its backing steel and cladding materials and also produces tube sheets. \*\*\*.<sup>8</sup>

### U.S. CAPACITY, PRODUCTION, AND CAPACITY UTILIZATION

Table III-1 presents data on U.S. producers' capacity and production of clad steel plate during January 1993-March 1996.<sup>9</sup> U.S. capacity to produce clad steel plate was stable during 1993-95. Lukens upgraded its clad plate production facility in 1992-93 to handle larger clad plate products, increase capacity, and reduce nickel consumption.<sup>10</sup> The upgraded facility has \*\*\*.<sup>11</sup> U.S. production of clad steel plate \*\*\* between 1993 and 1995 and then \*\*\* in interim 1996 compared to the corresponding period in 1995.

Table III-1

Clad steel plate: U.S. capacity, production, and capacity utilization, by firms, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

### U.S. SHIPMENTS

U.S. producers' U.S. shipments are presented in table III-2. The volume and value of U.S. shipments of clad steel plate \*\*\* between 1993 and 1994 and then \*\*\* in 1995. The volume and value of such shipments \*\*\* in the interim periods. \*\*\*.<sup>12</sup> The volume and value of exports of clad steel plate \*\*\* between 1993 and 1994<sup>13</sup> and then \*\*\* somewhat in 1995 (table C-1). \*\*\*.

Table III-2

Clad steel plate: U.S. producers' U.S. shipments, by firms, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

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<sup>8</sup> *Stainless Clad Steel Plate from Japan*, Inv. No. 731-TA-50 (Final), USITC Pub. 1270 (June 1982).

<sup>9</sup> \*\*\*.

<sup>10</sup> When all the facilities are fully operational in 1997, Lukens' manufacturing system will be able to quickly change production to meet the demands of the market; Lukens' 1995 Annual Report.

<sup>11</sup> Questionnaire response submitted by Lukens; hearing transcript, p. 25; and Lukens' 1994 and 1995 Annual Reports.

<sup>12</sup> \*\*\*.

<sup>13</sup> \*\*\*.

## U.S. PRODUCERS' INVENTORIES

Clad steel plate is a specialty product that is produced to specification and, as such, \*\*\*. \*\*\* reported that its end-of-period inventories \*\*\* by \*\*\* percent in 1993-95 and by \*\*\* percent in interim 1996. \*\*\*'s end-of-period inventories \*\*\* (table III-3).

Table III-3

Clad steel plate: End-of-period inventories of U.S. producers, by firms, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

## U.S. EMPLOYMENT, COMPENSATION, AND PRODUCTIVITY

U.S. producers' employment and productivity data are presented in table III-4. Employment of production and related workers (PRWs) was steady during 1993-94 and \*\*\* in 1995 and interim 1996. Hours worked and wages paid \*\*\* during 1993-94 and then \*\*\* in 1995 and interim 1996. Hourly wages \*\*\* throughout the period, while productivity \*\*\* during 1993-95 and then \*\*\* in Jan.-Mar. 1996. Unit labor costs \*\*\* during 1993-95 and then \*\*\* in Jan.-Mar. 1996.

Table III-4

Average number of production and related workers producing clad steel plate, hours worked, wages paid to such employees, and hourly wages, productivity, and unit production costs, by firms, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*





## PART IV: U.S. IMPORTS, APPARENT CONSUMPTION, AND MARKET SHARES

### U.S. IMPORTERS

Importers' questionnaires were sent to six firms that the Commission believed could be importing clad steel plate from Japan and other countries. Four firms reported imports from Japan during January 1993-March 1996: \*\*\*.<sup>1</sup> Based on adjusted official statistics for clad steel plate,<sup>2</sup> these four importers accounted for \*\*\* percent and \*\*\* percent, by quantity, of subject imports from Japan in 1994 and 1995, respectively. \*\*\* reported imports of clad steel plate from \*\*\*, respectively.

### U.S. IMPORTS

U.S. imports of clad steel plate are presented in table IV-1 and figure IV-1.<sup>3</sup> Imports of clad steel plate subject to this investigation are provided for under subheading 7210.90.10 of the HTS. With the exception of 1993 and interim 1996, when France and Germany were the largest exporters of the subject product, respectively, Japan has been the largest exporter of clad steel plate to the United States.

Table IV-1

Clad steel plate: U.S. imports, by sources, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

Figure IV-1

Clad steel plate: U.S. imports, by sources, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

Counsel for JSW argues that the Commission should base its analysis on the data provided in the importers' questionnaires rather than official statistics because the product scope of HTS subheading 7210.90.10 is broader than the scope of the investigation.<sup>4</sup> Petitioner, in response to staff questions, argues that the import data should be based on official statistics adjusted for nonsubject imports.<sup>5</sup>

Petitioner argues that product entered under a temporary import bond (TIB) should be considered subject merchandise and should be included in the import statistics. Petitioner states that TIB imports

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<sup>1</sup> \*\*\*.

<sup>2</sup> The official statistics have been adjusted to subtract out TIB imports in 1995 and imports of clad steel plate from Kawasaki. Kawasaki exports clad steel plate in thicknesses less than 4.5mm that is not within the scope of the investigation as defined by Commerce. Clad steel plate less than 4.5mm thick is used in cookware, coinage, and electrical applications.

<sup>3</sup> Unadjusted official statistics are presented in table C-2.

<sup>4</sup> JSW's prehearing brief, p. 5. Staff notes that while the quantities reported in the importers' questionnaires are different than those in the official statistics, the trends are the same.

<sup>5</sup> Lukens' posthearing brief, responses to staff questions, p. 4.

were included in Commerce's LTFV calculation and that TIB imports have the same injurious effect on the U.S. industry as imports entered for consumption.<sup>6</sup> Counsel for respondents argues that TIB imports should not be considered subject imports because such imports are not subject to the U.S. antidumping law and are not imports for consumption.<sup>7</sup> According to counsel for JSW, there were \*\*\* TIB entries during the period covered by the investigation: \*\*\*.<sup>8</sup> Temporary importation under bond is a procedure whereby an importer may enter merchandise into the customs territory of the United States duty-free by posting a bond. Under the terms of the bond, the importer agrees to export the merchandise within a specified period of time (usually a year) or pay liquidated damages, generally equal to twice the normal duty. The Commission preliminarily determined that such imports are not subject imports because Commerce's present policy is to treat TIB imports as nonsubject merchandise.<sup>9</sup>

## APPARENT U.S. CONSUMPTION

Data on apparent consumption of clad steel plate are presented in table IV-2 and figure IV-2. Apparent consumption is calculated from U.S. producers' shipment data provided in response to Commission questionnaires and from imports provided in official statistics, as adjusted. Staff was unable to quantify imports of merchandise outside of the dimensions specified in the scope of the investigation from countries other than Japan; therefore, apparent U.S. consumption may be slightly overstated.<sup>10</sup>

Table IV-2

Clad steel plate: U.S. shipments of domestic product, U.S. imports, by sources, and apparent U.S. consumption, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

Figure IV-2

Clad steel plate: U.S. shipments of domestic product, U.S. imports, by sources, and apparent U.S. consumption, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

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<sup>6</sup> Petitioner discussed the issue of TIB imports in its prehearing brief, pp. 14-18; at the hearing, hearing transcript, pp. 8, 30-33, 40-48, and 128; and in its posthearing brief, pp. 1-6.

<sup>7</sup> Prehearing brief, pp. 6-8; hearing transcript, pp. 81-85; posthearing brief, pp. 5-9; and answers to ITC staff questions, pp. 10-11.

<sup>8</sup> \*\*\*; JSW's posthearing brief, p. 11, and questionnaire response, Apr. 4, 1996.

<sup>9</sup> *Clad Steel Plate from Japan*, Pub. 2936, Nov. 1995, p. I-11.

<sup>10</sup> \*\*\*.

## U.S. MARKET SHARES

The market shares of U.S. producers and imports from Japan and all other sources, based on apparent U.S. consumption of clad steel plate, are presented in table IV-3 and figure IV-3. If TIB imports are included, Japan's market share is \*\*\* percent in 1995.

Table IV-3

Clad steel plate: Apparent U.S. consumption and market shares, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

Figure IV-3

Clad steel plate: Shares of the quantity of U.S. consumption, by sources, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*



## **PART V: PRICING AND RELATED DATA**

### **FACTORS AFFECTING PRICING**

#### **Raw Material Costs**

\*\*\*. The raw material cost of any particular order for clad steel plate varies according to type of cladding metal, type of base metal, dimensions of the base and cladding metals, and any special requirements or codes that must be met.

#### **Transportation Costs to the U.S. Market**

Transportation charges from Japan to the U.S. market, not including U.S. inland costs, are estimated to be 6.1 percent of the total delivered price.<sup>1</sup>

#### **U.S. Inland Transportation Costs**

U.S. producers' and importers' U.S. inland transportation costs generally account for \*\*\* percent of the total delivered price of clad steel plate.<sup>2</sup>

#### **Importer Markups**

From January 1993 through March 1996, the unit values of U.S. shipments of the imported subject product were on average \*\*\* percent higher than the unit values of U.S. imports of the subject product.<sup>3</sup>

#### **Commerce Margin of Dumping**

Commerce published its final determination that imports of clad steel plate from Japan are sold at LTFV on May 9, 1996. The weighted-average dumping margin is 118.53 percent for both JSW and all other producers/exporters.

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<sup>1</sup> This estimate is derived from official U.S. import data (under HTS subheading 7210.90.10) and represents the transportation and other charges included in imports valued on a c.i.f. basis.

<sup>2</sup> One importer, \*\*\*, reported that U.S. inland transportation costs account for \*\*\* percent of the total delivered costs of clad steel plate.

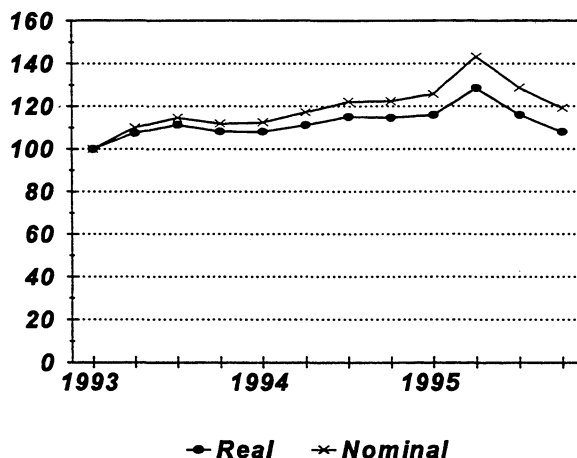
<sup>3</sup> Based on responses to Commission questionnaires.

## Exchange Rates

Indexes of nominal and real exchange rates based on quarterly data from the International Monetary Fund between January 1993 and December 1995 are shown in figure V-1.

Figure V-1

Exchange rates: Indexes of nominal and real exchange rates of the Japanese yen relative to the U.S. dollar, by quarters, Jan. 1993-Dec. 1995 (Jan.-Mar. 1993 = 100)



Source: International Monetary Fund, *International Financial Statistics*, Feb. 1996.

## Tariff Rates

Clad steel plate is provided for in subheading 7210.90.10 of the HTS with a most-favored nation tariff rate of 5.2 percent ad valorem, applicable to imports from Japan.

## PRICING PRACTICES

Closed-bid competition characterizes the market for clad steel plate, and bidding is usually a multi-step process. Typically, the end user (e.g., an oil company or a pulp mill) retains an engineering firm to design a project requiring clad steel plate. The engineering firm then solicits bids from fabricators that will use the clad plate to make the desired product. Each competing fabricator, in turn, solicits bids on clad plate from domestic producers and importers. Competing clad producers and importers then prepare and submit formal written quotations. Quotations vary by proposed prices, delivery dates, and sometimes by the quantities offered. The end user selects a fabricator for the project. Once chosen, the fabricator finalizes the design and asks bidders, which were in the competitive price

range in the initial bids, to present quotations on the final plate sizes, quantities, material specifications, and schedule.<sup>4</sup> The fabricator reviews the quotations and selects the clad supplier for the project.

Suppliers use different methods to formulate quotations. \*\*\*.

All U.S. producers reported that they quote prices on \*\*\* basis, while importers of the Japanese product may quote prices on either an f.o.b. or a delivered basis. Quotes from both Lukens and DuPont are \*\*\*. \*\*\* quote prices on a delivered basis; \*\*\* quotes on an f.o.b. U.S. port of entry, duty-paid basis, and \*\*\* quotes on both an f.o.b. and a delivered basis. Although discounts may be offered for large orders, producers and importers indicated that they do not have a standard discount policy.

## BID DATA

The Commission requested bid data from producers, importers, and purchasers for the period January 1993 through March 1996. The Commission received usable bid data from \*\*\* U.S. producers and \*\*\* importers of Japanese clad steel plate.<sup>5</sup> The Commission also received usable bid information from \*\*\* purchasers. U.S. producers' reported bid data accounted for \*\*\* percent of total U.S. producers' domestic shipments of clad steel plate during January 1993-March 1996. Bid data reported by importers of the subject Japanese product accounted for \*\*\* percent of total U.S. imports of clad steel plate from Japan during January 1993-March 1996.<sup>6</sup> The available bid data are presented below (tables V-1 and V-2, and figure V-2).

Table V-1

Clad steel plate: Unit values and total quantities of major bids won by U.S. producers and importers of Japanese clad steel plate, by quarters, Jan. 1993-Mar. 1996

\* \* \* \* \*

Figure V-2

Clad steel plate: Unit values in dollars per pound of major bids won by U.S. producers and importers of Japanese clad steel plate, by quarters, Jan. 1993-Mar. 1996

\* \* \* \* \*

Table V-2

Clad steel plate: Initial and final bid quantities and values, by customer, supplier, and bid date

\* \* \* \* \*

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<sup>4</sup> \*\*\*.

<sup>5</sup> \*\*\*.

<sup>6</sup> Collecting representative bid data for this industry is difficult for several reasons. First, there are a very large number of bids submitted annually by both producers and importers. For example, Lukens reported that it submits approximately \*\*\* bids annually in response to requests for quotations. Other problems in collecting representative bid data include the closed nature of the bid process (which does not allow suppliers to accurately report competitors' bid prices) and reports by some purchasers that they do not keep records of competing bid information.

### Price Trends<sup>7</sup>

Available bid unit values for U.S.-produced C-276 nickel clad steel plate fluctuated widely during the period, indicating significant differences between the projects (primarily flue gas desulfurization) that use the C-276 nickel clad steel plate. Available bid unit values for all other types of U.S.-produced clad steel plate fluctuated within a much narrower range, falling by \*\*\* percent from a high of \$\*\*\* per pound in the second quarter of 1993 to a low of \$\*\*\* per pound in the second quarter of 1995, then increasing by \*\*\* percent to \$\*\*\* per pound in the first quarter of 1996. Bid unit values for these types of U.S.-produced clad steel plate were \*\*\* percent lower at the end of the period than they were at the beginning.

Importers of Japanese-produced clad steel plate did not report any sales of C-276 nickel clad steel plate during the period of investigation. Available bid unit values for other types of imported Japanese clad steel plate fluctuated downward by \*\*\* percent from \$\*\*\* per pound in the first quarter of 1993 to a low of \$\*\*\* per pound in the first quarter of 1995, then increased by \*\*\* percent to a high of \$\*\*\* per pound in the third quarter of 1995. Bid unit values for imported Japanese clad steel plate were \*\*\* percent higher at the end of the period than at the beginning.

### Price Comparisons

The Commission received competing bid information from three purchasers, \*\*\*. The Commission also received bid information from two purchasers, \*\*\*, that only requested bids from Lukens. Purchaser bid data were supplemented with bid data received from U.S. producers and importers of Japanese clad steel plate.

The Commission received bid data showing 12 instances of bid competition between U.S. producers and importers of Japanese clad steel plate excluding the TIB sale to \*\*\*.<sup>8</sup> In five of these instances involving sales of \*\*\* tons of clad steel plate, the imported Japanese product was priced lower than the domestic product. If the TIB sale to \*\*\* is included, the Japanese product \*\*\*. The importer of the Japanese product won four of these bids which accounted for \*\*\* tons of clad steel plate, \*\*\*. In seven instances involving sales of \*\*\* tons of clad steel plate, the imported Japanese product was priced higher than the domestic product. The domestic producer won all seven of these bids.

Excluding the \*\*\* TIB sale, the Commission received detailed bid information on 50 projects, which led to sales of \*\*\* tons of clad steel plate. In 22 of these instances involving sales of \*\*\* tons of clad steel plate, the low bid won. In two instances accounting for sales of \*\*\* tons of clad steel plate, the low bid did not win. In 26 instances involving sales of \*\*\* tons of clad steel plate, the purchaser only requested bids from one supplier.<sup>9</sup>

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<sup>7</sup> The price of clad steel plate varies depending on the specifications required by the individual purchaser. In addition, specifications for a particular bid can vary widely depending on the type of project. Therefore, the price trend information has limited value, since price changes may simply reflect different specifications, as opposed to changes in the price of a particular specification of clad steel plate.

<sup>8</sup> This is the only TIB sale included in the detailed bid information.

<sup>9</sup> Purchasers qualified their questionnaire responses by stating that either quotations from a single bidder were requested or only data concerning the winning bid was retained in their files. This figure also includes one sale of \*\*\* tons of clad steel plate in which the competing suppliers did not return bids.



## LOST SALES AND LOST REVENUES

Lukens was the only producer to report allegations of lost revenues and lost sales. Lukens claimed two lost sales involving \*\*\* tons of clad steel plate valued at approximately \$\*\*\* and four instances of lost revenues involving \*\*\* tons of clad steel plate valued at \$\*\*\* due to competition from imports from Japan. One of the alleged lost sales was a TIB sale, and the respondent has argued that the Commission should treat this sale as nonsubject imports from Japan. If the Commission excludes the TIB sale, one allegation of a lost sale remains involving \*\*\* tons of clad steel plate valued at approximately \$\*\*\*. During the preliminary investigation, staff investigated all of the allegations.

Lukens reported that it lost a sale of \*\*\* tons of clad steel plate valued at approximately \$\*\*\* to \*\*\* in \*\*\* due to competition from imports from Japan. This was a TIB sale. \*\*\*.

Lukens alleged that it lost revenues of \$\*\*\* on a sale of \*\*\* tons of clad steel plate to \*\*\* in \*\*\* due to competition from imports from Japan. Lukens reported that it was forced to lower its original bid from about \$\*\*\* to \$\*\*\* because of Japanese competition. \*\*\*.

Lukens alleged that it lost revenues of about \$\*\*\* on a sale of \*\*\* tons of clad steel plate to \*\*\* in \*\*\* due to competition from Japanese imports. Lukens alleged that it was forced to lower its original bid from \$\*\*\* to \$\*\*\* as a result of the Japanese competition. \*\*\*.

Lukens alleged that it lost combined revenues of about \$\*\*\* on two sales of clad steel plate to \*\*\* late in \*\*\* and that it also lost a sale of \$\*\*\* to the same company earlier in the year because of competition from Japanese imports. Lukens alleged that it had to lower its bid from \$\*\*\* to \$\*\*\* to make a sale of \*\*\* tons to \*\*\* in \*\*\* and that it had to lower its bid from \$\*\*\* to \$\*\*\* in \*\*\* to make a sale of \*\*\* tons. The lost sale allegation involved a transaction of \*\*\* tons of clad steel plate in \*\*\*. \*\*\*.



## PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS

### INTRODUCTION

Two producers--DuPont and Lukens--accounting for approximately \*\*\* percent of estimated U.S. production of clad steel plate in 1995, supplied financial data on their operations producing clad steel plate. The other U.S. producers did not provide any financial information. Income-and-loss data of DuPont and Lukens<sup>1</sup> are presented combined and separately in this section.

### OPERATIONS ON CLAD STEEL PLATE

The aggregate income-and-loss data of DuPont and Lukens on their clad steel plate operations are presented in table VI-1 and figure VI-1. \*\*\*.

Table VI-1

Income-and-loss experience of U.S. producers on their operations producing clad steel plate, fiscal years 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

Figure VI-1

Clad steel plate: Net sales, cost of goods sold, SG&A expenses, and operating losses, fiscal years 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

### DuPont's Operations On Its Clad Steel Plate

The income-and-loss data of DuPont are presented in table VI-2. \*\*\*.

Table VI-2

Income-and-loss experience of DuPont on its operations producing clad steel plate, fiscal years 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

### Lukens' Operations On Its Clad Steel Plate

The income-and-loss data of Lukens are presented in table VI-3. Lukens stated in its 1994 Annual Report that "the company launched a \$400 million capital investment program in 1993 aimed at

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<sup>1</sup> Lukens' data were verified by the Commission staff and, as a result, very minor changes were made in the data.

Table VI-3

Income-and-loss experience of Lukens on its operations producing clad steel plate, fiscal years 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

lowering cost, increasing capacity, broadening product lines, and enhancing quality and customer service."<sup>2</sup> \*\*\*.

## VARIANCE ANALYSIS

The variance analysis for the aggregate income-and-loss data shown in table VI-1 is presented in table VI-4. \*\*\*.

Table VI-4

Variance of U.S. producers on their operations producing clad steel plate, 1993-95, 1993-94, 1994-95, and Jan.-Mar. 1995-96

\* \* \* \* \*

## INVESTMENT IN PRODUCTIVE FACILITIES, CAPITAL EXPENDITURES, AND RESEARCH AND DEVELOPMENT EXPENSES

The original value and book value of property, plant, and equipment, by firms, are presented in table VI-5, while the capital expenditures and research and development, by firms, are shown in table VI-6.

Table VI-5

Value of assets of U.S. producers of clad steel plate, by firms, fiscal years 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

Table VI-6

Capital expenditures by and research and development expenses of U.S. producers of clad steel plate, by firms, fiscal years 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

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<sup>2</sup> 1994 Annual Report of Lukens, p. 10.

## CAPITAL AND INVESTMENT

U.S. producers were asked if their firms had any major capital expenditures in the last five years that influenced their capacity to produce clad steel plate. \*\*\* Lukens replied as follows: \*\*\*.

The Commission requested U.S. producers to describe any actual or negative effects of imports of clad steel plate from Japan on their firms' return on investment or its growth, investment, ability to raise capital, existing development and production efforts (including efforts to develop a derivative or more advanced version of the product), or the scale of capital investments. Their responses were as follows:

### Actual Negative Effects

Ametek--\*\*\*.

DuPont--\*\*\*.

Lukens--\*\*\*.

### Anticipated Negative Effects

Ametek--\*\*\*.

DuPont--\*\*\*.

Lukens--\*\*\*.



## PART VII: THREAT CONSIDERATIONS

### INFORMATION PRESENTED IN THIS SECTION

The Commission analyzes a number of factors in making threat determinations (see 19 U.S.C. § 1677(7)(F)(I)). Information on the volume and pricing of imports of clad steel plate is presented in parts IV and V and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in part VI. Information on the clad steel plate industry in Japan, including the potential for "product-shifting;" inventories of U.S. imports of clad steel plate from Japan; and any other threat indicators, if applicable, is presented in this section of the report.

On October 6, 1981, Lukens filed an antidumping petition involving stainless steel clad plate from Japan. The petition resulted in an antidumping order<sup>1</sup> that was subsequently revoked.<sup>2</sup> In August 1993, the Commission found that imports of corrosion-resistant clad plate from Japan were not injuring or threatening injury to an industry in the United States.<sup>3</sup>

### THE INDUSTRY IN JAPAN

There are five known producers of clad steel plate in Japan: JSW,<sup>4</sup> NKK,<sup>5</sup> Nippon, Kawasaki, and Sumitomo. JSW is the only Japanese producer of the subject merchandise that is known to export to the United States.<sup>6</sup> JSW's wholly-owned subsidiary company in the United States, JSWA, NY, provides technical and mechanical assistance to U.S. firms.<sup>7</sup> Data on JSW's production and shipments of clad steel plate were provided by counsel in response to the Commission's foreign producer questionnaire and

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<sup>1</sup> 47 F.R. 34178, Aug. 6, 1982.

<sup>2</sup> 50 F.R. 38151, Sept. 30, 1985.

<sup>3</sup> *Certain Flat-Rolled Carbon Steel Products from Argentina, Australia, Austria, Belgium, Brazil, Canada, Finland, France, Germany, Italy, Japan, Korea, Mexico, the Netherlands, New Zealand, Poland, Romania, Spain, Sweden, and the United Kingdom*, Invs. Nos. 701-TA-319-332, 334, 336-342, 344, 347-353, and 731-TA-573-579, 581-592, 594-597, 599-609, and 612-619 (Final), USITC Pub. 2664 (Aug. 1993).

<sup>4</sup> JSW estimates that it accounted for \*\*\* percent of total production of clad steel plate in Japan in 1995; questionnaire response, Apr. 5, 1996.

<sup>5</sup> NKK is planning to increase its production of stainless clad plate to meet growing demand for the product due to rising prices for stainless steel; *Metal Bulletin*, p. 20, June 29, 1995. NKK is not currently exporting stainless steel clad plate but with its added capacity it plans to enter the export market. The Asean countries and India are the main targets for such exports, but Europe and the United States are also being considered; Lukens' prehearing brief, exhibit C. Staff contacted \*\*\*.

<sup>6</sup> As mentioned earlier in the report, the clad steel plate produced and exported to the United States by Kawasaki is not within the scope of the investigation as defined by Commerce. Kawasaki exports clad steel plate in thicknesses less than 4.5mm for use in cookware, coinage, etc.; conference transcript, pp. 81-82 and Lukens' postconference brief, pp. 6-7. \*\*\*.

<sup>7</sup> JSWA is involved more with other JSW products since clad steel plate is a relatively small part of JSW's business; JSW's prehearing brief, p. 52. JSW reported that sales of clad steel plate accounted for \*\*\* percent of its total sales in 1995; questionnaire response, Apr. 5, 1996. In 1994, JSW received inquiries for a total of \*\*\* metric tons but only shipped \*\*\* metric tons; prehearing brief, p. 24, fn. 68.

are presented in table VII-1. JSW reported exporting \*\*\* tons of clad steel plate valued at \$\*\*\* to the United States under TIBs in 1995.<sup>8</sup> The tonnage exported under TIBs is included in the shipments to all other markets in table VII-1. In the preliminary investigation, the Commission also received general information and specific data regarding the industry producing clad steel plate in Japan from the U.S. Embassy in Tokyo. Total production of clad steel plate in Japan, as reported by MITI, was 36,281 tons in 1992, 33,751 tons in 1993, 44,431 tons in 1994, 21,288 tons in January-June 1994, and 22,651 tons in January-June 1995.<sup>9</sup>

Table VII-1

Clad steel plate: JSW's capacity, production, inventories, capacity utilization, and shipments, 1993-95, Jan.-Mar. 1995, Jan.-Mar. 1996, and projected 1996-97

\* \* \* \* \*

JSW produces clad steel plate using a hot-rolling process.<sup>10</sup> Its rolling facilities are used to produce \*\*\*.<sup>11</sup> The surface to be bonded of both the cladding metal and the backing steel are ground and cleaned. They are then nickel-plated to ensure metallurgical bond. Two plates of cladding material are stacked between two plates of backing material (carbon or alloy steel). The sides of the cladding metal, which are placed together, are coated with a parting compound so they can be separated after bonding. The four pieces of metal with the cladding material in the middle and the backing material on the outside are matched together to form an assembly or pack. They are then welded along the edges to protect the cladding material from contamination during heating before rolling. The assembly is then heated to the proper temperature and mill-rolled to the required thickness. The process metallurgically bonds the backing and cladding material. The assembly is then heat-treated and separated into two clad plates to be cut into the appropriate dimension.<sup>12</sup>

JSW reported that its mill runs \*\*\* per year. In 1995, JSW operated the assembly line at \*\*\*, and expects to operate the assembly line at \*\*\* in 1996.<sup>13</sup> JSW's production of clad steel plate \*\*\*.<sup>14</sup> \*\*\*

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<sup>8</sup> As noted earlier in the report, JSW did not \*\*\*. In its importer questionnaire, \*\*\*.

<sup>9</sup> Additional information was not requested in this final investigation since JSW is the only exporter of clad steel plate to the United States and data were requested and supplied by counsel for JSW.

<sup>10</sup> JSW does not use continuous casting to produce the backing or cladding. JSW \*\*\* and produces the backing material by rolling ingots.

<sup>11</sup> JSW's posthearing brief, p. 6.

<sup>12</sup> *Stainless Clad Steel Plate from Japan*, Inv. No. 731-TA-50 (Final), USITC Pub. 1270 (June 1982) and JSW Clad Steel specification brochure. JSW's production process is basically unchanged since 1980.

<sup>13</sup> JSW's posthearing brief, p. 6.

<sup>14</sup> This includes plates clad with stainless steel, nickel and nickel alloys, and copper and copper alloys.



of its production is for use in the home market and the rest is exported to numerous markets, such as  
\*\*\* 15 \*\*\* 16

### **U.S. IMPORTERS' INVENTORIES**

U.S. importers of Japanese clad steel plate do not generally hold inventories because the subject product is produced to specification for particular projects.

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<sup>15</sup> JSW testified at the hearing that it produces a type of clad plate that is the only one in the world qualified for nuclear containment vessels. JSW has sold small quantities of this type of clad plate for nuclear containment vessels in the United States but not during Jan. 1993-Mar. 1996; hearing transcript, p. 109, and answers to staff questions, p. 9. Petitioner argues that it has produced clad plate for nuclear containment vessels in the past but that after the Three Mile Island disaster, the U.S. nuclear industry collapsed and only a small amount of clad plate is currently consumed in the U.S. market today; posthearing brief, responses to staff questions, p. 8.

<sup>16</sup> Increased demand will arise from \*\*\*.



**APPENDIX A**

***FEDERAL REGISTER* NOTICES**



# **INTERNATIONAL TRADE COMMISSION**

[Investigation No. 731-TA-739 (Final)]

## **Clad Steel Plate From Japan**

**AGENCY:** United States International Trade Commission.

**ACTION:** Institution and scheduling of a final antidumping investigation.

**SUMMARY:** The Commission hereby gives notice of the institution of final antidumping investigation No. 731-TA-739 (Final) under section 735(b) of the Tariff Act of 1930 (19 U.S.C. 1673d(b)) (the Act) to determine whether an industry in the United States is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of less-than-fair-value imports from Japan of

clad steel plate, provided for in subheading 7210.90.10 of the Harmonized Tariff Schedule of the United States.

For further information concerning the conduct of this investigation, hearing procedures, and rules of general application, consult 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).

**EFFECTIVE DATE:** February 27, 1996.

**FOR FURTHER INFORMATION CONTACT:** Valerie Newkirk (202-205-3190), 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> or <ftp://ftp.usitc.gov>).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

This investigation is being instituted as a result of an affirmative preliminary determination by the Department of Commerce that imports of clad steel plate from Japan are being sold in the United States at less than fair value within the meaning of section 733 of the Act (19 U.S.C. 1673b). The investigation was requested in a petition filed on September 29, 1995, by Lukens Steel Company, Coatesville, PA.

#### **Participation in the Investigation and Public Service List**

Persons wishing to participate in the investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in section 201.11 of the Commission's rules, not later than 21 days after publication of this notice in the Federal Register. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to this investigation upon the expiration of the period for filing entries of appearance.

#### **Limited Disclosure of Business Proprietary Information (BPI) Under an Administrative Protective Order (APO) and BPI Service List**

Pursuant to section 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in this final

investigation available to authorized applicants under the APO issued in the investigation, provided that the application is made not later than 21 days after the publication of this notice in the Federal Register. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

#### Staff Report

The prehearing staff report in this investigation will be placed in the nonpublic record on April 24, 1996, and a public version will be issued thereafter, pursuant to section 207.21 of the Commission's rules.

#### Hearing

The Commission will hold a hearing in connection with this investigation beginning at 9:30 a.m. on May 7, 1996, at the U.S. International Trade Commission Building. Requests to appear at the hearing should be filed in writing with the Secretary to the Commission on or before April 30, 1996. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the hearing. All parties and nonparties desiring to appear at the hearing and make oral presentations should attend a prehearing conference to be held at 9:30 a.m. on May 2, 1996, at the U.S. International Trade Commission Building. Oral testimony and written materials to be submitted at the public hearing are governed by sections 201.6(b)(2), 201.13(f), and 207.23(b) of the Commission's rules. Parties are strongly encouraged to submit as early in the investigation as possible any requests to present a portion of their hearing testimony *in camera*.

#### Written Submissions

Each party is encouraged to submit a prehearing brief to the Commission. Prehearing briefs must conform with the provisions of section 207.22 of the Commission's rules: the deadline for filing is May 1, 1996. Parties may also file written testimony in connection with their presentation at the hearing, as provided in section 207.23(b) of the Commission's rules, and posthearing briefs, which must conform with the provisions of section 207.24 of the Commission's rules. The deadline for filing posthearing briefs is May 13, 1996; witness testimony must be filed no later than three days before the hearing. In addition, any person who has not entered an appearance as a party to the investigation may submit a written statement of information pertinent to the subject of the

investigation on or before May 13, 1996. On June 10, 1996, the Commission will make available to parties all information on which they have not had an opportunity to comment. Parties may submit final comments on this information on or before June 13, 1996, but such final comments must not contain new factual information, or comment on information disclosed prior to the filing of posthearing briefs, and must otherwise comply with section 207.29 of the Commission's rules. All written submissions must conform with the provisions of section 201.8 of the Commission's rules; any submissions that contain BPI must also conform with the requirements of sections 201.6, 207.3, and 207.7 of the Commission's rules.

In accordance with sections 201.16(c) and 207.3 of the Commission's rules, each document filed by a party to the investigation must be served on all other parties to the investigation (as identified by either the public or BPI service list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

**Authority:** This investigation is being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.20 of the Commission's rules.

**Issued:** March 7, 1996.

**By order of the Commission.**

Donna R. Koehnke,

Secretary.

[FR Doc. 96-5998 Filed 3-12-96; 8:45 am]

BILLING CODE 7020-02-P

**International Trade Administration**  
**[A-888-838]**

**Notice of Final Determination of Sales at Less Than Fair Value: Clad Steel Plate From Japan**

**AGENCY:** Import Administration, International Trade Administration, Department of Commerce.

**EFFECTIVE DATE:** May 9, 1996.

**FOR FURTHER INFORMATION CONTACT:** Ellen Grebasch, Dorothy Tomaszewski, or Erik Warga, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, N.W., Room 3099, Washington, D.C. 20230; telephone: (202) 482-3773, (202) 482-0631, or (202) 482-0922, respectively.

**THE APPLICABLE STATUTE:** Unless otherwise indicated, all citations to the statute are references to the provisions effective January 1, 1995, the effective date of the amendments made to the Tariff Act of 1930 (the Act) by the Uruguay Round Agreements Act (URAA).

**FINAL DETERMINATION:** As explained in the memoranda from the Assistant Secretary for Import Administration dated November 22, 1995, and January 11, 1996, the Department of Commerce (the Department) has exercised its discretion to toll all deadlines for the duration of the partial shutdowns of the Federal Government from November 15 through November 21, 1995, and December 16, 1995, through January 6, 1996. Thus, all deadlines in this investigation have been extended by 28 days, i.e., one day for each day (or partial day) the Department was closed. As such, the deadline for this final determination is no later than May 2, 1996.

We determine that clad steel plate from Japan is being sold in the United States at less than fair value (LTFV), as

provided in section 735 of the Tariff Act of 1930, as amended (the Act). The estimated margins are shown in the "Suspension of Liquidation" section of this notice.

**Case History**

There has been no activity regarding this case, since the February 22, 1996, preliminary determination. See *Notice of Preliminary Determination of Sales at Less Than Fair Value: Clad Steel Plate from Japan* February 22, 1996, (61 FR 7469, February 28, 1996).

**Scope of the Investigation**

The scope of this investigation is all clad<sup>1</sup> steel plate of a width of 600 millimeters ("mm") or more and a composite thickness of 4.5 mm or more. Clad steel plate is a rectangular finished steel mill product consisting of a layer of cladding material (usually stainless steel or nickel) which is metallurgically bonded to a base or backing of ferrous metal (usually carbon or low alloy steel) where the latter predominates by weight.

Stainless clad steel plate is manufactured to American Society for Testing and Materials ("ASTM") specifications A263 (400 series stainless types) and A264 (300 series stainless types). Nickel and nickel-base alloy clad steel plate is manufactured to ASTM specification A265. These specifications are illustrative but not necessarily all-inclusive. Clad steel plate within the scope of this investigation is classifiable under the Harmonized Tariff Schedule of the United States ("HTSUS") 7210.90.10.00. Although the HTSUS subheading is provided for convenience and customs purposes, our written description of the scope of this investigation is dispositive.

**Period of Investigation**

The period of investigation (POI) is September 1, 1994, through August 31, 1995.

<sup>1</sup> Cladding is the association of layers of metals of different colors or natures by molecular interpenetration of the surfaces in contact. This limited diffusion is characteristic of clad products and differentiates them from products metallized in other manners (e.g., by normal electroplating). The various cladding processes include pouring molten cladding metal onto the basic metal followed by rolling; simple hot-rolling of the cladding metal to ensure efficient welding to the basic metal; any other method of deposition or superimposing of the cladding metal followed by any mechanical or thermal process to ensure welding (e.g., electro-cladding), in which the cladding metal (nickel, chromium, etc.) is applied to the basic metal by electroplating; molecular interpenetration of the surfaces in contact then being obtained by heat treatment at the appropriate temperature with subsequent cold-rolling. See Harmonized Commodity Description and Coding System Explanatory Notes, Chapter 72, General Note (IV) (C)(2)(e).

**Facts Available**

For reasons discussed in the preliminary determination, the Department, pursuant to section 776 of the Act, has used the facts available. For a discussion of the reasons for application of the facts available, and the selection of the petition margin as the facts available, see the preliminary determination.

The Department has not received any comments since the preliminary determination on its application of facts available. In accordance with section 776(c) of the Act, the Department attempted to corroborate the petition information by comparing the petition information on export price to U.S. Customs data and Japanese export statistics. Both of these sources record prices based on the HTSUS subheading 7210.90.10.00, and support the prices contained in the petition. (See memorandum dated February 16, 1996.)

Because Lukens Steel Company (the petitioner) based the normal value calculation on constructed value in the petition, we were able to examine the supporting documentation regarding the valuation of variable costs for labor, electricity, natural gas, and other factors (principally backing steel and insert metal costs) in Japan and because that supporting information was from independent, public sources, we found that those costs have probative value.

**Fair Value Comparisons**

As noted above, as in our preliminary determination, this final determination has been made using the margin in the petition as the facts available.

**All-Others Rate**

Under section 735(c)(5) of the Act, the "all-others rate" will normally be a weighted average of the weighted-average dumping margins established for all exporters and producers, but will exclude any zero or *de minimis* margins, or any margins based entirely on the facts available. However, this provision also states that if there are no margins other than those that are zero, *de minimis*, or based entirely on the facts available, the Department may use other reasonable methods to calculate the all-others rate, including a weighted-average of such margins. In this case, the only margin on the record is the facts available margin of 118.53 percent that the Department assigned to JSW. Therefore, the Department determines the all-others rate to be 118.53 percent as well.

#### Continuation of Suspension of Liquidation

In accordance with section 735(c) of the Act, we are directing the Customs Service to continue to suspend liquidation of all entries of Clad Plate Steel from Japan that are entered, or withdrawn from warehouse for consumption, on or after the date of publication of this notice in the Federal Register. The Customs Service shall require a cash deposit or posting of a bond equal to the estimated amount by which the normal value exceeds the export price as shown below. The suspension of liquidation instructions will remain in effect until further notice.

The dumping margins are as follows:

Exporter/Manufacturer	Margin Percent- age
The Japan Steel Company .....	118.53
All Others .....	118.53

The all others rate applies to all entries of subject merchandise.

#### ITC Notification

In accordance with section 735(d) of the Act, we have notified the ITC of our determination. As our final determination is affirmative, the ITC will within 45 days determine whether these imports are materially injuring, or threaten material injury to, the U.S. industry. If the ITC determines that such injury does exist, the Department will issue an antidumping duty order directing Customs officials to assess antidumping duties on all imports of the subject merchandise entered, or withdrawn from warehouse, for consumption on or after the effective date of the suspension of liquidation.

This determination is published pursuant to section 735(d) of the Act and 19 CFR 353.20(a)(4).

Paul L. Joffe

*Acting Assistant Secretary for Import Administration.*

Dated: May 2, 1996.

[FR Doc. 96-11629 Filed 5-08-96; 8:45 am]

BILLING CODE 3510-06-P



**APPENDIX B**  
**PARTICIPANTS AT THE HEARING**



**CALENDAR OF PUBLIC HEARING**

**Those listed appeared as witnesses at the United States International Trade Commission hearing:**

**Subject: CLAD STEEL PLATE FROM JAPAN**

**Inv. 731-TA-739 (Final)**

**Date and Time: May 7, 1996 - 9:30 a.m.**

**Sessions were held in connection with the investigation in the Main hearing room 101, 500 E Street, S.W. , Washington, D.C.**

**OPENING REMARKS**

**Petitioners (Roger M. Golden, Fenwick and West)  
Respondents ( Kenneth G. Weigel, Kirkland & Ellis)**

**In Support of Imposition of  
Antidumping Duties:**

**Fenwick and West, LLP  
Washington, D.C.  
on behalf of**

**Lukens Steel Company's (" Lukens ")**

**William D. Sprague, Vice President and General Counsel**

**Steven R. Lacy, Assistant General Counsel**

**Charles M. Mattia, Vice President of Sales**

**Michael D. Markward, Carbon and Alloy Plate Products  
Manager**

**-MORE-**

**In Support of Imposition of  
Antidumping Duties cont'd:**

**John J. Connolly, Manufacturing Analysis Manager**

**Thomas L. Rogers, Economist, Capital Trade, Inc.**

**Roger M. Golden     )**  
**)--OF COUNSEL**  
**Phyllis E. Andes     )**

**In Opposition to the Imposition  
of Antidumping Duties:**

**Kirkland and Ellis  
Washington, D.C.  
on behalf of**

**The Japan Steel Works, Ltd.  
Japan Steel Works America, Inc.**

**Nadra Maakaroon, Manager, Itochu Pipe and Tube, Inc.**

**Kenneth G. Weigel    )**  
**Nancy Kao            )--OF COUNSEL**  
**Michael Becker       )**

**-END-**

**APPENDIX C**

**SUMMARY TABLE AND UNADJUSTED  
OFFICIAL IMPORT STATISTICS**



## Table C-1

Clad steel plate: Summary data concerning the U.S. market, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

\* \* \* \* \*

Table C-2

Clad steel plate:<sup>1</sup> U.S. imports, by sources, 1993-95, Jan.-Mar. 1995, and Jan.-Mar. 1996

Item	1993	1994	1995	Jan.-Mar.--	
				1995	1996
Quantity (tons)					
Japan .....	105	975	1,567	162	18
Other sources .....	661	236	99	27	92
Total .....	765	1,211	1,666	189	110
Value (1,000 dollars)					
Japan .....	298	2,143	3,904	526	67
Other sources .....	4,620	883	317	66	277
Total .....	4,918	3,026	4,221	591	344
Unit value (per ton)					
Japan .....	\$2,854	\$2,197	\$2,491	\$3,248	\$3,784
Other sources .....	6,991	3,742	3,207	2,446	3,002
Average .....	6,425	2,499	2,533	3,134	3,128
Share of total quantity (percent)					
Japan .....	13.7	80.5	94.1	85.8	16.1
Other sources .....	86.3	19.5	5.9	14.2	83.9
Total .....	100.0	100.0	100.0	100.0	100.0
Share of total value (percent)					
Japan .....	6.1	70.8	92.5	88.9	19.5
Other sources .....	93.9	29.2	7.5	11.1	80.5
Total .....	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> Including TIB imports except as noted in the report and products less than 600mm in width and/or 4.5mm in thickness.

Note.--Because of rounding, figures may not add to the totals shown. Unit values and shares are calculated from the unrounded figures.

Source: Compiled from official statistics of the U.S. Department of Commerce.



**APPENDIX D**  
**COMPAS PRESENTATION**



## APPENDIX D: COMPAS PRESENTATION

### ASSUMPTIONS

The COMPAS model is a supply and demand model that assumes that domestic and imported products are less than perfect substitutes. Such models, also known as Armington models, are standard in applied trade policy analysis and are used extensively to analyze trade policy changes both in partial and general equilibrium. Based on the discussion contained in part II of this report, the staff selects a range of estimates that represent price-supply, price-demand, and product substitution relationships (i.e., elasticities of supply, demand, and substitution) in the U.S. market for clad steel plate. The model uses these estimates with data on market shares and Commerce's margin of dumping to analyze the likely effect on the U.S. like product industry of removing the subject Japanese imports.

The small value share of the domestic market held by the subject imports and the relatively large margins estimated by Commerce led to the use of a constant-elasticity-of-substitution version of this model. This version facilitated analysis of the effects of eliminating the subject imports.

### FINDINGS<sup>1</sup>

Inputs into the model included the domestic market value share of \*\*\* percent, the subject import share of \*\*\* percent, and the nonsubject import share of \*\*\* percent and the elasticities discussed in part II of this report. The model examines different scenarios that correspond to different combinations of the ranges of the elasticity estimates. If the subject imports were eliminated, the domestic market share would have increased to \*\*\* percent of the U.S. market in each scenario, and the nonsubject import market share would have remained at \*\*\* percent on a revenue basis. Except for the subject imports, domestic price of clad steel plate would have been from \*\*\* to \*\*\* percent higher, domestic output from \*\*\* to \*\*\* percent higher, and domestic revenue from \*\*\* to \*\*\* percent higher.

Detailed output from the model is shown in table D-1.

Table D-1

The effects of removing subject Japanese imports

\* \* \* \* \*

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<sup>1</sup> Estimates are based on 1995 data.

