

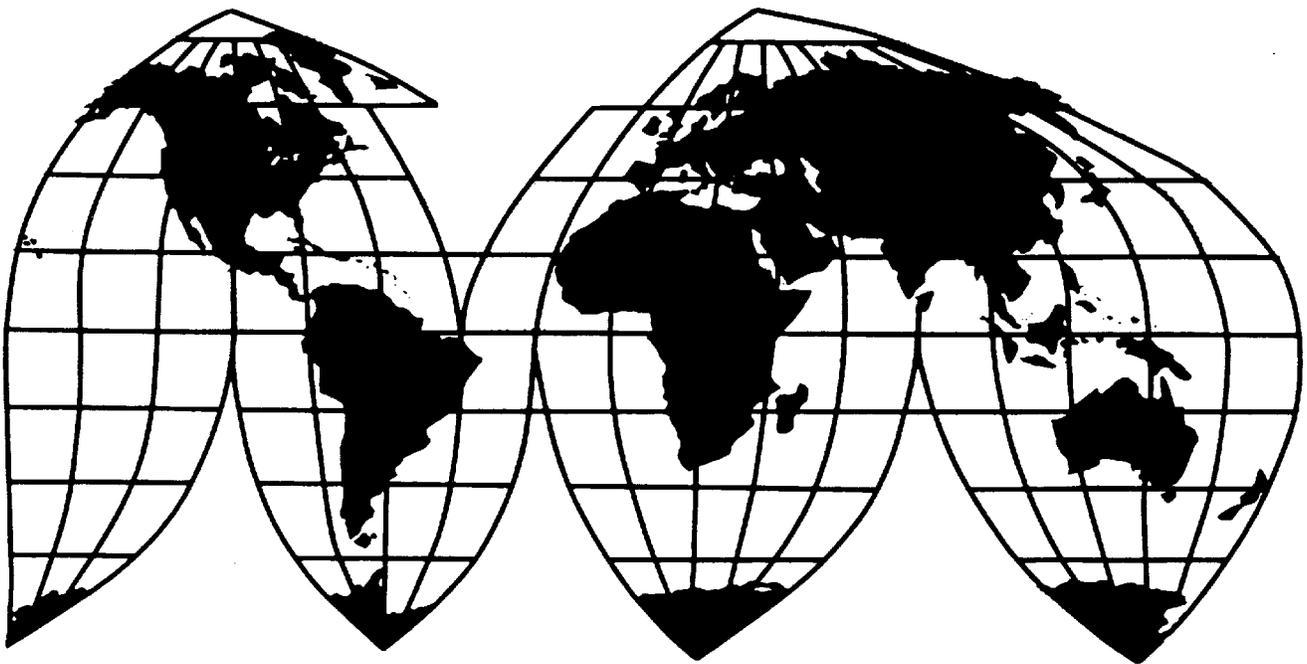
# Silicon Metal From Brazil and China

Investigation Nos. 731-TA-471 and 472 (Second Review)

Publication 3892

December 2006

**U.S. International Trade Commission**



Washington, DC 20436

# U.S. International Trade Commission

## COMMISSIONERS

**Daniel R. Pearson, Chairman**  
**Shara L. Aranoff, Vice Chairman**  
**Jennifer A. Hillman**  
**Stephen Koplan**  
**Deanna Tanner Okun**  
**Charlotte R. Lane**

---

Robert A. Rogowsky  
*Director of Operations*

---

## Staff assigned

Karen Taylor, *Investigator*  
Jack Greenblatt, *Industry Analyst*  
Amelia Preece, *Economist*  
Charles Yost, *Accountant*  
Rhonda Hughes, *Attorney*  
Lita David-Harris, *Statistician*

George Deyman, *Supervisory Investigator*

**Address all communications to  
Secretary to the Commission  
United States International Trade Commission  
Washington, DC 20436**

# U.S. International Trade Commission

Washington, DC 20436

*www.usitc.gov*

## Silicon Metal From Brazil and China

Investigation Nos. 731-TA-471 and 472 (Second Review)



**Publication 3892**

**December 2006**



## CONTENTS

	<i>Page</i>
Determinations .....	1
Views of the Commission .....	3
Part I: Introduction and overview .....	I-1
Background .....	I-1
The original investigations .....	I-1
Statutory criteria and organization of the report .....	I-5
Commerce's results of expedited reviews .....	I-7
Commerce's administrative and new shipper reviews .....	I-8
Distribution of Continued Dumping and Subsidy Offset Act funds .....	I-10
The subject product .....	I-11
Physical characteristics and uses .....	I-11
Manufacturing process .....	I-14
Channels of distribution, customer and producer perceptions, and interchangeability .....	I-16
Price .....	I-16
Domestic like product issues .....	I-17
U.S. market participants .....	I-17
U.S. producers .....	I-17
U.S. importers .....	I-19
U.S. purchasers .....	I-20
Apparent U.S. consumption and market shares .....	I-20
Part II: Conditions of competition in the U.S. market .....	II-1
Market segments and product specifications .....	II-1
Channels of distribution .....	II-2
Market structure .....	II-2
Participants .....	II-2
Product .....	II-3
U.S. market leadership .....	II-3
Supply and demand considerations .....	II-3
U.S. supply .....	II-3
U.S. demand .....	II-7
Substitute products .....	II-7
Trends in U.S. supply and demand .....	II-8
Substitutability issues .....	II-10
Factors affecting purchasing decisions .....	II-10
Comparisons of domestic product and imports from Brazil .....	II-14
Comparisons of domestic product and imports from China .....	II-17
Comparisons of domestic product and nonsubject imports .....	II-17
Comparisons of imports from Brazil with imports from China .....	II-18
Comparisons of imports from subject countries with nonsubject imports .....	II-18
Elasticity estimates for silicon metal .....	II-18
U.S. supply elasticity .....	II-18
U.S. demand elasticity .....	II-19
Substitution elasticity .....	II-19
Elasticity of foreign supply .....	II-19

## CONTENTS

	<i>Page</i>
Part III: Condition of the U.S. industry .....	III-1
U.S. producers' capacity, production, and capacity utilization .....	III-1
U.S. producers' domestic shipments, company transfers, and export shipments .....	III-1
U.S. producers' inventories .....	III-2
U.S. producers' purchases .....	III-2
U.S. producers' employment, wages, and productivity .....	III-2
Financial experience of U.S. producers .....	III-3
Background .....	III-3
Operations on silicon metal .....	III-3
Variance analysis .....	III-5
Assets and return on investment .....	III-6
Capital expenditures and research and development expenses .....	III-6
Part IV: U.S. imports and the foreign industry .....	IV-1
U.S. imports .....	IV-1
Cumulation considerations .....	IV-2
U.S. importers' inventories .....	IV-3
Subject imports subsequent to December 31, 2005 .....	IV-3
The industry in Brazil .....	IV-3
The industry in China .....	IV-9
Antidumping duty orders in third-country markets .....	IV-10
The world market .....	IV-10
Production .....	IV-10
Consumption .....	IV-10
Part V: Pricing and related information .....	V-1
Factors affecting prices .....	V-1
Transportation costs to the U.S. market .....	V-1
U.S. inland transportation costs .....	V-1
Exchange rates .....	V-1
Pricing practices .....	V-3
Pricing methods .....	V-3
Sales terms and discounts .....	V-5
Price data .....	V-5

### Appendixes

A. <i>Federal Register</i> notices and the Commission's statement on adequacy .....	A-1
B. List of witnesses at the Commission's hearing .....	B-1
C. Summary table .....	C-1
D. Responses of U.S. producers, importers, foreign producers, and purchasers concerning the significance of the antidumping duty orders and the likely effects of revocation .....	D-1

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.

# UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 731-TA-471 and 472 (Second Review)

## SILICON METAL FROM BRAZIL AND CHINA

### DETERMINATIONS

On the basis of the record<sup>1</sup> developed in the subject five-year reviews, the United States International Trade Commission (Commission) determines, pursuant to section 751(c) of the Tariff Act of 1930 (19 U.S.C. § 1675(c)) (the Act), that revocation of the antidumping duty order on silicon metal from Brazil would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time. The Commission also determined that revocation of the antidumping duty order on silicon metal from China would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

### BACKGROUND

The Commission instituted these reviews on January 3, 2006 (71 F.R.138) and determined on April 10, 2006 that it would conduct full reviews (71 F.R. 23947, April 25, 2006). Notice of the scheduling of the Commission's reviews and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* on July 17, 2006 (71 F.R. 40543). The hearing was held in Washington, DC, on September 19, 2006, and all persons who requested the opportunity were permitted to appear in person or by counsel.

---

<sup>1</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 these five-year reviews, we determine<sup>1</sup> under section 751(c) of the Tariff Act of 1930, as amended (“the Act”), that revocation of the antidumping duty order covering silicon metal from Brazil would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time. We also determine that revocation of the antidumping duty order covering silicon metal from China would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

### I. BACKGROUND

On July 24, 1991, the Commission determined that an industry in the United States was being materially injured by reason of less than fair value (“LTFV”) imports of silicon metal from Brazil.<sup>2</sup> On July 31, 1991, the Department of Commerce (“Commerce”) issued an antidumping duty order on subject imports of silicon metal from Brazil.<sup>3</sup>

On June 3, 1991, the Commission determined that an industry in the United States was being materially injured by reason of LTFV imports of silicon metal from China.<sup>4</sup> On June 10, 1991, Commerce issued an antidumping duty order on subject imports of silicon metal from China.<sup>5 6</sup>

In January 2001, the Commission issued its determinations in the first five-year reviews. The Commission determined that revocation of the antidumping duty orders on subject imports of silicon metal from Brazil and China would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.<sup>7</sup> On February 16, 2001, Commerce published a notice of continuation of the antidumping duty orders on silicon metal from Brazil and China.<sup>8</sup>

Effective July 1, 2001, Commerce revoked the antidumping duty order with respect to Brazilian producer Rima Industrial SA (“RIMA”).<sup>9</sup> The antidumping duty order was also revoked effective July 1, 2002, with respect to Brazilian producer Companhia Brasileira Carbureto De Calcio (“CBCC”).<sup>10</sup>

On January 3, 2006, the Commission instituted these five-year reviews, pursuant to section 751(c) of the Act, to determine whether revocation of the antidumping duty orders on silicon metal from

---

<sup>1</sup> Commissioner Okun did not participate in these reviews.

<sup>2</sup> Silicon Metal from Brazil, Inv. No. 731-TA-471 (Final), USITC Pub. 2404 (July 1991) (“Original Brazil Determination”).

<sup>3</sup> 56 Fed. Reg. 36,135 (July 31, 1991).

<sup>4</sup> Silicon Metal from the People’s Republic of China, Inv. No. 731-TA-472 (Final), USITC Pub. 2385 (June 1991) (“Original China Determination”).

<sup>5</sup> 56 Fed. Reg. 26,649 (June 10, 1991).

<sup>6</sup> The Commission also made an affirmative final injury determination with respect to Argentina on September 19, 1991, and Commerce issued an antidumping duty order on September 26, 1991. During the first five-year reviews, the Commission determined that revocation of the antidumping duty order on silicon metal from Argentina would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time. Silicon Metal from Argentina, Brazil and China, Inv. Nos. 731-TA-470-472 (Review), USITC Pub. 3385 (Jan. 2001).

<sup>7</sup> Silicon Metal from Argentina, Brazil and China, Inv. Nos. 731-TA-470-472 (Review), USITC Pub. 3385 (Jan. 2001).

<sup>8</sup> 66 Fed. Reg. 10,669 (Feb. 16, 2001).

<sup>9</sup> 67 Fed. Reg. 77,225, 77,226 (Dec. 17, 2002).

<sup>10</sup> 68 Fed. Reg. 57,670 (Oct. 6, 2003).

Brazil and China would likely lead to continuation or recurrence of material injury.<sup>11</sup> Domestic producer Globe Metallurgical Inc. (“Globe”) filed an adequate response to the notice of institution, as did Brazilian respondents Associação Brasileira dos Produtores de Ferroligas e de Silício Metálico (“ABRAFE”), Ligas de Alumínio S.A. (“LIASA”), Companhia Ferroligas Minas Gerais - Minasligas (“Minasligas”), and Camargo Corrêa Metais S.A. (“CCM”). On April 10, 2006, the Commission found that the domestic interested party group response and the Brazilian respondent interested party group response were both adequate and determined to conduct a full review with regard to the order on silicon metal imports from Brazil. Because no responses were received from any respondent interested party regarding the antidumping duty order on silicon metal imports from China, the Commission determined that the respondent interested party group response to the notice of institution with respect to the antidumping duty order on silicon imports from China was inadequate. However, the Commission determined to conduct a full review of the order on subject imports from China in order to promote administrative efficiency in light of its decision to conduct a full review with respect to the order on subject imports from Brazil.<sup>12</sup>

In these reviews, Globe filed prehearing and posthearing briefs, as well as final comments, and participated in the hearing on behalf of the domestic industry. LIASA, Minasligas and CCM filed prehearing and posthearing briefs, as well as final comments, and participated in the hearing on behalf of the Brazilian industry. ABRAFE also appeared at the hearing on behalf of the Brazilian industry. No party filed briefs or appeared on behalf of the Chinese silicon metal industry.

## **II. DOMESTIC LIKE PRODUCT AND INDUSTRY**

### **A. Domestic Like Product**

In making its determination under section 751(c), the Commission defines the “domestic like product” and the “industry.”<sup>13</sup> The Act defines “domestic like product” as “a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation under this subtitle.”<sup>14</sup>

In these five-year reviews, Commerce has defined the scope of the antidumping duty orders on silicon metal as:

silicon metal containing at least 96.00 percent but less than 99.99 percent silicon by weight. Also covered by this antidumping order is silicon metal containing between 89.00 and 96.00 percent silicon by weight but which contains more aluminum than the silicon metal containing at least 96.00 percent but less than 99.99 percent silicon by weight. Silicon metal is currently provided for under subheadings 2804.69.10 and 2804.69.50 of the Harmonized Tariff Schedule of the

---

<sup>11</sup> 71 Fed. Reg. 138 (Jan. 3, 2006).

<sup>12</sup> See Explanation of Commission Determination on Adequacy in Silicon Metal from Brazil and China, reprinted in Confidential Staff Report (“CR”) and Public Staff Report (“PR”), Appendix A. All citations to the staff report in these views refer to memorandum INV-DD-146 (Oct. 25, 2006), as revised by memorandum INV-DD-156 (Nov. 13, 2006). We note that certain minor data errors were discovered with respect to Table IV-2 of the staff report after we reached our determinations in these investigations. Had these errors been discovered earlier, they would not have affected our determinations. The source of these corrected data, when noted in these views, is designated as Table IV-2 (revised).

<sup>13</sup> 19 U.S.C. § 1677(4)(A).

<sup>14</sup> 19 U.S.C. § 1677(10). See Nippon Steel Corp. v. United States, 19 CIT 450, 455 (1995); Timken Co. v. United States, 913 F. Supp. 580, 584 (Ct. Int’l Trade 1996); Torrington Co. v. United States, 747 F. Supp. 744, 748-49 (Ct. Int’l Trade 1990), *aff’d*, 938 F.2d 1278 (Fed. Cir. 1991). See also S. Rep. No. 96-249 at 90-91 (1979).

United States (HTSUS) as a chemical product, but is commonly referred to as a metal. Semiconductor grade silicon (silicon metal containing by weight not less than 99.99 percent silicon and provided for in subheading 2804.61.00 of the HTSUS) is not subject to the order.<sup>15</sup>

In its original determinations, the Commission found the appropriate like product to be “all silicon metal, regardless of grade, having a silicon content of at least 96.00 percent but less than 99.99 percent of silicon by weight, and excluding semiconductor grade silicon.”<sup>16</sup> In the first five-year review determinations, the Commission defined the domestic like product as all silicon metal, regardless of grade, corresponding to the current scope of the orders.<sup>17</sup> No party has objected to the Commission’s definition of the domestic like product in these second reviews.<sup>18</sup>

The record in these reviews contains no information that would warrant a reconsideration of the domestic like product definition. We therefore define the domestic like product in these reviews to be all silicon metal, regardless of grade, corresponding to the current scope of the orders.

## **B. Domestic Industry**

### **1. In General**

Section 771(4)(A) of the Act defines the relevant industry as the “domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product.”<sup>19</sup>

In the original investigations, the Commission found one domestic industry, consistent with its domestic like product finding. This industry comprised all domestic producers of silicon metal.<sup>20</sup> In the first five-year review determinations, the Commission made the same finding.<sup>21</sup>

As with the definition of the domestic like product, the parties do not argue for a different definition of the domestic industry,<sup>22</sup> nor is there any information on the record that would warrant a different definition. Accordingly, we define the domestic industry to be all domestic producers of silicon metal.

---

<sup>15</sup> 71 Fed. Reg. 26,334, 26,335 (May 4, 2006).

<sup>16</sup> Original China Determination at 10; Original Brazil Determination at 9.

<sup>17</sup> USITC Pub. 3385 at 5. In 1993, in response to a request by domestic interested parties for clarification of the scope of the antidumping duty order concerning subject imports from China, Commerce determined that silicon metal containing between 89.00 percent and 99.00 percent silicon by weight, but which contains a higher aluminum content than the silicon metal containing at least 96.00 percent but less than 99.99 percent silicon by weight, is the same class or kind of merchandise as the silicon metal described in the original order concerning subject imports from China. 58 Fed. Reg. 27,542 (May 10, 1993).

<sup>18</sup> Globe’s Prehearing Brief at 6; Globe’s Response to Notice of Institution at 37; Brazilian Respondents’ Response to Notice of Institution at 8.

<sup>19</sup> 19 U.S.C. § 1677(4)(A).

<sup>20</sup> USITC Pub. 2385 at 10-12, USITC Pub. 2404 at 9.

<sup>21</sup> USITC Pub. 3385 at 6.

<sup>22</sup> Globe’s Prehearing Brief at 6; Brazilian Respondents’ Response to Notice of Institution at 8.

### III. CUMULATION

#### A. Framework

Section 752(a) of the Act provides that:

the Commission may cumulatively assess the volume and effect of imports of the subject merchandise from all countries with respect to which reviews under section 1675(b) or (c) of this title were initiated on the same day, if such imports would be likely to compete with each other and with domestic like products in the United States market. The Commission shall not cumulatively assess the volume and effects of imports of the subject merchandise in a case in which it determines that such imports are likely to have no discernible adverse impact on the domestic industry.<sup>23</sup>

Thus, cumulation is discretionary in five-year reviews. However, the Commission may exercise its discretion to cumulate only if the reviews are initiated on the same day and the Commission determines that the subject imports are likely to compete with each other and the domestic like product in the U.S. market. Also, the statute precludes cumulation if the Commission finds that subject imports from a country are likely to have no discernible adverse impact on the domestic industry.<sup>24</sup> We note that neither the statute nor the Uruguay Round Agreements Act Statement of Administrative Action (“SAA”) provides specific guidance on what factors the Commission is to consider in determining that imports “are likely to have no discernible adverse impact” on the domestic industry.<sup>25</sup> With respect to this provision, the Commission generally considers the likely volume of the subject imports and the likely impact of those imports on the domestic industry within a reasonably foreseeable time if the orders are revoked.<sup>26</sup>

In these reviews, the statutory requirement for cumulation that all reviews be initiated on the same day is satisfied, as Commerce initiated both reviews on January 3, 2006.<sup>27</sup>

In the original investigations, the Commission cumulated subject imports from Brazil and China for purposes of its material injury analysis. The Commission found that the subject imports and the like product were fungible, there was a reasonable overlap of geographic competition, there was similarity in channels of distribution, and imports were simultaneously present throughout the period of investigation.<sup>28</sup>

In the first five-year reviews, the Commission exercised its discretion to cumulate subject imports.<sup>29</sup> It found that increased volumes of subject imports from Brazil and China would likely have a discernible adverse impact on the domestic industry. It also found that there likely would be a reasonable

---

<sup>23</sup> 19 U.S.C. § 1675a(a)(7).

<sup>24</sup> 19 U.S.C. § 1675a(a)(7).

<sup>25</sup> SAA, H.R. Rep. No. 103-316, vol. I (1994).

<sup>26</sup> For a discussion of the analytical framework of Commissioner Koplan and Commissioner Hillman regarding the application of the “no discernible adverse impact” provision, see Malleable Cast Iron Pipe Fittings from Brazil, Japan, Korea, Taiwan, and Thailand, Inv. Nos. 731-TA-278-280 (Review) and 731-TA-347-348 (Review) USITC Pub. 3274 (Feb. 2000). For a further discussion of Commissioner Koplan’s analytical framework, see Iron Metal Construction Castings from India; Heavy Iron Construction Castings from Brazil; and Iron Construction Castings from Brazil, Canada, and China, Inv. Nos. 303-TA-13 (Review); 701-TA-249 (Review); and 731-TA-262, 263, and 265 (Review) USITC Pub. 3247 (Oct. 1999) (Views of Commissioner Stephen Koplan Regarding Cumulation).

<sup>27</sup> 71 Fed. Reg. 91 (Jan. 3, 2006).

<sup>28</sup> USITC Pub. 2385 at 17-26; USITC Pub. 2404 at 11-14.

<sup>29</sup> USITC Pub. 3385 at 10.

overlap of competition both between the subject imports and between the subject imports and the domestic product if the orders were revoked, given the fungibility between the U.S. product and subject imports; the general interchangeability between the subject imports; and the simultaneous presence in the market, overlap of sales in the same geographical markets, and common channels of distribution for the U.S. product and subject imports.<sup>30</sup>

## **B. Likely Discernible Adverse Impact**

We do not find that revocation of either the antidumping duty order on silicon metal from Brazil or the antidumping duty order on silicon metal from China would likely have no discernible adverse impact on the domestic industry. Subject imports from each subject country were present in the U.S. market throughout the period of review, \*\*\*.<sup>31</sup> According to the information available, the silicon metal industry in each subject country is export oriented, and each has a large production capacity.<sup>32</sup> China is the world's largest producer of silicon metal, and it is estimated that China has large excess production capacity: \*\*\* percent.<sup>33</sup> The subject Brazilian producers have the fourth-largest production capacity in the world.<sup>34</sup>

In light of the subject foreign producers' large production capacities, export orientation and presence in the U.S. market during the period of review, as well as China's large excess capacity, we do not find that revocation of either antidumping duty order under review would likely have no discernible adverse impact on the domestic industry.

## **C. Likely Reasonable Overlap of Competition**

The Commission generally has considered whether subject imports compete with each other and with the domestic like products with reference to four factors: (1) fungibility; (2) sales or offers in the same geographic markets; (3) common or similar channels of distribution; and (4) simultaneous presence.<sup>35</sup> As stated above, in the original investigations and first five-year reviews, the Commission found a reasonable overlap of competition between subject imports and the domestic like product, and analyzed subject imports on a cumulated basis.

In these second reviews, based upon the four factors the Commission customarily considers, we find a likely reasonable overlap of competition between subject imports from Brazil and China and between these imports and the domestic like product if the orders were to be revoked. The record shows that, as during the first five-year review investigations, subject imports of silicon metal from Brazil and

---

<sup>30</sup> USITC Pub. 3385 at 9-10.

<sup>31</sup> CR/PR at Table I-1.

<sup>32</sup> CR/PR at Tables IV-2, IV-4, CR at IV-18, PR at IV-9.

<sup>33</sup> CR at IV-18; Globe's Posthearing Brief at 4; Globe's Prehearing Brief at 34-35; Tr. at 46 (Mr. Button).

<sup>34</sup> Globe's Posthearing Brief at 3-4; Globe's Prehearing Brief at 32; Tr. at 46 (Mr. Button).

<sup>35</sup> See Mukand Ltd. v. United States, 937 F. Supp. 910, 916 (Ct. Int'l Trade 1996); Wieland Werke, AG, 718 F. Supp. at 52 ("Completely overlapping markets are not required."); United States Steel Group v. United States, 873 F. Supp. 673, 685 (Ct. Int'l Trade 1994), aff'd, 96 F.3d 1352 (Fed. Cir. 1996). We note, however, that there have been investigations in which the Commission has found an insufficient overlap in competition and has declined to cumulate subject imports. See, e.g., Live Cattle from Canada and Mexico, Inv. Nos. 701-TA-386 (Preliminary) and 731-TA-812-813 (Preliminary), USITC Pub. 3155 at 15 (Feb. 1999), aff'd sub nom. Ranchers-Cattlemen Action Legal Foundation v. United States, 74 F. Supp.2d 1353 (Ct. Int'l Trade 1999); Static Random Access Memory Semiconductors from the Republic of Korea and Taiwan, Inv. Nos. 731-TA-761-762 (Final), USITC Pub. 3098 at 13-15 (Apr. 1998).

China are generally interchangeable with each other and with domestic silicon metal.<sup>36</sup> While sales of subject imports have been minimal in recent years, subject imports from Brazil were present in the market from 2000 to \*\*\*, and subject imports from China were present in the market during the entire period of review.<sup>37</sup> The Commission found there was simultaneous presence of imports from Brazil and China during the original investigations and first five-year reviews. The information available in these reviews suggests that there is overlap in geographic markets.<sup>38</sup> The record also indicates that current channels of distribution are relatively unchanged since the first five-year reviews.<sup>39</sup> No party has argued that there will not be a likely reasonable overlap of competition between subject imports from Brazil and subject imports from China and between these subject imports and the domestic like product should the orders under review be revoked.

In view of the foregoing, we find that the subject imports of silicon metal from Brazil and China are fungible with each other and with the domestic like product, and that there will likely be simultaneous presence, overlap of geographic markets and common or similar channels of distribution of such imports and the domestic like product if the orders are revoked. Therefore, we find that the subject imports would likely compete with each other and with the domestic like product should the orders under review be revoked.

#### **D. Other Considerations**

Based on the record in these five-year reviews, we find that subject imports of silicon metal from Brazil would likely face different conditions of competition in the U.S. market than subject imports from China if the orders under review were revoked. Thus, we decline to exercise our discretion to cumulate subject imports from Brazil with those from China.

There are a number of differences between the Brazilian and Chinese silicon metal industries.<sup>40</sup> Chinese production is estimated to have \*\*\*, increasing from \*\*\* short tons in 2000 to \*\*\* short tons in 2005.<sup>41</sup> In contrast, the subject industry in Brazil saw only a slight increase in production, from 133,581 gross short tons in 2000 to 135,114 gross short tons in 2005.<sup>42</sup> Whereas the subject Brazilian producers \*\*\*<sup>43</sup> and subject Brazilian producers' capacity has declined over the period of review,<sup>44</sup> Chinese capacity

---

<sup>36</sup> See CR/PR at Table II-3, USITC Pub. 3385 at 9.

<sup>37</sup> CR/PR at Table I-1.

<sup>38</sup> Compare CR at II-3, PR at II-2 with USITC Pub. 3385 at 10 & Memorandum INV-X-254 (Dec. 19, 2000) at II-2.

<sup>39</sup> See CR at II-2, PR at II-2, USITC Pub. 3385 at 10.

<sup>40</sup> As discussed earlier, two producers of silicon metal in Brazil, RIMA and CBCC, are no longer subject to the antidumping duty order. The order on RIMA was revoked in December 2002, effective July 1, 2001. 67 Fed. Reg. at 77,226. The order on CBCC was revoked in October 2003, effective July 1, 2002. 68 Fed. Reg. at 57,671.

<sup>41</sup> CR at II-11, PR at II-6.

<sup>42</sup> CR/PR at Table IV-2.

<sup>43</sup> CR at D-19, PR at D-13. We note that \*\*\*. CR at II-9, PR at II-5. The domestic industry alleged in its response to the Commission's notice of institution that one Brazilian subject producer, CCM, intended to expand its capacity to become the largest subject producer in Brazil by 2008. Globe's Response to Notice of Institution at 18. CCM \*\*\*. Brazilian Respondents' Posthearing Brief at Q-23 & Exh.7.

<sup>44</sup> Subject Brazilian capacity decreased from 161,815 gross short tons in 2000 to 140,747 gross short tons in 2005. CR/PR at Table IV-2.

has been rapidly expanding in the last few years,<sup>45</sup> and further planned expansions have been reported.<sup>46</sup> Capacity utilization in China is currently estimated to be approximately \*\*\* percent,<sup>47</sup> while subject capacity utilization in Brazil was 97.3 percent in 2004 and 96.0 percent in 2005.<sup>48</sup> The subject Brazilian industry comprises four identified producers,<sup>49</sup> in contrast to the subject Chinese industry, for which the record contains “no valid data . . . on the number of silicon producers,” but which does encompass “a large number of small producers.”<sup>50</sup>

China’s total export shipments \*\*\* over the period of review,<sup>51</sup> while Brazilian subject producers’ total export shipments decreased.<sup>52</sup> Subject Brazilian producers became \*\*\* on sales to their primary market, the European Union (“EU”), during the period of review \*\*\*. Chinese producers continued to sell the vast majority of their shipments (\*\*\* percent in 2005) to the Asian market. Chinese subject producers shipped to the U.S. market \*\*\* the period of review.<sup>53</sup>

Silicon metal from Brazil is not currently subject to antidumping duty orders in any countries other than the United States. However, silicon metal from China is currently subject to antidumping duties in the EU (at a rate of 49 percent) and in Australia (at rates ranging from 3.7 to 8.1 percent).<sup>54</sup>

Collectively, these factors indicate that there are likely to be fewer Brazilian than Chinese imports available for potential export to the U.S. market and less need for Brazilian than Chinese producers to compete aggressively for sales in the U.S. market.

We also note that there is evidence in the record that subject producers in China and/or importers have circumvented the antidumping duty order, whereas there is no evidence of any such behavior by subject producers in Brazil and/or importers. The record contains a copy of a plea agreement indicating that Ni-Met, a Canadian corporation, bought Chinese silicon metal from ICD Group Metals, L.L.C., which knowingly sold silicon metal of Chinese origin to Ni-Met for importation into the United States under false pretenses. Ni-Met imported the product into the United States and made false statements to the U.S. Customs Service that the Chinese silicon metal had been produced in South Africa or in Saudi Arabia, thereby evading the 139.49 percent antidumping duty. Between approximately May 1998 and May 1999, Ni-Met evaded approximately \$890,000 in antidumping duties.<sup>55</sup>

---

<sup>45</sup> CR at IV-17, PR at IV-9. China’s subject capacity was estimated to be \*\*\* short tons in 1999, INV-X-254 at IV-18, and is currently estimated to be at least \*\*\* metric tons per year. CR at IV-18, PR at IV-9.

<sup>46</sup> See Globe’s Prehearing Brief at 35. Although we note that the subject Brazilian producers \*\*\*, we are unable to make any comparisons on these issues with regard to the Chinese producers because we received no questionnaire responses from any Chinese producer.

<sup>47</sup> CR at IV-18, PR at IV-9.

<sup>48</sup> CR/PR at Table IV-2.

<sup>49</sup> CR at IV-4 - IV-5, PR at IV-3.

<sup>50</sup> CR at IV-17, PR at IV-9. \*\*\*. CR at IV-18, PR at IV-9.

<sup>51</sup> China’s total export shipments were \*\*\* gross short tons in 2000 and \*\*\* gross short tons in 2005. CR/PR at Table IV-4.

<sup>52</sup> Brazilian subject producers’ total export shipments were 111,981 gross short tons in 2000 and \*\*\* gross short tons in 2005. CR/PR at Table IV-2 (revised).

<sup>53</sup> CR/PR at Tables IV-2 and IV-4.

<sup>54</sup> CR at IV-19, PR at IV-10.

<sup>55</sup> Globe’s Prehearing Brief, Exh. 10. The domestic industry asserts that there may be additional circumvention regarding subject imports from China. The record contains a copy of a complaint filed against purchasers of Chinese silicon metal alleging that they imported seven shipments of Chinese silicon metal by transshipping them through Korea and falsely claiming that the merchandise originated in Korea in order to evade the 139.49 percent antidumping duty. Globe’s Prehearing Brief, Exh. 11. Unlike the case involving Ni-Met, this complaint has not

(continued...)

In view of the foregoing, we find that subject imports of silicon metal from Brazil would likely face different conditions of competition in the U.S. market than subject imports from China. Therefore, we decline to exercise our discretion to cumulate subject imports from Brazil with those from China.

#### **IV. LIKELIHOOD OF CONTINUATION OR RECURRENCE OF MATERIAL INJURY BY REASON OF SUBJECT IMPORTS OF SILICON METAL FROM BRAZIL AND CHINA IF THE ANTIDUMPING DUTY ORDERS ARE REVOKED**

##### **A. Legal Standard in a Five-year Review**

In a five-year review conducted under section 751(c) of the Act, Commerce will revoke an antidumping duty order unless: (1) it makes a determination that dumping is likely to continue or recur, and (2) the Commission makes a determination that revocation of the antidumping duty order “would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time.”<sup>56</sup> The SAA states that “under the likelihood standard, the Commission will engage in a counter-factual analysis; it must decide the likely impact in the reasonably foreseeable future of an important change in the status quo – the revocation or termination of a proceeding and the elimination of its restraining effects on volumes and prices of imports.”<sup>57</sup> Thus, the likelihood standard is prospective in nature.<sup>58</sup> The U.S. Court of International Trade has found that “likely,” as used in the sunset review provisions of the Act, means “probable,” and the Commission applies that standard in five-year reviews.<sup>59 60</sup>

---

<sup>55</sup> (...continued)

been adjudicated, and we do not rely specifically on the particulars of this complaint in our cumulation analysis.

<sup>56</sup> 19 U.S.C. § 1675a(a).

<sup>57</sup> SAA, H.R. Rep. No. 103-316, vol. I, at 883-84 (1994). The SAA states that “[t]he likelihood of injury standard applies regardless of the nature of the Commission’s original determination (material injury, threat of material injury, or material retardation of an industry). Likewise, the standard applies to suspended investigations that were never completed.” SAA at 883.

<sup>58</sup> While the SAA states that “a separate determination regarding current material injury is not necessary,” it indicates that “the Commission may consider relevant factors such as current and likely continued depressed shipment levels and current and likely continued [sic] prices for the domestic like product in the U.S. market in making its determination of the likelihood of continuation or recurrence of material injury if the order is revoked.” SAA at 884.

<sup>59</sup> See NMB Singapore Ltd. v. United States, 288 F. Supp. 2d 1306, 1352 (Ct. Int’l Trade 2003) (“‘likely’ means probable within the context of 19 U.S.C. § 1675(c) and 19 U.S.C. § 1675a(a)”), aff’d without opinion, 05-1019 (Fed. Cir. August 3, 2005); Nippon Steel Corp. v. United States, Slip Op. 02-153 at 7-8 (Ct. Int’l Trade Dec. 24, 2002) (same); Usinor Industeel, S.A. v. United States, Slip Op. 02-152 at 4 n.3 & 5-6 n.6 (Ct. Int’l Trade Dec. 20, 2002) (“more likely than not” standard is “consistent with the court’s opinion”; “the court has not interpreted ‘likely’ to imply any particular degree of ‘certainty’”); Indorama Chemicals (Thailand) Ltd. v. United States, Slip Op. 02-105 at 20 (Ct. Int’l Trade Sept. 4, 2002) (“standard is based on a likelihood of continuation or recurrence of injury, not a certainty”); Usinor v. United States, Slip Op. 02-70 at 43-44 (Ct. Int’l Trade July 19, 2002) (“‘likely’ is tantamount to ‘probable,’ not merely ‘possible’”).

<sup>60</sup> Commissioner Lane notes that, consistent with her views in Pressure Sensitive Plastic Tape from Italy, Inv. No. AA1921-167 (Second Review), USITC Pub. 3698 (June 2004), she does not concur with the U.S. Court of International Trade’s interpretation of “likely,” but she will apply the Court’s standard in this review and all subsequent reviews until either Congress clarifies the meaning or the U.S. Court of Appeals for the Federal Circuit addresses this issue.

The statute states that “the Commission shall consider that the effects of revocation or termination may not be imminent, but may manifest themselves only over a longer period of time.”<sup>61</sup> According to the SAA, a “‘reasonably foreseeable time’ will vary from case-to-case, but normally will exceed the ‘imminent’ timeframe applicable in a threat of injury analysis in original investigations.”<sup>62 63</sup>

Although the standard in a five-year review is not the same as the standard applied in an original antidumping duty investigation, it contains some of the same fundamental elements. The statute provides that the Commission is to “consider the likely volume, price effect, and impact of imports of the subject merchandise on the industry if the orders are revoked or the suspended investigation is terminated.”<sup>64</sup> It directs the Commission to take into account its prior injury determination, whether any improvement in the state of the industry is related to the order or the suspension agreement under review, whether the industry is vulnerable to material injury if the orders are revoked or the suspension agreement is terminated, and any findings by Commerce regarding duty absorption pursuant to 19 U.S.C. § 1675(a)(4).<sup>65</sup>

As noted above, no respondent interested party participated in the full review regarding subject imports from China. Accordingly, we rely on information available when appropriate, which consists primarily of information from the original investigations, information submitted by questionnaire respondents in these reviews, and other information collected in these reviews.<sup>66</sup>

## **B. Conditions of Competition and the Business Cycle**

In evaluating the likely impact of the subject imports on the domestic industry, the statute directs the Commission to consider all relevant economic factors “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”<sup>67</sup>

---

<sup>61</sup> 19 U.S.C. § 1675a(a)(5).

<sup>62</sup> SAA at 887. Among the factors that the Commission should consider in this regard are “the fungibility or differentiation within the product in question, the level of substitutability between the imported and domestic products, the channels of distribution used, the methods of contracting (such as spot sales or long-term contracts), and lead times for delivery of goods, as well as other factors that may only manifest themselves in the longer term, such as planned investment and the shifting of production facilities.” *Id.*

<sup>63</sup> In analyzing what constitutes a reasonably foreseeable time, Commissioner Koplan examines all the current and likely conditions of competition in the relevant industry. He defines “reasonably foreseeable time” as the length of time it is likely to take for the market to adjust to a revocation or termination. In making this assessment, he considers all factors that may accelerate or delay the market adjustment process including any lags in response by foreign producers, importers, consumers, domestic producers, or others due to: lead times; methods of contracting; the need to establish channels of distribution; product differentiation; and any other factors that may only manifest themselves in the longer term. In other words, this analysis seeks to define “reasonably foreseeable time” by reference to current and likely conditions of competition, but also seeks to avoid unwarranted speculation that may occur in predicting events into the more distant future.

<sup>64</sup> 19 U.S.C. § 1675a(a)(1).

<sup>65</sup> 19 U.S.C. § 1675a(a)(1). There have been no duty absorption findings by Commerce with respect to the orders under review. CR at I-9, PR at I-8.

<sup>66</sup> Under 19 U.S.C. § 1677e(a), the Commission may use the facts otherwise available in reaching a determination when necessary information is not available on the record or an interested party or other person withholds information requested by the Commission, or fails to provide such information in the time, form, or manner requested.

<sup>67</sup> 19 U.S.C. § 1675a(a)(4).

In the original determinations, the Commission did not note any specific conditions of competition distinctive to the silicon metal industry. It did state that the demand for metallurgical-grade silicon metal was somewhat cyclical because it tends to follow demand trends for industries using large amounts of aluminum, such as the automobile industry. It was more difficult to relate trends in the overall demand for chemical-grade silicon metal to trends in the demand for any one product or group of products because of the many uses for silicon metal in the chemical market.<sup>68</sup>

In the first five-year reviews, the Commission found that demand had expanded significantly since the original period of investigation. It noted that demand is derived from the demand for other products, such as chemical products and aluminum. The world demand for these end products was projected to grow at a strong rate in the foreseeable future. Since the orders were imposed, the domestic industry's capacity, capacity utilization and shipments had improved. However, a number of U.S. producers had filed for bankruptcy protection since the orders were imposed. During the original investigations, there were eight domestic producers, but only three during the first reviews. Nonsubject imports accounted for a greater share of the U.S. market in the first review period than in the original period of investigation. The Commission also stated that there were three grades of silicon metal subject to the reviews: chemical, primary aluminum and secondary aluminum, as there were during the time of the original investigations. Price was still an important factor affecting purchases of all grades. Within each grade, there was moderate substitutability, assuming certification standards had been met. Chemical- and primary-aluminum grade silicon metal typically required certification; once a producer was certified, price became an even more important factor in purchasing decisions.<sup>69</sup>

In these second reviews, we find the following conditions of competition to be relevant to our determinations.

## **1. Demand Conditions**

There are four broadly defined categories, or grades, of silicon metal, which are ranked in generally descending order of purity as: (1) semiconductor grade;<sup>70</sup> (2) chemical grade; (3) a metallurgical grade used to produce primary aluminum (aluminum produced from ore); and (4) a metallurgical grade used to produce secondary aluminum (aluminum produced from scrap). A higher-grade silicon metal is frequently shipped to a purchaser with a lower specification requirement. The silicon metal content for all four grades is typically at least 98.5 percent.<sup>71</sup>

The demand for silicon metal is derived from the demand for other products. Silicon metal is used in the chemical industry to produce silanes, which are, in turn, used to produce a family of organic chemicals known as silicones. Silicones are used in a wide variety of applications including resins, lubricants, plastomers, anti-foaming agents, and water-repellent compounds, which are employed in the chemical, pharmaceutical, automotive, and aerospace industries.<sup>72</sup>

Silicon metal employed in the production of primary and secondary aluminum is used as an alloying agent (it is a required component in aluminum casting alloys) because the silicon increases fluidity and reduces shrinkage while it enhances strength, castability and weldability. Primary aluminum applications include the manufacture of components that require higher purity aluminum, such as automobile wheels. Secondary aluminum applications apply primarily to the automotive castings

---

<sup>68</sup> USITC Pub. 2385 at 14-15 n.51.

<sup>69</sup> USITC Pub. 3385 at 14-15.

<sup>70</sup> Semiconductor-grade silicon, used in the electronics industry, is not covered by the scope of the antidumping duty orders. It is a high-purity product generally containing not less than 99.99 percent silicon.

<sup>71</sup> CR at I-14 - I-16, PR at I-11 - I-13.

<sup>72</sup> CR at I-16, PR at I-12 - I-13.

industry. Other applications for silicon metal include the production of brass and bronzes, steel, copper alloys, ceramic powders, and refractory coatings.<sup>73</sup> Silicon metal is also used in solar panels for the generation of electricity. Silicon metal sold for this end-use is of metallurgical grade and is further refined to a purity suitable for electronic applications by the manufacturers or suppliers of the solar panels.<sup>74</sup>

Most U.S. and Brazilian producers reported that demand for silicon metal generally increased over the period of review.<sup>75</sup> Commission data, however, indicate that apparent consumption fluctuated over the period.<sup>76</sup> Future demand is anticipated to increase both in the United States and overseas.<sup>77</sup> World demand is projected to increase by nearly \*\*\* percent between 2005 and 2010, reaching over \*\*\* million short tons.<sup>78</sup>

## 2. Supply Conditions

There were three domestic producers, Elkem, Globe and Simcala, at the end of the period of the first reviews<sup>79</sup> and during most of the period of review in these investigations. There are now two, as Elkem was sold to Globe in 2005.<sup>80</sup> In addition, Dow Corning Corp. (“Dow”) now owns Simcala, which ships \*\*\* of its production to Dow.<sup>81</sup> Further, International Metal Enterprises (“IME”), a new company created for the purpose of making acquisitions in the metal sector, was expected to complete its purchase of Globe in November 2006.<sup>82</sup>

Nonsubject imports are an important source of supply of silicon metal in the U.S. market. Included in nonsubject imports are shipments of silicon metal from Brazilian producers RIMA and CBCC as to which the antidumping duty order was revoked in 2001 and 2002, respectively.<sup>83</sup> Also included in nonsubject imports for purposes of these reviews are shipments from China under the Temporary Imports Under Bond (“TIB”) program;<sup>84</sup> shipments of silicon metal from Russia, which are currently subject to an

---

<sup>73</sup> CR at I-16, PR at I-13.

<sup>74</sup> CR at I-16 - I-17, PR at I-13.

<sup>75</sup> CR at II-14 - II-15, PR at II-8 - II-9.

<sup>76</sup> As measured by quantity, apparent consumption was \*\*\* short tons in 2000, \*\*\* short tons in 2001, \*\*\* short tons in 2002, \*\*\* short tons in 2003, \*\*\* short tons in 2004, and \*\*\* short tons in 2005. As measured by value, apparent consumption was \$\*\*\* million in 2000, \$\*\*\* million in 2001, \$\*\*\* million in 2002, \$\*\*\* million in 2003, \$\*\*\* million in 2004, and \$\*\*\* million in 2005. CR/PR at Table I-6.

<sup>77</sup> CR at II-15 - II-17, IV-20 - IV-22, PR at II-9 - II-10, IV-10.

<sup>78</sup> \*\*\*.

<sup>79</sup> There were five producers at the beginning of the period of the first reviews, but two ceased production during the period. CR at I-26, PR at I-18 - I-19.

<sup>80</sup> CR at I-24, PR at I-17.

<sup>81</sup> Simcala is a sister company to nonsubject Brazilian producer CBCC; both are owned by Dow Corning Corp. (a joint venture between the Dow Chemical Co. and Corning Inc.), which is a U.S. purchaser of silicon metal. The \*\*\*. CR at I-26 - I-27, PR at I-19.

<sup>82</sup> CR/PR at Table I-2 n.3.

<sup>83</sup> CR /PR at Table I-1 n.3.

<sup>84</sup> In this program, the imports are duty-free as articles to be processed under bond for exportation, including processes that result in articles manufactured or produced in the United States. If the imports are subsequently exported (including products made in the United States using the import as a raw material), the bond is refunded and no antidumping duties are levied. CR/PR at Table I-1 n.3.

antidumping duty order;<sup>85</sup> and shipments from other nonsubject producers in Australia, Canada, France, Norway, South Africa, Spain, the Philippines, and Ukraine.<sup>86</sup>

The domestic industry's market share decreased over the period of review.<sup>87</sup> At the same time, the market share of the nonsubject imports increased,<sup>88</sup> including nonsubject imports from Brazil. The market share of nonsubject imports from China decreased over the period of review.<sup>89</sup>

### 3. Substitutability

As during the original investigations and first reviews, the record indicates there is moderate substitutability among subject imports and the domestic product.<sup>90</sup>

Price is an important factor affecting the degree of substitution.<sup>91</sup> Of the 15 responding purchasers, seven usually purchased the lowest-priced material and seven sometimes purchased the lowest-priced material, while one reported always buying the lowest-priced silicon metal.<sup>92</sup> Other factors listed among the top three factors in purchasing decisions include quality, availability, meeting specifications, reliability of delivery and supply, service, extension of credit, and delivery in small quantities.<sup>93</sup>

The parties have argued extensively as to whether silicon metal is or is not a commodity product.<sup>94</sup> For the purposes of our determinations in these reviews, we find that we need not determine whether to apply this label to silicon metal. As we have stated, the product is generally substitutable, as

---

<sup>85</sup> Silicon Metal from Russia, Inv. No. 731-TA-991 (Final), USITC Pub. 3584 (Mar. 2003).

<sup>86</sup> CR at II-27 - II-28, PR at II-17.

<sup>87</sup> As measured by quantity, domestic producers' share of apparent consumption decreased from \*\*\* percent in 2000 to \*\*\* percent in 2005. As measured by value, domestic producers' share of apparent consumption decreased from \*\*\* percent in 2000 to \*\*\* percent in 2005. CR/PR at Table I-6.

<sup>88</sup> As measured by quantity, nonsubject import market share increased from \*\*\* percent in 2000 to \*\*\* percent in 2005. As measured by value, nonsubject import market share increased from \*\*\* percent in 2000 to \*\*\* percent in 2005. CR/PR at Table I-6.

<sup>89</sup> Nonsubject import market share for Brazil, measured by quantity, was 0.0 percent in 2000 and increased to \*\*\* percent in 2005. For China, nonsubject import market share as measured by quantity was \*\*\* percent in 2000 and decreased to \*\*\* percent in 2005. As measured by value, Brazil's nonsubject import market share was 0.0 percent in 2000 and increased to \*\*\* percent in 2005. For China, nonsubject import market share as measured by value was \*\*\* percent in 2000 and decreased to \*\*\* percent in 2005. CR/PR at Table I-6.

<sup>90</sup> CR at II-18, PR at II-10; see CR at II-30, PR at II-19, CR/PR at Table II-3. Moderate substitutability among subject imports and the domestic product exists assuming certification/qualification standards are met. Ten of 14 responding purchasers require that all the product they purchase be certified or prequalified. CR at II-19, PR at II-11. We note that none of the subject Brazilian producers was reported to be currently certified or qualified to supply U.S. purchasers, although nonsubject Brazilian producers RIMA and CBCC have been qualified by at least \*\*\* and \*\*\* purchasers, respectively. CR at II-20 & n.43, PR at II-11 & n.43.

<sup>91</sup> CR at II-18, PR at II-10.

<sup>92</sup> CR at II-18, PR at II-10.

<sup>93</sup> CR at II-18, PR at II-10.

<sup>94</sup> See, e.g., Globe's Prehearing Brief at 7; Brazilian Respondents' Prehearing Brief at 40-43; Brazilian Respondents' Posthearing Brief at 14; Brazilian Respondents' Response to Commission Staff's Questions on Whether Silicon Metal Is or Is Not a Commodity; Globe's Final Comments at 1-3; Brazilian Respondents' Final Comments at 3-4; Tr. at 6 (Mr. Kramer), 21 (Mr. Sims), 27 (Mr. Perkins), 29 (Mr. Perkins), 95 (Mr. Button), 165-66 (Mr. Vander Schaaf), 180-81 (Mr. Vander Schaaf).

was the case during the period of the first reviews. The record contains no evidence that this has changed.<sup>95</sup>

**C. Revocation of the Order on Subject Imports of Silicon Metal from Brazil Is Not Likely to Lead to Continuation or Recurrence of Material Injury Within a Reasonably Foreseeable Time**

**1. Likely Volume of the Subject Imports**

In evaluating the likely volume of subject imports were the orders to be revoked, the Commission is directed to consider whether the likely volume of imports would be significant either in absolute terms or relative to production or consumption in the United States.<sup>96</sup> In doing so, the Commission must consider “all relevant economic factors,” including four enumerated factors: (1) any likely increase in production capacity or existing unused production capacity in the exporting country; (2) existing inventories of the subject merchandise, or likely increases in inventories; (3) the existence of barriers to the importation of the subject merchandise into countries other than the United States; and (4) the potential for product shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products.<sup>97</sup>

In the original determinations, the Commission found that imports of silicon metal from the three cumulated then-subject countries (including Argentina) increased 8.0 percent from 1988 to 1989, and 74.6 percent from 1989 to 1990. The market share (as measured by quantity) of the subject imports from the three subject countries increased substantially throughout the period: from 15.1 percent in 1988 to 17.8 percent in 1989 to 28.0 percent in 1990.<sup>98</sup>

In the first five-year reviews,<sup>99</sup> the Commission found that subject silicon metal production capacity in Brazil had increased since the original investigations, from 170,305 gross short tons in 1990 to 190,310 gross short tons in 1999.<sup>100</sup> The Commission found that the Brazilian industry was heavily export oriented and that its export volumes were large relative to U.S. production. The Commission found that the Brazilian silicon metal industry had significant excess capacity, with capacity utilization ranging between 70.7 percent and 82.0 percent, and that its aggregate inventories and excess capacity together would represent a significant percentage of U.S. consumption if shipped to the United States. As Brazil’s primary aluminum silicon metal product was already certified for sale in the United States, it had an existing customer base that could serve as the basis for expansion. Lastly, Dow, a large purchaser of the subject product, had purchased CBCC, one of the largest subject Brazilian producers, and \*\*\*. In sum, and considering the nonparticipation by any Chinese silicon metal producer in the first reviews, the Commission concluded that the likely volume of cumulated imports from Brazil and China would be significant within a reasonably foreseeable time.<sup>101</sup>

---

<sup>95</sup> We note that there is record evidence that the quality of the Chinese product has improved. CR at II-29, PR at II-18. This fact is in line with the statement that the Chinese product has experienced increased substitutability with silicon metal from other countries.

<sup>96</sup> 19 U.S.C. § 1675a(a)(2).

<sup>97</sup> 19 U.S.C. § 1675a(a)(2)(A-D).

<sup>98</sup> USITC Pub. 2385 at 26-27; see USITC Pub. 2404 at 15.

<sup>99</sup> We note that, in the first five-year reviews, the Commission cumulated subject imports from Brazil and China in making its determinations.

<sup>100</sup> USITC Pub. 3385 at 16-17.

<sup>101</sup> USITC Pub. 3385 at 16-17.

In these second reviews, we find that the likely volume of subject imports from Brazil would not be significant either in absolute terms or relative to production or consumption in the United States if the order were revoked. Subject Brazilian capacity fell by 13 percent over the period, from 161,815 gross short tons in 2000 to 140,747 gross short tons in 2005.<sup>102</sup> Subject production was relatively stable, increasing slightly from 133,581 gross short tons in 2000 to 135,114 gross short tons in 2005.<sup>103</sup> Subject capacity utilization has been near 100 percent during the last two years of the period of review (it was 97.3 percent in 2004 and 96.0 percent in 2005).<sup>104</sup> Subject Brazilian producers have indicated that they have \*\*\*.<sup>105</sup> Subject imports from Brazil and, consequently, subject Brazilian import market share have declined over the period of review to \*\*\*.<sup>106</sup>

We recognize that silicon metal exports from Brazil to all markets represent over 80 percent of the subject producers' total shipments, demonstrating that the Brazilian industry continues to be export oriented.<sup>107</sup> However, the majority of these shipments are to the EU, and shipments to the EU from Brazil have grown over the period of review.<sup>108</sup> Moreover, subject Brazilian producers have \*\*\*. For example, \*\*\*.<sup>109</sup> We do not find substantial evidence in the record of these second reviews that these producers would likely shift their sales from \*\*\* customers in order to ship their product to the United States in significantly increased volumes upon revocation of the order. While the data are mixed, prices for silicon metal in the EU are generally similar to prices in the United States,<sup>110</sup> providing no sustained price incentive for subject Brazilian producers to alter their \*\*\* commercial relationships with their European purchasers in order to ship significantly increased volumes to the U.S. market in the reasonably foreseeable future upon revocation of the order.<sup>111</sup>

---

<sup>102</sup> CR/PR at Table IV-2.

<sup>103</sup> CR/PR at Table IV-2.

<sup>104</sup> CR/PR at Table IV-2.

<sup>105</sup> See CR/PR at Table IV-3.

<sup>106</sup> As measured by quantity, subject imports from Brazil fell from 22,797 gross short tons in 2000 to \*\*\* gross short tons in 2005. As measured by value, subject imports from Brazil fell from \$29.5 million in 2000 to \$\*\*\* million in 2005. CR/PR at Table IV-1. Brazilian subject import market share, as measured by quantity, declined from \*\*\* percent in 2000 to \*\*\* percent in 2005. As measured by value, Brazilian subject import market share declined from \*\*\* percent in 2000 to \*\*\* percent in 2005. CR/PR at Table I-1.

<sup>107</sup> Subject Brazilian producers' exports were \*\*\* percent of their total shipments in 2000, falling to \*\*\* percent of their total shipments in 2005. CR/PR at Table IV-2 (revised).

<sup>108</sup> Subject Brazilian producers' exports to the EU represented at least \*\*\* percent of their total shipments in 2005, a substantial increase from the level of \*\*\* percent in 2000. CR/PR at Table IV-2 (revised).

<sup>109</sup> Brazilian Respondents' Posthearing Brief, Exhs. 4-6. \*\*\*, as the Commission generally defines that term. See Globe's Final Comments at 7-8. We agree that the volumes at issue are largely not legally committed under \*\*\* as we generally define them. However, the supplier-customer relationships are \*\*\*, and as discussed below, we find no economically sound reason for subject producers to abandon them in favor of U.S. sales.

Globe also argues that a number of the contracts that the Brazilian producers have identified are \*\*\*. Globe's Final Comments at 8. Even if a \*\*\* would enable such a request, the demand of consumers from whom subject product shipments were shifted would need to be satisfied, creating a price incentive for shipments of subject product to those markets and away from the U.S. market. In any regard, because prices for silicon metal in the EU are generally similar to prices in the United States, as discussed below, we find that these \*\*\* would still have no sustained price incentive to shift shipments of subject product to the U.S. market.

<sup>110</sup> CR/PR at Figure V-2.

<sup>111</sup> U.S. prices have been somewhat higher than prices in the EU market over the last few years, see CR/PR at Figure V-2, but currently are approximately the same. \*\*\*. Despite these somewhat higher U.S. prices in the recent past, we do not find that this difference in price creates the incentive necessary for subject Brazilian producers to

(continued...)

Brazilian subject producers' home market sales increased as well toward the end of the period.<sup>112</sup> Further, as indicated above, demand in other markets is projected to increase in the reasonably foreseeable future.<sup>113</sup>

Although imports into the United States from CBCC and RIMA increased once the order was revoked with respect to them,<sup>114</sup> we do not believe this compels a conclusion that existing subject producers in Brazil would likely significantly increase their shipments to the United States as well if the order were revoked. First, \*\*\* the increase in shipments from CBCC and RIMA was accounted for by CBCC, which supplied \*\*\* its parent company in the United States.<sup>115</sup> No current subject producer in Brazil has a similar relationship with a U.S. purchaser. In addition, subject Brazilian producers have \*\*\* than Brazilian nonsubject producers \*\*\* in these reviews,<sup>116</sup> and significantly \*\*\* when compared to Brazilian producers in the first five-year review investigations.<sup>117</sup>

---

<sup>111</sup> (...continued)

alter their \*\*\* commercial relationships with their European purchasers in order to ship significantly increased volumes to the U.S. market in the reasonably foreseeable future upon revocation of the order.

There is mixed evidence in the record as to the magnitude of the difference in costs for transporting subject Brazilian product to the United States, the EU and Japan. The Brazilian producers reported that the cost of transporting silicon metal to the United States is higher than to Europe or Japan. See Tr. at 148 (Mr. Melgaco). They reported that the shipping cost to North America averaged \$\*\*\* per metric ton, while shipping costs to Europe averaged \$\*\*\* per metric ton. Brazilian Respondents' Posthearing Brief at Q-3 & Exhs. 12-13. However, Globe provided information indicating that the average unit value of costs of insurance and freight for shipping Brazilian silicon metal to the United States was lower than the average unit value of these costs for product shipped to Europe in every year during 2000-05, except 2002. Globe's Posthearing Brief, Exh. 23. We accord little weight to parties' arguments regarding transportation costs, and note that there have been substantial shipments of Brazilian product (primarily nonsubject merchandise) to the United States during the period of review, notwithstanding the transportation costs.

<sup>112</sup> Brazilian subject producers' home market shipments increased from \*\*\* percent of their total shipments in 2000 to \*\*\* percent in 2005. CR/PR at Table IV-2 (revised).

<sup>113</sup> See CR at IV-20 - IV-22, PR at IV-10.

<sup>114</sup> Nonsubject imports from Brazil increased from 0 in 2000 to \*\*\* gross short tons in 2005, \*\*\* because of the unique relationship between CBCC and Dow. Nonsubject imports from other sources, not including China's nonsubject TIB imports, decreased from 113,040 gross short tons in 2000 to 90,467 gross short tons in 2005. China's nonsubject TIB imports declined from 4,878 gross short tons in 2000 to 2,681 gross short tons in 2005. CR/PR at Table IV-1.

<sup>115</sup> CBCC's exports to the United States increased from \*\*\* gross short tons in 2000 to \*\*\* gross short tons in 2005. CR/PR at Table IV-3. \*\*\*. CBCC's Foreign Producer Questionnaire Response at II-13. CBCC's \*\*\*. CR at IV-12, PR at IV-8. RIMA exported \*\*\* gross short tons to the United States in 2005. No data are available with respect to such exports in other years of the period of review. CR/PR at Table IV-3.

Thus, during the period of review, CBCC exported \*\*\*, a fact that we attribute to CBCC's unique relationship with Dow, its parent company. We are aware that Globe has asked Commerce to reinstate the antidumping duty order with respect to RIMA on the grounds that RIMA resumed dumping in 2006. Globe's Prehearing Brief at 21; Tr. at 106 (Mr. Kramer). As of the date the record closed in these reviews, Commerce's deadline to initiate a changed circumstances review had passed, and Commerce had not initiated any investigation of Globe's allegations. Brazilian Respondents' Posthearing Brief at 6; see Tr. at 118-19 (Mr. Kramer). Accordingly, we have no basis to consider RIMA as other than a nonsubject producer in these reviews.

<sup>116</sup> CR/PR at Table IV-3.

<sup>117</sup> During the first five-year reviews, subject Brazilian producers' capacity utilization was 74.3 percent in 1999. Memorandum INV-X-254 at Table IV-4. In these reviews, nonsubject producers' capacity utilization was \*\*\* percent in 2005 and subject Brazilian producers' capacity utilization was 96.0 percent. CR/PR at Table IV-2. Capacity utilization for some subject Brazilian producers was projected to be \*\*\* in 2006 and 2007. See CR/PR at

(continued...)

Globe argues that at least \*\*\* subject Brazilian producers have significant ferrosilicon production capacity that could be converted to silicon metal production, and that they would have a strong economic incentive to do so if the order were revoked.<sup>118</sup> We disagree. First, ferrosilicon is no longer subject to an antidumping duty order in the United States, eliminating an incentive to product-shift that might otherwise exist.<sup>119</sup> Second, the evidence is mixed regarding the required time and cost to shift production from ferrosilicon to silicon metal and does not necessarily support a finding that product shifting is technologically or financially attractive for the subject producers.<sup>120</sup> In addition to the fact that some evidence in the record indicates that switching production in Brazil from ferrosilicon to silicon metal can be a time-consuming and costly task, only \*\*\* Brazilian respondents produce both ferrosilicon and silicon metal.<sup>121</sup> There is no evidence on the record to indicate that the subject producers would have the requisite economic incentive in terms of higher profits for sales of silicon metal versus ferrosilicon to assume the costs associated with such a shift in production. Nor is there evidence that, if such a shift were to occur, the most profitable market to ship the silicon metal would be the United States. Accordingly, we do not find that Brazilian producers capable of doing so are likely to shift production from ferrosilicon to silicon metal if the order is revoked or that, even if some shifting were to occur, it would lead to significant increases in subject imports from Brazil.<sup>122</sup>

Based on the foregoing, we do not find that the volume of subject imports from Brazil would likely be significant, either in absolute terms or relative to production or consumption in the United States, in the reasonably foreseeable future if the antidumping duty order were revoked.

#### **D. Likely Price Effects of Subject Imports**

In evaluating the likely price effects of subject imports were the orders to be revoked, the Commission is directed to consider whether there is likely to be significant underselling by the subject imports as compared to the domestic like product and whether the subject imports are likely to enter the

---

<sup>117</sup> (...continued)  
Table IV-3.

<sup>118</sup> Globe's Posthearing Brief at 5.

<sup>119</sup> See Ferrosilicon from Brazil, China, Kazakhstan, Russia, Ukraine, and Venezuela, Inv. No. 303-TA-23 (Final), 731-TA-566-570 (Final), 731-TA-641 (Final), USITC Pub. 3218 (Aug. 1999).

<sup>120</sup> Globe claims that conversion from ferrosilicon to silicon metal production could take only a few days, based on its assertions that four of Globe's own furnaces can be converted to silicon metal or back to ferrosilicon within one week. The current costs would be approximately \$\*\*\*. CR at I-21, PR at I-15 - I-16; see Tr. at 25 (Mr. Sims), 75-76 (Mr. Sims), Globe's Posthearing Brief at 34-35. The Brazilian respondents estimate that the ferrosilicon-to-silicon-metal production conversion process for Brazilian producer \*\*\* would require \*\*\* and cost \*\*\*. CR at I-22, PR at I-16; see Brazilian Respondents' Prehearing Brief at 34-38, Brazilian Respondents' Posthearing Brief at Q-6; Tr. at 205 (Mr. Melgaco). We have no reason to doubt the credibility of either producer's claim because there are a variety of furnace configurations and technologies in the market. In addition, during the first reviews, Globe estimated that for 1999 the relining of its furnaces for the conversion of ferrosilicon to silicon would take from 30 to 45 days and would cost approximately \$\*\*\*. CR at I-21 - I-22 n.45, PR at I-16 n.45. We note that the statute requires the Commission to focus on the ability to shift production from one product to another in the subject foreign country, not in the United States. See 19 U.S.C. § 1675a(a)(2)(D).

<sup>121</sup> Brazilian Respondents' Prehearing Brief at 35.

<sup>122</sup> \*\*\*. Siderca, S.A.I.C. v. United States, 374 F. Supp. 2d 1285, 1289-93 (Ct. Int'l Trade 2005) (product shifting requires economic incentive as well as actual potential).

United States at prices that otherwise would have a significant depressing or suppressing effect on the price of the domestic like product.<sup>123</sup>

In the original determinations, the Commission explained that the average unit value (dollars per gross ton) of the imports from the three cumulated subject countries decreased 9.0 percent from 1988 to 1989 and 15.1 percent from 1989 to 1990. Domestic and import prices for spot sales to secondary aluminum producers followed similar trends: increasing in 1988 and early 1989 and falling during late 1989. However, when domestic prices recovered in 1990, import prices generally continued to decline. Spot market prices for domestic sales to primary aluminum producers also declined. Overall, such prices were 4.7 percent lower at the end of the period of investigation than they were at the beginning.<sup>124</sup>

The Commission also found that there was significant underselling by the cumulated subject imports throughout the period. With respect to prices reported by purchasers of secondary aluminum-grade silicon metal, imports undersold the domestic product in 25 out of 35 quarterly comparisons for which data were available. The margins of underselling ranged from less than one percent to 13.6 percent. The underselling was particularly significant in light of the generally declining prices for the domestic product. Further, the steady increase in the ratio of the cost of goods sold to net sales over the period indicated that prices had been suppressed relative to costs.<sup>125</sup>

In the first five-year reviews, the Commission noted that domestic and imported silicon metal were generally substitutable within grades and that price was an important consideration for purchasers. Prices generally trended downward during the period of review, although some grades showed increases toward the end of the period. Current market prices were declining, and the domestic producers were forced to renegotiate long-term contracts with major customers to adjust prices downward. The limited pricing data showed that the Brazilian product undersold the domestic product. The Commission found that the likely significant increased volumes of subject silicon metal would likely undersell domestic silicon metal products to a significant degree and have significant price suppressing and depressing effects within a reasonably foreseeable time if the orders were revoked.<sup>126</sup>

In these second reviews, we find, as stated above, that silicon metal is a product that is generally substitutable and that price is an important factor in purchasing decisions. The evidence in the record indicates that U.S. prices generally trended upward over the period of review.<sup>127</sup> The available information on sales of subject Brazilian merchandise, though limited, indicate no underselling.<sup>128</sup> Also, as explained above, we do not find that the volume of subject imports from Brazil is likely to be significant upon revocation of the order. In particular, subject Brazilian producers are not likely to abandon their \*\*\* with purchasers in the EU in order to compete on price in the U.S. market, particularly as prices for silicon metal in the EU are generally comparable to U.S. prices.

Because we find that revocation of the order as to Brazil is not likely to result in significantly increased volumes of imports of subject merchandise, we also find that revocation of the order is not likely to lead to significant underselling or to significant price suppressing or depressing effects by reason of subject imports from Brazil.

---

<sup>123</sup> 19 U.S.C. § 1675a(a)(3).

<sup>124</sup> USITC Pub. 2385 at 27.

<sup>125</sup> USITC Pub. 2385 at 27-28; see USITC Pub. 2404 at 15.

<sup>126</sup> USITC Pub. 3385 at 18.

<sup>127</sup> CR/PR at Tables V-1 - V-3.

<sup>128</sup> CR/PR at Tables V-2 - V-3.

## E. Likely Impact of Subject Imports

In evaluating the likely impact of subject imports were the orders to be revoked, the Commission is directed to consider all relevant economic factors that are likely to have a bearing on the state of the industry in the United States, including but not limited to: (1) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity; (2) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment; and (3) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.<sup>129</sup> All relevant economic factors are to be considered within the context of the business cycle and the conditions of competition that are distinctive to the industry.<sup>130</sup> As instructed by the statute, we have considered the extent to which any improvement in the state of the domestic industry is related to the orders at issue and whether the industry is vulnerable to material injury if the orders are revoked.<sup>131</sup>

In the original determinations, the Commission noted that the domestic producers had enumerated a number of situations in which they were not able to modernize their facilities. They also had curtailed expansion and were experiencing difficulty in raising capital due to the effects of the subject imports.<sup>132</sup> In addition, the Commission assessed the overall patterns of apparent domestic consumption, including the domestic industry's decreasing share, and noted the mixed data relating to domestic production and employment. The Commission stated that one producer had filed a petition for bankruptcy reorganization in 1990 and another producer had filed one in 1986. Net sales had declined as had aggregate gross profit and gross profit margins. Both the operating and net return on total assets had suffered steep declines during the period. Total capital expenditures had increased, then decreased at the end of the period, as did research and development expenses.<sup>133</sup>

In the first five-year reviews, the Commission found that the domestic industry was vulnerable to material injury should the orders be revoked. Two firms declared bankruptcy in 1993 and 1995, and most of the remaining firms had experienced \*\*\*. Two other domestic producers closed over the period. \*\*. Although the domestic industry's condition had improved since the orders were imposed, the gains were eroded over the period of review. Capacity utilization decreased over the period, as did production and domestic producers' shipments. Net sales decreased as well, as did the number of production and related workers and their hours worked. Capital expenditures decreased, but inventories were lower. The Commission found that the domestic industry's price and volume declines likely would have a significant

---

<sup>129</sup> 19 U.S.C. § 1675a(a)(4).

<sup>130</sup> 19 U.S.C. § 1675a(a)(4). Section 752(a)(6) of the Act states that "the Commission may consider the magnitude of the margin of dumping or the magnitude of the net countervailable subsidy" in making its determination in a five-year review. 19 U.S.C. § 1675a(a)(6). The statute defines the "magnitude of the margin of dumping" to be used by the Commission in five-year reviews as "the dumping margin or margins determined by the administering authority under section 1675a(c)(3) of this title." 19 U.S.C. § 1677(35)(C)(iv). See also SAA at 887. Commerce found that revocation of the antidumping duty orders would likely result in the continuation or recurrence of dumping at the following weighted-average margins: with respect to Brazil, it found a weighted-average margin of 93.20 percent for CCM and it found an all others margin of 91.06 percent. The orders with respect to CBCC and RIMA were revoked. 71 Fed. Reg. at 26,335.

<sup>131</sup> The SAA states that in assessing whether the domestic industry is vulnerable to injury if the order is revoked, the Commission "considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they may also demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports." SAA at 885.

<sup>132</sup> USITC Pub. 2385 at 28.

<sup>133</sup> USITC Pub. 2385 at 15-17; see USITC Pub. 2404 at 15.

adverse impact on the production, shipment, sales, and revenue levels of the domestic industry. These reductions would have a direct adverse impact on the industry's profitability as well as its ability to raise capital and maintain necessary capital investments. In addition, the Commission found it likely that revocation of the orders would result in commensurate employment declines for domestic firms.<sup>134</sup>

In these reviews, we do not find the domestic industry to be vulnerable. The industry is continuing to consolidate and Globe is now the only significant domestic open-market supplier. The industry's financial indicators show significant improvement, especially toward the end of the period of review, which the domestic industry ascribes, at least in part, to the antidumping duty order that was imposed on imports of silicon metal from Russia in 2003.<sup>135</sup> The ratio of operating income to net sales increased from \*\*\* percent in 2000 to \*\*\* percent in 2005.<sup>136</sup> Total net sales rose in terms of quantity and value between 2000 and 2005.<sup>137</sup> Operating income increased from \*\*\* in 2000 to \*\*\* in 2005.<sup>138</sup> While there is some evidence in the record that the domestic industry faces a cost/price squeeze, as the cost of goods sold relative to net sales increased from 2004 to 2005, this ratio decreased over the full review period.<sup>139</sup> Capital expenditures also rose over the period of review,<sup>140</sup> although research and development expenses declined.<sup>141</sup>

In terms of other factors indicating the condition of the domestic industry, capacity decreased over the period of review.<sup>142</sup> Production followed the same trend,<sup>143</sup> as did total U.S. shipments.<sup>144</sup> Domestic market share also fell over the period.<sup>145</sup> Inventories decreased, however.<sup>146</sup> Regarding

---

<sup>134</sup> USITC Pub. 3385 at 19-20.

<sup>135</sup> For example, \*\*\* reported that two U.S. plants had shut down in 2001 because of low-priced imports from Russia. CR at II-13, PR at II-8. \*\*\*. CR at D-4, PR at D-3. See also Globe's Prehearing Brief at 16.

<sup>136</sup> CR/PR at Table III-5. The operating income ratio was \*\*\* percent in 2001, \*\*\* percent in 2002 and \*\*\* percent in 2003. CR/PR at Table III-5.

<sup>137</sup> Total net sales increased from \*\*\* gross short tons in 2000 to \*\*\* gross short tons in 2005. In terms of value, total net sales increased from \$\*\*\* million in 2000 to \$\*\*\* million in 2005. CR/PR at Table III-5.

<sup>138</sup> CR/PR at Table III-5. In addition, gross profit increased from \$\*\*\* million in 2000 to \$\*\*\* million in 2005. A \*\*\* in 2000 became \*\*\* in 2005. CR/PR at Table III-5.

<sup>139</sup> The average cost of goods sold relative to net sales was \*\*\* percent in 2000, \*\*\* percent in 2004 and \*\*\* percent in 2005. CR/PR at Table III-5.

<sup>140</sup> Capital expenditures rose from \$\*\*\* million in 2000 to \$\*\*\* million in 2005. CR/PR at Table III-10.

<sup>141</sup> Research and development expenses declined from \$\*\*\* million in 2000 to \$\*\*\* million in 2005. CR/PR at Table III-10.

<sup>142</sup> Capacity decreased from \*\*\* gross short tons in 2000 to \*\*\* gross short tons in 2005. CR/PR at Table III-1.

<sup>143</sup> Production declined from \*\*\* gross short tons in 2000 to \*\*\* gross short tons in 2005. CR/PR at Table III-1.

<sup>144</sup> Total U.S. shipments fell from \*\*\* gross short tons in 2000 to \*\*\* gross short tons in 2005. CR/PR at Table III-2. The value of total U.S. shipments fell from \$\*\*\* million in 2000 to \$\*\*\* million in 2005. CR/PR at Table III-2.

<sup>145</sup> As measured by quantity, domestic producers' share of apparent U.S. consumption declined from \*\*\* percent in 2000 to \*\*\* percent in 2005. As measured by value, domestic producers' share of apparent U.S. consumption fell from \*\*\* percent in 2000 to \*\*\* percent in 2005. CR/PR at Table I-6.

<sup>146</sup> Inventories fell from \*\*\* gross short tons in 2000 to \*\*\* gross short tons in 2005. CR/PR at Table III-3.

employment indicators, the number of workers declined,<sup>147</sup> as did their hours worked.<sup>148</sup> Their productivity rose, however.<sup>149</sup>

Although a number of domestic industry indicators declined over the period of review, the fact remains that the industry \*\*\* improved financial condition at the end of the period of review than at the beginning, notwithstanding these other factors. In addition, the financial condition of the domestic industry improved in the face of significantly increased nonsubject imports, primarily nonsubject imports from Brazil.<sup>150</sup>

In view of the fact that we do not find that revocation of the order would likely lead to significantly increased subject imports from Brazil, nor to significant adverse price effects, we do not find that there will likely be a significant adverse impact on the domestic industry.

Based upon the foregoing, we find that revocation of the antidumping duty order covering silicon metal from Brazil would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

**F. Revocation of the Order on Subject Imports of Silicon Metal from China Is Likely to Lead to Continuation or Recurrence of Material Injury Within a Reasonably Foreseeable Time**

We adopt the language above in our discussion of the determination with respect to Brazil describing the factors the Commission must consider in making its findings on the likely volume, price and impact of subject imports if the order on silicon metal from China were revoked.

**1. Likely Volume of the Subject Imports<sup>151</sup>**

In the original investigations, the volume of subject imports from China increased from 10,000 gross short tons in 1988 to 26,000 gross short tons in 1990.<sup>152</sup> Data regarding Chinese producers' capacity, production, capacity utilization, and export shipments during the original period of investigation were not available.<sup>153</sup>

---

<sup>147</sup> The number of workers decreased from \*\*\* in 2000 to \*\*\* in 2005. CR/PR at Table III-4.

<sup>148</sup> Hours worked fell from \*\*\* million in 2000 to \*\*\* million in 2005. CR/PR at Table III-4.

<sup>149</sup> Productivity increased from \*\*\* gross short tons per 1,000 hours in 2000 to \*\*\* gross short tons per 1,000 hours in 2005. CR/PR at Table III-4.

<sup>150</sup> Total imports, subject and nonsubject, increased from 140,768 gross short tons in 2000 to 162,525 gross short tons in 2005. Nonsubject imports from Brazil rose from 0 in 2000 to \*\*\* gross short tons in 2005. CR/PR at Table IV-1.

<sup>151</sup> We have described above in our discussion of our determination with respect to Brazil the Commission's findings in the original and first review determinations. We note that in the first reviews the Commission also found that China had significant unused capacity, approximating 37 percent of capacity. Combined with inventories at the time, this would represent at least 46 percent of U.S. consumption if the capacity were utilized to produce silicon metal that was shipped to the United States. The Commission stated that China's industry was export oriented and almost all of China's exports to the United States were TIB imports. China also faced an antidumping duty order in the EU with a 49 percent duty rate. USITC Pub. 3385 at 16-17.

<sup>152</sup> USITC Pub. 2385 at Table 2.

<sup>153</sup> USITC Pub. 2385 at Table 21.

In the first review investigations, the volume of subject imports from China remained steady at approximately 3,000 gross short tons annually from 1997 to 1999.<sup>154</sup> The five responding Chinese producers<sup>155</sup> reported that capacity increased from 20,300 gross short tons in 1997 to 28,400 gross short tons in 1999. Production increased from 18,380 gross short tons in 1997 to 25,600 gross short tons in 1999. Capacity utilization was steady over the period at 90.5 percent in 1997 and 90.1 percent in 1999. Total export shipments increased from 14,260 gross short tons to 21,060 gross short tons over the same period.<sup>156</sup>

In these review investigations, subject imports from China declined over the period, yet remain present in the market.<sup>157</sup> The value of these imports increased.<sup>158</sup> Although no Chinese producers responded to our questionnaires, available data indicate that Chinese subject producers' current capacity is at least \*\*\* metric tons per year.<sup>159</sup> This capacity represents approximately \*\*\* the level of apparent consumption in the United States in 2005.<sup>160</sup> Capacity utilization is estimated to be \*\*\* percent.<sup>161</sup> Chinese subject production \*\*\* over the period of review, rising from \*\*\* gross short tons in 2000 to \*\*\* gross short tons in 2005<sup>162</sup> as did total Chinese export shipments, which were approximately \*\*\* percent of total shipments in 2005.<sup>163</sup> <sup>164</sup> Finally, nothing in the record in these review investigations indicates that the Chinese producers would behave differently upon revocation of the order than they did during the original investigations and first reviews.

In view of China's large capacity, significant excess capacity, high and increasing level of production, and export shipments, we find that subject imports of silicon metal from China would likely be significant either in absolute terms or relative to production or consumption in the United States in the reasonably foreseeable future if the antidumping duty order were revoked.

---

<sup>154</sup> USITC Pub. 3385 at Table I-1. TIB imports accounted for 80 percent of these imports in 1997, 98 percent in 1998 and 100 percent in 1999. USITC Pub. 3385 at Table I-1 n.4.

<sup>155</sup> Coverage of the Chinese industry was very low; the Commission noted that China's reported production represented only 10 percent of total exports. USITC Pub. 3385 at 16-17.

<sup>156</sup> USITC Pub. 3385 at Table IV-5.

<sup>157</sup> Subject imports from China declined from 52 gross short tons in 2000 to 44 gross short tons in 2005. CR/PR at Table IV-1.

<sup>158</sup> The value of subject imports from China increased from \$55,000 in 2000 to \$76,000 in 2005. CR/PR at Table IV-1.

<sup>159</sup> CR at IV-18, PR at IV-9.

<sup>160</sup> Compare CR/PR at Table I-1 with CR/PR at Table IV-4.

<sup>161</sup> CR at IV-18, PR at IV-9.

<sup>162</sup> CR/PR at Table IV-4.

<sup>163</sup> Chinese total export shipments climbed from \*\*\* gross short tons in 2000 to \*\*\* gross short tons in 2005. Total shipments were \*\*\* gross short tons in 2005. CR/PR at Table IV-4.

<sup>164</sup> In addition, as explained earlier, evidence in the record shows that subject Chinese producers and/or importers have engaged in unlawful methods to circumvent the antidumping duty order. Globe's Prehearing Brief, Exhs. 10 & 11.

## 2. Likely Price Effects of the Subject Imports<sup>165</sup>

There are no pricing comparisons available in these review investigations with regard to subject product from China. However, the low unit values of the nonsubject TIB imports from China provide some indication of the likely prices of subject merchandise upon revocation of the order. The average unit value of nonsubject TIB imports from China was \$1,118 per gross short ton in 2004 and \$1,065 per gross short ton in 2005, as compared to \$\*\*\* per gross short ton for subject imports from Brazil in 2004, and \$\*\*\* per gross short ton in 2004 and \$\*\*\* per gross short ton in 2005 for nonsubject imports from Brazil.<sup>166</sup>

Further, prices for Chinese silicon metal as reported in Metal Bulletin, a source sometimes used in price negotiations and typically used for price adjustments within a contract, show that the price of Chinese silicon metal was below the price of U.S. silicon metal in all months for which such data were available between 2000 and 2006.<sup>167</sup>

As noted above, the quality of the Chinese subject product has improved since the last reviews, which renders it more interchangeable with the domestic product and, therefore, more likely that U.S. purchasers will buy significant increased volumes of the lower-priced subject Chinese imports upon revocation of the order.

We find that data from the original investigations and first reviews indicate that the likely significant increased volumes of subject imports from China are likely to enter the U.S. market at prices that would significantly undersell the domestic product as well as significantly depress or suppress domestic prices within a reasonably foreseeable time if the order were revoked.

## 3. Likely Impact of the Subject Imports<sup>168</sup>

We concluded above that revocation of the antidumping duty order with respect to China likely would lead to significant increases in the volume of subject imports that would undersell the domestic like product and significantly depress or suppress U.S. prices. While we do not find that the domestic industry is vulnerable within the meaning of the statute, and although demand is projected to grow, the likely substantial volume and price effects of the subject imports from China would be sufficient to have a significant negative impact on the production, shipment, sales, and revenue levels of the domestic industry, as in the first reviews. As in the first reviews as well, these reductions would likely have a direct adverse impact on the industry's profitability as well as its ability to raise capital and maintain necessary capital investments, and it is likely that revocation of the order would also result in

---

<sup>165</sup> We have described above in our discussion of our determination with respect to Brazil the Commission's findings in the original and first review determinations. We note that in the first reviews the Commission also found that the prices for Chinese silicon metal were primarily for secondary aluminum product, brought into the United States under TIB and not subject to antidumping duties. Pricing data for the Chinese product were limited, showing only two price comparisons, with one underselling margin of \*\*\*. In the original investigation, the margins of underselling of the Chinese product ranged from 3.6 percent to 13.6 percent. USITC Pub. 3385 at 18; INV-X-254 at Table V-1.

<sup>166</sup> CR/PR at Table I-1. We note that the Brazilian producers have identified product mix issues with respect to reliance on AUVs to compare Brazilian prices in Canada and Mexico with those in the United States. See Brazilian Respondents' Posthearing Brief at Q-27. Globe does not agree with the Brazilian producers. Globe's Final Comments at 5. Nonetheless, we view these data with caution.

<sup>167</sup> CR/PR at Figure V-2, CR at V-4, PR at V-3.

<sup>168</sup> We have described above in our discussion of our determination with respect to Brazil the Commission's findings in the original and first review determinations.

commensurate employment declines for domestic firms.<sup>169</sup> Based on the facts available in these reviews, we conclude that if the order on subject imports from China were revoked, the circumstances present during the original and review investigations would recur and there would be a significant adverse impact on the domestic industry.

### **CONCLUSION**

For the foregoing reasons, we determine that revocation of the antidumping duty order on silicon metal from Brazil would not likely lead to the continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time. We also determine that revocation of the antidumping duty order on silicon metal from China would likely lead to the continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

---

<sup>169</sup> See USITC Pub. 3385 at 19-20.



## PART I: INTRODUCTION AND OVERVIEW

### BACKGROUND

On January 3, 2006, the Commission gave notice, pursuant to section 751(c) of the Tariff Act of 1930 (the Act), that it had instituted reviews to determine whether revocation of the antidumping duty orders on silicon metal from Brazil and China would likely lead to the continuation or recurrence of material injury to a domestic industry. Effective April 10, 2006, the Commission determined that it would conduct full reviews pursuant to section 751(c)(5) of the Act. Information relating to the background and schedule of the reviews is provided in the following tabulation.<sup>1</sup>

Effective date	Action
June 10, 1991 July 31, 1991	Commerce's antidumping duty order on China (56 FR 26649) Commerce's antidumping duty order on Brazil (56 FR 36135)
January 3, 2006	Commission's institution of reviews (71 FR 138)
April 10, 2006	Commission's decision to conduct full reviews (71 FR 23947, April 25, 2006)
May 2, 2006	Commission's scheduling of the reviews (71 FR 26782, May 8, 2006)
May 4, 2006	Commerce's final results of expedited reviews (71 FR 26334, May 4, 2006)
July 11, 2006	Commission's revised scheduling of the reviews (71 FR 40543, July 17, 2006)
September 19, 2006	Commission's hearing <sup>1</sup>
November 15, 2006	Date of the Commission's vote
December 6, 2006	Commission's determinations transmitted to Commerce

<sup>1</sup> A list of witnesses appearing at the hearing is included in app. B.

### The Original Investigations

On August 24, 1990, a petition was filed with Commerce and the Commission alleging that an industry in the United States was materially injured by reason of dumped imports of silicon metal from Argentina, Brazil, and China.<sup>2</sup>

On June 12, 1991, Commerce made a final affirmative determination of sales at less than fair value ("LTFV") for Brazil, with margins of 87.79 percent for Companhia Brasileira Carbureto De Calcio ("CBCC"), 93.20 percent for Camargo Correa Metais S.A. ("Camargo"), and 91.06 percent for all other firms. The Commission made a final affirmative injury determination on July 24, 1991, and Commerce issued an antidumping duty order on July 31, 1991.

---

<sup>1</sup> The Commission's notice of institution, notice to conduct full reviews, scheduling notice, and statement on adequacy appear in app. A and may also be found at the Commission's web site (internet address [www.usitc.gov](http://www.usitc.gov)). Commissioners' votes on whether to conduct expedited or full reviews may also be found at the web site.

<sup>2</sup> The petition was filed by American Alloys, Inc. ("American Alloys"); Elkem Metals Co., L.P. ("Elkem"); Silicon Metaltech, Inc.; SiMETCO, Inc.; and SKW Alloys, Inc. ("SKW").

For China, on April 23, 1991, Commerce made a final affirmative LTFV determination, with a margin of 139.49 percent for all firms. The Commission made a final affirmative injury determination on June 3, 1991, and Commerce issued an antidumping duty order on June 10, 1991.<sup>3</sup>

Table I-1 presents a summary of data from the original investigations, the first reviews, and the current reviews.

**Table I-1**  
**Silicon metal: Summary data from the original investigations, the first reviews, and the current reviews, 1988-90 and 1997-2005**

(Quantity=1,000 gross short tons; value=1,000,000 dollars; unit values, unit labor costs, and unit financial data are per gross short ton)

Item	Calendar year <sup>1</sup>											
	1988	1989	1990	1997	1998	1999	2000	2001	2002	2003	2004	2005
U.S. consumption quantity:												
Amount	214	196	217	339	321	330	***	***	***	***	***	***
Producers' share <sup>2</sup>	71.7	75.2	66.7	61.0	64.5	61.7	***	***	***	***	***	***
Importers' share:												
Brazil (subject) <sup>2,3</sup>	6.0	8.5	14.8	3.2	2.0	4.3	***	***	***	***	***	***
Brazil (nonsubject) <sup>2,3</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	***	***	***	***	***
China (subject) <sup>2,3</sup>	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	***	***	***	***	***	***
China (nonsubject TIB) <sup>2,3</sup>	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	***	***	***	***	***	***
China (total) <sup>2,3</sup>	4.5	5.4	12.1	0.9	1.0	1.0	***	***	***	***	***	***
All other countries <sup>2</sup>	17.7	10.8	6.4	34.9	32.6	33.0	***	***	***	***	***	***
Total imports <sup>2</sup>	28.3	24.8	33.3	39.0	35.5	38.3	***	***	***	***	***	***
U.S. consumption value:												
Amount	269	235	242	519	459	426	***	***	***	***	***	***
Producers' share <sup>2</sup>	72.5	78.8	71.1	61.8	67.6	65.2	***	***	***	***	***	***
Importers' share:												
Brazil (subject) <sup>2,3</sup>	6.3	7.9	12.8	3.3	1.8	4.0	***	***	***	***	***	***
Brazil (nonsubject) <sup>2,3</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	***	***	***	***	***

Table continued on next page.

<sup>3</sup> Commerce also made a final affirmative LTFV determination for Argentina. The Commission made a final affirmative injury determination on September 19, 1991, and Commerce issued an antidumping duty order on September 26, 1991. In the first five-year reviews ("first reviews"), conducted in 2000-01, the Commission determined that "the revocation of the antidumping duty order on silicon metal from Argentina would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time." See *Silicon Metal From Argentina, Brazil, and China, Invs. Nos. 731-TA-470-472 (Review)*, USITC Publication 3385, January 2001, p. 1. Commerce subsequently revoked the antidumping duty order on silicon metal from Argentina effective January 1, 2000 (66 FR 10669, February 16, 2001).

**Table I-1--Continued**

**Silicon metal: Summary data from the original investigations, the first reviews, and the current reviews, 1988-90 and 1997-2005**

(Quantity=1,000 gross short tons; value=1,000,000 dollars; unit values, unit labor costs, and unit financial data are per gross short ton)

Item	Calendar year <sup>1</sup>											
	1988	1989	1990	1997	1998	1999	2000	2001	2002	2003	2004	2005
Importers' share: China (subject) <sup>2,3</sup>	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	***	***	***	***	***	***
China (nonsubject TIB) <sup>2,3</sup>	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	***	***	***	***	***	***
China (total) <sup>2,3</sup>	4.4	5.1	9.7	0.6	0.6	0.7	***	***	***	***	***	***
All other countries <sup>2</sup>	16.8	8.3	6.4	34.3	30.1	30.1	***	***	***	***	***	***
Total imports <sup>2</sup>	27.5	21.2	28.9	38.2	32.4	34.8	***	***	***	***	***	***
U.S. imports from-- Brazil (subject): Quantity	13	17	32	11	6	14	23	***	***	***	***	***
Value <sup>5</sup>	17	19	31	17	8	17	30	***	***	***	***	***
Unit value	\$1,307	\$1,110	\$963	\$1,576	\$1,302	\$1,206	\$1,295	\$***	\$***	\$***	\$***	***
Brazil (nonsubject): Quantity	0	0	0	0	0	0	0	***	***	***	***	***
Value <sup>5</sup>	0	0	0	0	0	0	0	***	***	***	***	***
Unit value	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	\$***	\$***	\$***	\$***	\$***
China: (subject): Quantity	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	0.1	1	0.03	0.02	0.01	0.04
Value <sup>5</sup>	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	0.06	1	0.04	0.02	0.12	0.08
Unit value	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	\$1,058	\$942	\$1,182	\$1,045	\$1,009	\$1,727
China: (nonsubject TIB): Quantity	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	5	3	5	3	3	3
Value <sup>5</sup>	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	4	2	4	3	3	3
Unit value	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	\$793	\$720	\$758	\$858	\$1,118	\$1,065
China: (total): Quantity	10	11	26	3	3	3	5	4	6	3	3	3
Value <sup>5</sup>	12	12	24	3	3	3	4	3	4	3	3	3
Unit value	\$1,211	\$1,121	\$893	\$1,050	\$837	\$868	\$796	\$781	\$760	\$859	\$1,114	\$1,076

Table continued on next page.

**Table I-1--Continued**

**Silicon metal: Summary data from the original investigations, the first reviews, and the current reviews, 1988-90 and 1997-2005**

(Quantity=1,000 gross short tons; value=1,000,000 dollars; unit values, unit labor costs, and unit financial data are per gross short ton)

Item	Calendar year <sup>1</sup>											
	1988	1989	1990	1997	1998	1999	2000	2001	2002	2003	2004	2005
U.S. imports from-- All other countries: Quantity	38	21	14	118	104	109	113	108	112	79	97	90
Value <sup>5</sup>	45	19	16	178	138	128	124	113	114	89	127	139
Unit value	\$1,190	\$925	\$1,117	\$1,507	\$1,319	\$1,179	\$1,096	\$1,047	\$1,022	\$1,124	\$1,308	\$1,538
All countries: Quantity	60	49	72	132	114	126	141	130	160	138	177	163
Value <sup>5</sup>	74	50	70	199	149	148	157	139	173	158	224	240
Unit value	\$1,223	\$1,026	\$968	\$1,502	\$1,305	\$1,174	\$1,117	\$1,072	\$1,085	\$1,139	\$1,266	\$1,476
U.S. producers'-- Capacity quantity	178	178	183	226	234	237	***	***	***	***	***	***
Production quantity	161	153	157	213	213	209	***	***	***	***	***	***
Capacity utilization <sup>2</sup>	90.1	85.5	85.5	94.4	91.1	88.3	***	***	***	***	***	***
U.S. shipments: Quantity	153	148	145	207	207	203	***	***	***	***	***	***
Value	195	186	172	321	310	278	***	***	***	***	***	***
Unit value	\$1,271	\$1,258	\$1,188	\$1,552	\$1,499	\$1,365	\$***	\$***	\$***	\$***	\$***	\$***
Ending inventory quantity	7	10	15	11	11	9	***	***	***	***	***	***
Inventories/total shipments <sup>2</sup>	4.5	6.4	9.9	5.3	5.2	4.4	***	***	***	***	***	***
Production workers	572	546	571	816	816	770	***	***	***	***	***	***
Hours worked (1,000 hours)	1,256	1,138	1,216	1,936	1,801	1,750	***	***	***	***	***	***
U.S. producers'-- Wages paid (1,000 dollars)	17,046	15,757	17,413	31,474	31,829	32,174	***	***	***	***	***	***
Hourly wages	\$13.57	\$13.85	\$14.32	\$16.26	\$17.67	\$18.39	\$***	\$***	\$***	\$***	\$***	\$***
Productivity (gross short tons per 1,000 hours)	104.5	100.4	99.8	110.0	118.4	119.5	***	***	***	***	***	***
Net sales: Quantity	158	143	141	***	***	***	***	***	***	***	***	***
Value	203	179	169	***	***	***	***	***	***	***	***	***
Unit value	\$1,283	\$1,253	\$1,192	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***
Cost of goods sold	177	168	160	***	***	***	***	***	***	***	***	***
Gross profit or (loss)	26	11	9	***	***	***	***	***	***	***	***	***

Table continued on next page.

**Table I-1--Continued**

**Silicon metal: Summary data from the original investigations, the first reviews, and the current reviews, 1988-90 and 1997-2005**

(Quantity=1,000 gross short tons; value=1,000,000 dollars; unit values, unit labor costs, and unit financial data are per gross short ton)

Item	Calendar year <sup>1</sup>											
	1988	1989	1990	1997	1998	1999	2000	2001	2002	2003	2004	2005
U.S. producers'-- Operating income or (loss)	16	0.8	(2)	***	***	***	***	***	***	***	***	***
Unit cost of goods sold	\$1,121	\$1,174	\$1,130	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***	\$***
Unit operating income or (loss)	\$101	\$5	\$(12)	\$***	\$***	\$***	\$***	***	***	***	***	***
Cost of goods sold/sales <sup>2</sup>	87.4	93.6	94.8	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales <sup>2</sup>	7.9	0.4	(1.0)	***	***	***	***	***	***	***	***	***
<sup>1</sup> Financial data for 1997-2005 are on a fiscal year basis. <sup>2</sup> In percent. <sup>3</sup> The antidumping duty order on imports from Brazilian producer Rima Industrial SA ("RIMA") was revoked effective July 1, 2001. The antidumping duty order on imports from Brazilian producer CBCC was revoked effective July 1, 2002. Imports from these two companies (RIMA during July-December 2001 and 2002-05 and CBCC during July-December 2002 and 2003-05) are presented in this table as Brazil nonsubject imports. "Subject" imports from China are imports which were not brought into the United States under the Temporary Imports under Bond ("TIB") program; "nonsubject" imports from China were imports brought in under the TIB program. In this program, the imports are free as articles to be processed under bond for exportation, including processes which result in articles manufactured or produced in the United States. If the imports are subsequently exported (including products made in the United States using the import as a raw material) the bond is refunded and no antidumping duties are levied. Although it is possible that the imports brought in under the TIB program were subsequently entered into the United States for consumption (upon which time antidumping duties would have been levied), staff believes that the great majority, if not all, of these imports were exported and therefore free of the antidumping duties. This distinction between TIB and non-TIB imports from China was not made in the original investigations or in the first reviews. <sup>4</sup> Not applicable. <sup>5</sup> Landed, duty-paid.												
<p>Note.--Because of rounding, figures may not add to the totals shown.</p> <p>Source: Data for 1988-90 and 1997-99 are from the <i>Staff Report on Investigation Nos. 731-TA-470-472 (Review)</i>, pp. I-4 and I-5 (which were compiled from data submitted in response to Commission questionnaires and from official Commerce statistics). Data for 2000-05 are compiled from data submitted in response to Commission questionnaires and from adjusted official Commerce statistics in the current reviews. Official Commerce statistics were adjusted to remove imports that are outside of the scope of these reviews and misclassified imports. Information from proprietary U.S. Customs and Border Protection ("Customs") data was used to determine imports that are provided for under HTS subheading 2804.69.50 and contain less than 89 percent silicon by weight; these imports are out of the scope of these reviews and were removed. The amount of silicon contained in these imports was determined by dividing the second unit of quantity (kilograms of contained silicon metal) noted in the HTS by the first unit of quantity (gross kilograms). Misclassified imports, determined by responses to the Commission's importer questionnaire, were also removed. These included: imports from nonsubject countries in 2000 of 15.9 short tons and \$45,016 of landed-duty-paid value reported by ***, imports from nonsubject countries in 2001 of 8.5 short tons and \$14,220 landed-duty-paid value reported by ***, and imports from China of 4.5 short tons and \$3,504 in landed-duty-paid value in 2002 reported by ***.</p>												

**Statutory Criteria and Organization of the Report**

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

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

*(1) IN GENERAL.-- . . . the Commission shall determine whether revocation of an order, or termination of a suspended investigation, would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time. The Commission shall consider the likely volume, price effect, and impact of imports of the subject merchandise on the industry if the order is revoked or the suspended investigation is terminated. The Commission shall take into account--*

*(A) its prior injury determinations, including the volume, price effect, and impact of imports of the subject merchandise on the industry before the order was issued or the suspension agreement was accepted,*

*(B) whether any improvement in the state of the industry is related to the order or the suspension agreement,*

*(C) whether the industry is vulnerable to material injury if the order is revoked or the suspension agreement is terminated, and*

*(D) in an antidumping proceeding . . . , (Commerce's findings) regarding duty absorption . . .*

*(2) VOLUME.--In evaluating the likely volume of imports of the subject merchandise if the order is revoked or the suspended investigation is terminated, the Commission shall consider whether the likely volume of imports of the subject merchandise would be significant if the order is revoked or the suspended investigation is terminated, either in absolute terms or relative to production or consumption in the United States. In so doing, the Commission shall consider all relevant economic factors, including--*

*(A) any likely increase in production capacity or existing unused production capacity in the exporting country,*

*(B) existing inventories of the subject merchandise, or likely increases in inventories,*

*(C) the existence of barriers to the importation of such merchandise into countries other than the United States, and*

*(D) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products.*

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

*(A) there is likely to be significant price underselling by imports of the subject merchandise as compared to domestic like products, and*

*(B) imports of the subject merchandise are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of domestic like products.*

*(4) IMPACT ON THE INDUSTRY.--In evaluating the likely impact of imports of the subject merchandise on the industry if the order is revoked or the suspended investigation is terminated, the Commission shall consider all relevant economic factors*

*which are likely to have a bearing on the state of the industry in the United States, including, but not limited to--*

*(A) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity,*

*(B) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, and*

*(C) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.*

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

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

Information obtained during the course of these reviews that relates to the above factors is presented throughout this report. A summary of data collected in the reviews is presented in appendix C. U.S. industry data are based on questionnaire responses of three companies that accounted for virtually all U.S. production of silicon metal during 2005. U.S. import data are based on adjusted official Commerce statistics.<sup>4</sup> Responses by U.S. producers, importers, and purchasers of silicon metal and producers of silicon metal in Brazil to a series of questions concerning the significance of the existing antidumping duty orders and the likely effects of revocation are presented in appendix D.<sup>5</sup>

## **COMMERCE’S RESULTS OF EXPEDITED REVIEWS**

On May 4, 2006, Commerce found that revocation of the antidumping duty orders on silicon metal from Brazil and China would likely lead to continuation or recurrence of dumping as follows:<sup>6</sup>

---

<sup>4</sup> Official Commerce statistics were adjusted to remove imports out of the scope of these reviews and misclassified imports. Information from proprietary Customs data was used to determine imports provided for under HTS subheading 2804.69.50 and containing less than 89 percent silicon by weight; these were removed. The amount of silicon contained in these imports was determined by dividing the second unit of quantity (kilograms of contained silicon metal) noted in the HTS by the first unit of quantity (gross kilograms). Misclassified imports, determined by responses to the Commission’s importer questionnaire, were also removed. These included: imports from nonsubject countries in 2000 of 15.9 short tons and \$45,016 of landed-duty-paid value reported by \*\*\*, imports from nonsubject countries in 2001 of 8.5 short tons and \$14,220 landed-duty-paid value reported by \*\*\*, and imports from China of 4.5 short tons and \$3,504 in landed-duty-paid value in 2002 reported by \*\*\*. A \*\*\* provided information on China and the world market.

<sup>5</sup> No producer in China submitted a response to the Commission’s questionnaire.

<sup>6</sup> Commerce’s notice is presented in app. A. The antidumping duty order on imports from RIMA was revoked effective July 1, 2001 (67 FR 77225, December 17, 2002). The antidumping duty order on imports from CBCC was revoked effective July 1, 2002 (68 FR 57670, October 6, 2003).

<b>Producer</b>	<b>Dumping margins (percent)</b>
China	139.49
Brazil:	
Camargo	93.20
CBCC	Antidumping duty order revoked
RIMA	Antidumping duty order revoked
All others	91.06

Commerce has not issued a duty absorption determination with respect to these orders.

### COMMERCE'S ADMINISTRATIVE AND NEW SHIPPER REVIEWS

Commerce has conducted 12 administrative reviews of the antidumping duty order on silicon metal from Brazil as shown in the following tabulation:

<b>Period of review</b>	<b>Date results published</b>	<b>Margin (percent)</b>
3/29/91-6/30/92	3/02 (67 FR 10664)	CBCC ..... 0.42 Eletrosilex ..... 53.63 Minasligas ..... 48.48
7/1/92-6/30/93	5/00 (65 FR 33297)	CBCC ..... 35.43 Minasligas ..... 0.00 Eletrosilex ..... 51.84 RIMA ..... 31.60
7/1/93-6/30/94	10/97 (62 FR 54094)	CBCC ..... 61.58 Camargo ..... 35.23 Eletrosilex ..... 38.39 Minasligas ..... 0.00 RIMA ..... 91.06
7/1/94-6/30/95	5/02 (67 FR 35099)	CBCC ..... 0.37 Camargo ..... 35.23 Eletrosilex ..... 13.18 Minasligas ..... 9.68 RIMA ..... 81.61
7/1/95-6/30/96	2/02 (67 FR 6229)	CBCC ..... 0.00 Eletrosilex ..... 39.00 Minasligas ..... 1.67 RIMA ..... 3.27
7/1/96-6/30/97	2/99 (64 FR 6305)	Eletrosilex ..... 93.20 Minasligas ..... 9.47 CBCC ..... 0.00 LIASA ..... 0.00 RIMA ..... 0.00
4/1/97-3/31/98	2/00 (65 FR 7497)	Eletrosilex ..... 18.87 CBCC ..... 0.05 LIASA ..... 0.00 RIMA ..... 0.00

Tabulation continued on next page.

Period of review	Date results published	Margin (percent)
7/1/98-6/30/99	2/01 (66 FR 11256)	RIMA . . . . . 0.00 Minasligas . . . . . 0.00 LIASA . . . . . 0.00 CBCC . . . . . 0.63 Eletrosilex . . . . . 93.20
7/1/99-6/30/00	3/02 (67 FR 11979)	RIMA . . . . . 0.35 Minasligas . . . . . 1.23 LIASA . . . . . 0.00 CBCC . . . . . 0.02
7/1/00-6/30/01	12/02 (67 FR 77225)	RIMA . . . . . 0.00 Minasligas . . . . . 0.74 CBCC . . . . . 0.00 The antidumping duty order on imports from RIMA was revoked effective 7/1/01.
7/1/01-6/30/02	10/03 (68 FR 57671)	CBCC . . . . . 0.00 The antidumping duty order on imports from CBCC was revoked effective 7/1/02.
7/1/03-6/30/04	2/06 (71 FR 7517)	Camargo . . . . . 0.00

Note.--Carmargo is Carmargo Correa Metais S.A., Eletrosilex is Eletrosilex Belo Horizonte, LIASA is Ligas De Alumínio S.A., and Minasligas is Companhia Ferroligas Minas Gerais-Minasligas.

Note.--Some of these *Federal Register* citations refer to amended final results which, in some cases, were issued years after the original final results.

Commerce published its final results in the first administrative review on August 19, 1994 (59 FR 42806). On May 15, 1997, the U.S. Court of International Trade ("CIT") remanded the final results. Commerce provided the CIT with the final results of its redetermination on November 14, 1997. The CIT issued a second remand in 1998 and a third remand in 2000. Commerce filed its amended results pursuant to the third remand with the CIT on March 12, 2001 and issued its final amended results on March 8, 2002.

In the second administrative review, final results were issued on September 5, 1996 (61 FR 46763). On September 9, 1997, Commerce amended the final results (62 FR 47441). The results were remanded on July 30, 1998 by the CIT. On December 16, 1998, Commerce filed its redetermination pursuant to remand to the CIT. On February 17, 1999, the CIT upheld the redetermination and Commerce issued its final amended result on May 23, 2000.

In the fourth administrative review, final results were issued on January 14, 1997 (62 FR 1970). On August 18, 1997, the CIT directed Commerce to correct ministerial errors and Commerce amended the final results on October 17, 1997 (62 FR 54087). On April 9, 1999, the CIT remanded the results and Commerce filed its redetermination on remand to the CIT on September 23, 1999. CBCC appealed Commerce's redetermination and the CIT stayed its judgement with respect to CBCC only. Amended final results were issued on May 17, 2002 for Minasligas, Eletrosilex, RIMA, and CCM.

In the fifth administrative review, final results were issued on February 11, 1998 (63 FR 6899). On August 19, 1999, the CIT remanded Commerce's determination and on March 9, 2000 the CIT affirmed the Department's redetermination and dismissed the case. American Silicon appealed the results to the U.S. Court of Appeals for the Federal Circuit ("CAFC") and the CAFC affirmed the decision of the CIT and Commerce's redetermination on August 16, 2001. Commerce issued its final amended results on February 11, 2002.

Commerce has conducted two administrative reviews of the antidumping duty order on silicon metal from China, as shown in the following tabulation:

Period of review	Date results published	Margin (percent)
6/1/96-05/31/97	7/98 (63 FR 37850)	China-wide rate . . . . . 139.49
6/1/01-05/31/02	6/03 (68 FR 35383)	Groupstars Chemical Co., Ltd. . . . . 139.49 All others . . . . . 139.49

Effective July 26, 2006, Commerce initiated new shipper reviews on two firms in China.<sup>7</sup>

**DISTRIBUTION OF CONTINUED DUMPING AND SUBSIDY OFFSET ACT FUNDS**

Under the provisions of the Continued Dumping and Subsidy Offset Act of 2000 (“CDSOA”), commonly known as the “Byrd Amendment,” duties assessed pursuant to an antidumping or countervailing duty order are distributed on an annual basis by Customs to “affected domestic firms.”<sup>8</sup> Since the enactment of the CDSOA, four U.S. producers have received fiscal year disbursements, as shown in the following tabulation.

Item	Fiscal year				
	2001	2002	2003	2004	2005
<b>U.S. dollars (actual)</b>					
American Alloys	0	751	0	0	0
Elkem	0	0	212	0	0
Globe Metallurgical, Inc. (“Globe”)	324,545	1,236,057	1,173,383	28,373	956
Simcala, Inc. (“Simcala”)	0	623,138	641,403	16,524	581
<p>Disbursements were also made to firms affected by silicon metal imports from Argentina. The antidumping duty order on silicon metal imports from Argentina was revoked effective January 1, 2000 (66 FR 10669). No disbursements were made in fiscal year 2001. In fiscal year 2002, the following firms received disbursements: American Alloys - \$0.24; Elkem - \$10,249.76; Globe - \$7,524.35; and Simcala - \$3,609.84. No disbursements were made in fiscal year 2003. In fiscal year 2004, Globe received \$80,624.03 and Simcala received \$38,816.63. Globe received \$170,301.42 and Simcala received \$81,674.86 in fiscal year 2005.</p> <p>Source: Customs, <i>CDSOA Annual Reports</i>, found at <a href="http://www.cbp.gov/xp/cgov/import/add_cvd/cont_dump/">http://www.cbp.gov/xp/cgov/import/add_cvd/cont_dump/</a>, retrieved August 17, 2006.</p>					

The disbursements relating to Brazil and China, broken out by country, are shown in the following tabulation.

Item	Fiscal year				
	2001	2002	2003	2004	2005
<b>U.S. dollars (actual)</b>					
Brazil	324,545	1,859,946	1,605,893	4,510	0
China	0	0	209,105	40,387	1,537
<p>Source: Customs, <i>CDSOA Annual Reports</i>, found at <a href="http://www.cbp.gov/xp/cgov/import/add_cvd/cont_dump/">http://www.cbp.gov/xp/cgov/import/add_cvd/cont_dump/</a>, retrieved August 17, 2006.</p>					

<sup>7</sup> 71 FR 42084, July 25, 2006.

<sup>8</sup> Under the provisions of the CDSOA (19 U.S.C. 1675(c)), the term “affected domestic producer” refers to any producer or worker representative that (1) was a petitioner or interested party in support of the petition leading to imposition of an antidumping or countervailing duty order or antidumping finding, and (2) remains in operation.

## THE SUBJECT PRODUCT

The imported product subject to the antidumping orders under review, as defined by Commerce, is:

silicon metal containing at least 96.00 percent but less than 99.99 percent silicon by weight. Also covered by this antidumping order is silicon metal containing between 89.00 and 96.00 percent silicon by weight but which contains more aluminum than the silicon metal containing at least 96.00 percent but less than 99.99 percent silicon by weight. Silicon metal is currently provided for under subheadings 2804.69.10 and 2804.69.50 of the Harmonized Tariff Schedule of the United States (HTSUS) as a chemical product, but is commonly referred to as a metal. Semiconductor grade silicon (silicon metal containing by weight not less than 99.99 percent silicon and provided for in subheading 2804.61.00 of the HTSUS) is not subject to the order. Although the HTSUS item numbers are provided for convenience and for customs purposes, the written description remains dispositive.<sup>9</sup>

Silicon metal provided for under subheading 2804.69.10 (containing by weight less than 99.99 percent but not less than 99 percent of silicon) has a normal trade relations tariff rate of 5.3 percent; when provided for under subheading 2804.69.50 (containing by weight less than 99 percent of silicon) it has a normal trade relations tariff rate of 5.5 percent.

### Physical Characteristics and Uses

Silicon is a chemical element, metallic in appearance, solid in mass, and steel gray in color, that is commonly found in nature in combination with oxygen either as silica (SiO<sub>2</sub>) or in combination with both oxygen and a metal in silicate minerals. Although commonly referred to as metal, silicon exhibits characteristics of both metals and nonmetals. Silicon metal is a polycrystalline material whose crystals have a diamond cubic structure at atmospheric pressure. Whether imported or domestic, it is usually sold in lump form typically ranging from 6 inches x ½ inch to 4 inches x ¼ inch.<sup>10</sup>

There are four broadly defined categories, or grades, of silicon metal, which are ranked in generally descending order of purity as: (1) semiconductor grade;<sup>11</sup> (2) chemical grade; (3) a metallurgical grade used to produce primary aluminum (aluminum produced from ore); and (4) a metallurgical grade used to produce secondary aluminum (aluminum produced from scrap).<sup>12</sup> However,

---

<sup>9</sup> 71 FR 26334, May 4, 2006.

<sup>10</sup> The dimensions refer to the maximum and minimum dimensions of the silicon metal lumps. If the specification is 6 inches x ½ inch, no dimension of a lump can be larger than 6 inches or smaller than ½ inch.

<sup>11</sup> Semiconductor-grade silicon, used in the electronics industry, is not covered by the scope of the antidumping duty orders on product from Brazil and China. It is a high-purity product generally containing over 99.99 percent silicon.

<sup>12</sup> Although silicon metal has been described in terms of different grades, there is, in fact, no uniformly accepted grade classification system. Silicon metal “grades” actually refer to ranges of specifications that are typically sold to particular groups of customers. These specifications, which exist within very narrow bands and are often proprietary, establish the minimum amounts of silicon and the maximum amounts of impurities such as iron, calcium, aluminum, or titanium, that the silicon metal may contain. Specifications for chemical-use silicon metal typically require silicon that contains less than 0.4 percent iron, less than 0.025 percent calcium, and less than 0.25 percent aluminum. Specifications for the metallurgical primary-aluminum use silicon metal typically require silicon that contains less than 0.5 percent iron (although some low-iron specifications call for less than 0.35 percent ) and less than 0.07 percent calcium (although some specifications call for less than 0.015 percent). Specifications for

(continued...)

higher grade silicon metal is frequently shipped to a purchaser with a lower specification requirement.<sup>13</sup> The silicon metal content for all four grades of silicon metal is typically at least 98.5 percent.

According to \*\*\*, there are no known substitutes for silicon metal.<sup>14</sup> Silicon metal is used in the chemical industry to produce silanes which are, in turn, used to produce a family of organic chemicals known as silicones. Silicones are used in a wide variety of applications including resins, lubricants,

---

<sup>12</sup> (...continued)

silicon metal used in metallurgical secondary-aluminum product typically allow for no more than 1 percent iron and no more than 0.35 percent calcium. Chemical customers each have their own detailed specifications. Requirements also vary widely among primary aluminum customers. Even some secondary aluminum customers, whose product comes closest to representing a commodity, have differences in tolerances with regard to impurities.

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

<sup>13</sup> According to petitioners in the original (2002) investigation on silicon metal from Russia, in general producers “make the best quality silicon metal they can possibly make and sell it down into the various chemical and aluminum applications” and “to the knowledge of domestic producers, no producer purposely sets out to produce a secondary aluminum product.” Silicon Metal from Russia, Inv. No. 731-TA-991 (Preliminary) conference transcript, p. 26 (Button), March 26, 2002. U.S. producers of silicon metal produce silicon metal whose specifications are designed to meet the most stringent requirements of their customers (which is not necessarily identical to the silicon metal produced by the other producers). If necessary, an adjustment may be made which simply involves the change of an input (e.g., the types of coal used to achieve a lower iron content) to meet the special needs of an established or new customer (\*\*\*) . Globe essentially reiterates this position in the current reviews:

“In fact, if there has been a change it’s been in the direction of a convergence to producing what is fundamentally a single high-quality product” (hearing transcript, p. 29 (Perkins)) and “Just to clarify one point, Globe fundamentally produces a single product which is sold to all types of customers” (hearing transcript, p. 116 (Kramer)).

In its posthearing brief in the current reviews, Globe quantified this statement, indicating that most of the silicon metal it sold exceeded customer specifications; for iron this amounted to about \*\*\* percent of customers and for calcium \*\*\* percent (Responses to Commission Questions, p. 1). The previous reference in the hearing transcript, p. 116, to “less than 10 percent” (Sims) is incorrect and was based on a misunderstanding of the question posed.

In Globe’s October 17, 2006 response to questions from the Commission staff, it indicated that \*\*\*.

In the Brazilian respondents’ October 17, 2006 response to questions from the Commission staff, each respondent reported on its individual operations. \*\*\* reported that there has been a trend by customers to “\*\*\*.” As such, silicon metal characteristics have become increasingly dissimilar requiring that “today \*\*\* needs to be tailored according to the customer/segment to which it will be directed.” “Accordingly, \*\*\* in the production process are tailor fit with respect to \*\*\*.” The possible exception to this trend is \*\*\*. \*\*\* indicated that it \*\*\* “some silicon {metal} producers such as Globe basically produce a single optimum product that essentially meets all specifications.” \*\*\* reported that its silicon metal production is “\*\*\*.” \*\*\*. Even within \*\*\*. \*\*\*. \*\*\* reported that its silicon metal production is tailor made, \*\*\*, and that it \*\*\* to produce one single product because “. . . it would require the application of \*\*\* procedures and, in certain circumstances, would actually require \*\*\*.” According to \*\*\*, a difference between the silicon metal production processes in the United States and Brazil which is \*\*\* is that in the United States mineral coal is used whereas in Brazil, vegetal coal is used. The use of vegetal coal, according to \*\*\*, \*\*\* the level of \*\*\*. \*\*\*.

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

plastomers, anti-foaming agents, and water-repellent compounds which are employed in the chemical, pharmaceutical, automotive, and aerospace industries.<sup>15</sup>

Silicon metal employed in the production of primary and secondary aluminum is used as an alloying agent (it is a required component in aluminum casting alloys) because the silicon increases fluidity and reduces shrinkage while it enhances strength, castability, and weldability.<sup>16</sup> Primary aluminum applications include the manufacture of components that require higher purity aluminum, such as automobile wheels. Secondary-aluminum applications apply primarily to the automotive castings industry. Other applications for silicon metal include the production of brass and bronzes, steel, cooper alloys, ceramic powders, and refractory coatings.

Another use of silicon which may experience significant growth is the use of silicon in solar panels for the generation of electricity. The silicon metal that is sold by silicon producers is of metallurgical grade which is further refined to a purity suitable for electronic applications by the manufacturers or suppliers of the solar panels.<sup>17</sup>

Globe and the Brazilian respondents disagree as to whether silicon metal is currently a commodity product. According to Globe, "Silicon metal is a commodity product. While the silicon metal purchased by a particular customer may need to conform to that customer's specifications, the differences in such specifications among buyers in the three main market segments (chemical, primary aluminum, and secondary aluminum) tend to be relatively minor and can be met by both domestic and import suppliers."<sup>18</sup> According to the Brazilian respondents, silicon metal is no longer a commodity product because "Silicon metal is no longer sold primarily on the basis of price. Evidence in past investigations may have suggested that this was the case several years ago, but the silicon metal market has changed significantly. Today, quality, ability to meet specifications, availability, delivery, reliability and a number of other factors are considered by U.S. purchasers more important than price itself."<sup>19</sup> Brazilian respondents asserted that Brazilian producers need to produce according to each customer's specifications as impurities such as iron, phosphorus, and titanium can't be refined later in the process and that after the silicon metal solidifies, the producer cannot change the specifications without further processing.<sup>20</sup>

An official of purchaser Alcoa appeared to suggest that the silicon metal that it purchases is not a commodity product.<sup>21</sup> He stressed the rigorous qualification process that silicon suppliers to Alcoa must undertake and the fact that the company requires at least seven specifications for the silicon it purchases. He does not believe that silicon producers typically make more or less large batches of one set of products and indicated that the silicon used by Alcoa does not have the "sameness" characteristics of a commodity. For example, Russia, although it produces silicon metal, cannot provide Alcoa with low-iron silicon metal.<sup>22</sup>

---

<sup>15</sup> Petition in the original (2002) investigation on silicon metal from Russia, p. 10; *Kirk-Othmer Encyclopedia of Chemical Technology*, on-line version located at <http://www.mrw.interscience.wiley.com/kirk/articles/pureruny.a01/sect6-fs.html>.

<sup>16</sup> Because iron interferes with these functions, the iron content of silicon metal used in the production of aluminum is usually limited to a maximum of 1 percent or less.

<sup>17</sup> Staff conversation with \*\*\*, August 11, 2006.

<sup>18</sup> Globe's prehearing brief, p. 7.

<sup>19</sup> Brazilian respondents' prehearing brief, pp. 41-42.

<sup>20</sup> Hearing transcript, p. 211 (Vander Schaaf).

<sup>21</sup> *Ibid.*, pp. 152-153 (McHale).

<sup>22</sup> *Ibid.*, p. 189 (McHale).

When asked about the substitutability of silicon metal, a majority of the purchasers responding to the Commission's questionnaire reported that silicon metal produced in Brazil and in China was interchangeable in the same application with the U.S. product.<sup>23</sup> \*\*\* of the Brazilian producers responding to the Commission's questionnaire indicated that the metallic, e.g., aluminum grade, silicon metal was interchangeable with the U.S. or foreign product \*\*\*.<sup>24</sup> According to Globe, the domestic product is currently interchangeable with subject imports from Brazil and China in the same applications. Reflecting what Globe asserts are the great strides that China has made in improving the quality of the silicon metal that it produces, it reported that during 2000-05 \*\*\*.<sup>25</sup>

### Manufacturing Process

Silicon metal is produced from mined quartzite (a rock consisting principally of quartz, a natural crystallized silica) which is washed, crushed, and screened. Only material containing a high percentage of silica (over 99 percent) and a low iron content (less than one percent) can be used to produce silicon metal. The quartzite is combined with a carbon-containing reducing agent (low-ash coal, petroleum coke, charcoal, or coal char) and a bulking agent (such as wood chips) in a submerged-arc electric furnace<sup>26</sup> to produce molten silica, which is reduced to silicon metal. The overall chemical reaction is summarized as  $\text{SiO}_2$  (silica) + 2C (carbon) → Si (silicon metal) + 2CO (carbon monoxide).

The hot metal is poured into iron molds or onto beds of silicon metal fines for cooling, and is then shaped into ingots or crushed to the desired size for shipping.<sup>27</sup> Lumps of the chemical-grade silicon are of smaller size (about 1 inch maximum) compared with lumps for the metallurgical grades. Also, the more refined grades of silicon metal require an oxidative refining step that is not required to produce secondary aluminum. There are differences in the costs of production of the more refined grades versus the secondary aluminum grade, assuming the oxidative refining step is eliminated in producing the latter. However, in practice U.S. producers "sell down" the higher-grade silicon metal to secondary aluminum customers even though these have less stringent purity specifications.<sup>28</sup> Differences in costs also arise because some forms of silicon (e.g., the low-iron grades), require higher raw material expenditures.

Production capability is limited by the \*\*\*.<sup>29</sup>

According to \*\*\*, the hardware for silicon furnaces worldwide is basically the same. The physical differences relate to differences in the size of furnaces and the electrodes. Also, the purities of the raw materials and the carbon sources used can vary widely. There are, however, characteristics that silicon production facilities share worldwide. For example, given the large amounts of quartz required to produce silicon metal, quartz sources worldwide need to be reasonably near the silicon furnace.<sup>30</sup>

One noticeable economic trend that has affected the production costs of silicon metal for U.S. producers has been increased manufacturing costs, particularly for energy, consisting of electricity and natural gas. During 2000-05, average energy costs per unit of silicon metal sold increased by \*\*\*

---

<sup>23</sup> For a more detailed discussion of this issue, see Part II of this report.

<sup>24</sup> \*\*\*.

<sup>25</sup> Globe's prehearing brief, p. 8.

<sup>26</sup> The process relies on electricity from a transformer system and is extremely energy-intensive.

<sup>27</sup> *Silicon Metal from Russia, Investigation No. 731-TA-991 (Final)*, USITC Publication 3584, March 2003, p. I-8.

<sup>28</sup> Hearing transcript (Lutz), p. 30, *Silicon Metal from Russia, Investigation No. 731-TA-991 (Final)*.

<sup>29</sup> \*\*\* response to the producers' questionnaire, question II-6.

<sup>30</sup> Fax from \*\*\*, August 4, 2006.

percent.<sup>31</sup> Brazilian respondents reported that electricity costs, the dominant cost item which in Brazil is supplied primarily by hydro-electric power, rose significantly as electricity shortages led to rationing and the temporary shutdown of silicon plants.<sup>32</sup> As a share of the total cost of silicon metal production, electric energy costs for \*\*\*.<sup>33</sup>

According to the Brazilian respondents, the Brazilian silicon metal industry was severely affected by the country's energy crisis in 2001 and 2002 which resulted in the idling of furnaces and a reduction in production. Although since then the Brazilian respondents reported that electricity supply has been able to meet demand, concern was expressed that water used for hydro-electric power may be in short supply and this could lead to electrical energy shortages by 2008.<sup>34</sup>

Some silicon metal producers also produce ferrosilicon, which is used in the production of steel (especially stainless and heat-resisting steel) and cast iron.<sup>35</sup> For example, in 2004, two U.S. silicon metal producers, Elkem Metals and Globe Metallurgical, also produced ferrosilicon.<sup>36</sup> Producers can switch production between ferrosilicon and silicon metal with varying degrees of cost, downtime, and efficiency loss.<sup>37</sup> It is generally easier for firms to switch from silicon metal production to ferrosilicon production than the reverse. Ferrosilicon contains more impurities than silicon metal and tends to contaminate the furnace lining with impurities intolerable in silicon metal production. In addition, certain furnace designs are more efficient at producing one product than another, leading to possible efficiency loss when switching production.<sup>38</sup>

Globe expressed its concern that the subject Brazilian producers could add to their silicon capacity and thereby increase exports to the United States by converting some of their ferrosilicon furnaces to silicon furnaces.<sup>39</sup> According to Globe, in the United States, economic incentives for this conversion may exist as the margins for silicon metal are better than the margins for ferrosilicon.<sup>40 41</sup> Such a conversion, which reportedly could take just a few days, would require removal of the material from the furnace, the replacement of the electrodes, and possibly some modifications to the supporting

---

<sup>31</sup> Staff report, table III-7.

<sup>32</sup> Hearing transcript, pp. 213-214 (Melgaco and Vander Schaaf).

<sup>33</sup> Brazilian respondents' posthearing brief, pp. Q11-12.

<sup>34</sup> Ibid., pp. Q-12-13.

<sup>35</sup> Ferrosilicon is a product used by the steel industry as an alloying agent. Ferrosilicon differs from silicon metal in that it has a much lower silicon content, ranging from 50 to 96 percent, and greater levels of impurities, including iron.

<sup>36</sup> (U.S. Geological Survey, *2004 Minerals Yearbook, Silicon Chapter*, table 3, found at <http://minerals.usgs.gov/minerals/pubs/commodity/silicon/silicmyb04.pdf>, retrieved September 21, 2006). \*\*\*. Globe's metallurgical silicon ferroalloy facility in Niagara Falls, NY was idled beginning in 2004.

<sup>37</sup> A representative of Globe testified in a previous investigation that the company would strongly consider reconverting ferrosilicon production facilities back to silicon metal production with a market recovery, as it is more profitable to produce silicon metal than ferrosilicon (hearing transcript, *Silicon Metal from Russia (Final)*, pp. 74-75 (Perkins)).

<sup>38</sup> *Silicon Metal from China, Investigation No. 731-TA-472 (Final)*, USITC Publication 2385, June 1991, p. A-9.

<sup>39</sup> Hearing transcript, p. 25 (Sims).

<sup>40</sup> Ibid., pp. 75-76 (Sims).

<sup>41</sup> Based on current market conditions and assuming that a furnace is operating at full capacity and that all its production can be sold at market prices, Globe estimated in its posthearing brief, p. 36, that in the United States, a producer employing a \*\*\* furnace can generate \$\*\*\* per day in profits producing ferrosilicon compared to \$\*\*\* producing silicon metal.

materials.<sup>42</sup> “We have four furnaces that we’re able to convert to silicon metal, to ferrosilicon or back in just very short time frame within less than a week.”<sup>43</sup> Globe also cited the \*\*\* and the Mining Annual Review, March 2000, which indicate that the conversion of ferrosilicon to silicon can be conducted \*\*\* and is “relatively easy.”<sup>44</sup> Globe estimates on p. 35 of its posthearing brief that the current cost of such a conversion is about \*\*\*.<sup>45</sup>

The Brazilian respondents state that “. . . Brazilian ferrosilicon producers will not have the incentive or the ability to switch their operations and start producing silicon metal and exporting it to the U.S.”<sup>46</sup> The conversion of a ferrosilicon facility to a silicon metal facility requires extensive changes to the electrode which “. . . greatly limits the ability of ferrosilicon metal producers to shift production.”<sup>47</sup> These changes would include raising the roof structure by several feet.<sup>48</sup> In addition, there are marketing restraints to converting a furnace from ferrosilicon to silicon metal.<sup>49</sup> For example, a Brazilian silicon metal producer, \*\*\*, \*\*\*.<sup>50</sup> The Brazilian respondents also estimate that the conversion by \*\*\* from ferrosilicon to silicon would \*\*\*, a conversion that would be very problematical and expensive.<sup>51</sup> For example, replacing the electrode would require \*\*\* to raise its roof structure by more than 7 feet.<sup>52</sup>

### **Channels of Distribution, Customer and Producer Perceptions, and Interchangeability**

Further information on the channels of distribution and customer and producer perceptions of silicon metal is presented in Part II of this report, entitled “Conditions of Competition in the U.S. Market.” Information on the interchangeability of silicon metal among U.S. and subject and nonsubject imported sources is also presented in Part II.

### **Price**

Information on the prices of various grades of silicon metal is presented in Part V of this report, entitled “Pricing and Related Information.” In that section, quarterly pricing data for 2000-05 are presented for a primary aluminum grade, a secondary aluminum grade, and a chemical grade of silicon metal. The data indicate that prices of the primary aluminum grade product \*\*\* prices for the secondary aluminum grade product during 2000-05 except during \*\*\*. Price trends for the two products were similar. Prices of the chemical grade product \*\*\* than those of both aluminum grades \*\*\*.

---

<sup>42</sup> Hearing transcript, pp. 75-76 (Sims).

<sup>43</sup> Ibid., p. 75 (Sims).

<sup>44</sup> Globe’s posthearing brief, p. 34.

<sup>45</sup> During the first reviews, Globe estimated that for 1999, the relining of furnaces for the conversion of ferrosilicon to silicon would take from 30 to 45 days and cost about \$\*\*\* (*Silicon Metal from Argentina, Brazil, and China, Invs. No. 731-TA-470-472 (Review)*, USITC Publication 3385, January 2001, p. II-6). Commenting on testimony provided at the hearing in the current reviews (hearing transcript, pp. 75-76 (Sims)), in a submission provided to Commission staff on October 17, 2006, Globe indicated that \*\*\*.

<sup>46</sup> Brazilian respondents’ prehearing brief, p. 34.

<sup>47</sup> Ibid, p. 36.

<sup>48</sup> Hearing transcript, p. 205 (Melgaco).

<sup>49</sup> Brazilian respondents’ prehearing brief, p. 38.

<sup>50</sup> Ibid.

<sup>51</sup> Brazilian respondents’ posthearing brief, p. Q-6.

<sup>52</sup> Ibid.

## DOMESTIC LIKE PRODUCT ISSUES

In its original determinations the Commission found the appropriate like product to be “all silicon metal, regardless of grade, having a silicon content of at least 96 percent but less than 99.99 percent of silicon by weight, and excluding semiconductor grade silicon.”<sup>53</sup> In its determinations in the first reviews the Commission defined the domestic like product as all silicon metal, regardless of grade, corresponding to the current scope of the orders.<sup>54</sup> In response to a question soliciting comments regarding the appropriate domestic like product in the Commission’s notice of institution of these reviews, parties had no objection to the Commission’s original definition of the domestic like product, although the respondent interested parties reserved the right to comment at a later point in these reviews.

## U.S. MARKET PARTICIPANTS

### U.S. Producers

The U.S. silicon metal industry has experienced consolidation and production capacity reductions since the first reviews. Three firms produced silicon metal in the United States during some or all of the period for which data were collected in the current reviews (2000-05): Elkem, Globe, and Simcala. Their positions on continuation of the orders, shares of reported production, plant locations, and ownership are presented in table I-2.

Elkem exited U.S. silicon metal production when an agreement was reached to sell its silicon metal production facility to Globe in 2005.<sup>55</sup> Globe currently produces silicon metal in Alloy, WV; Beverly, OH; and Selma, AL. Globe closed its production facility in Springfield, OR in 2000.<sup>56</sup> Globe filed for Chapter 11 bankruptcy protection in April 2003 and emerged from bankruptcy protection in May 2004; during the bankruptcy period, Globe closed its Niagara Falls, NY facility.<sup>57</sup> Also during the

---

<sup>53</sup> *Silicon Metal From Argentina, Brazil, and China, Invs. Nos. 731 -TA-470-472 (Review)*, USITC Publication 3385, January 2001, p. 5.

<sup>54</sup> 71 FR 26334, May 4, 2006. In 1993, in a response to a request by domestic interested parties for clarification of the scope of the antidumping duty order concerning China, Commerce determined that silicon metal containing between 89.00 percent and 99.00 percent silicon by weight, but which contains a higher aluminum content than the silicon metal containing at least 96.00 percent, but less than 99.99 percent silicon by weight, is the same class or kind of merchandise as the silicon metal described in the original order concerning China (58 FR 27542, May 10, 1993).

<sup>55</sup> American Metal Market, *Norway’s Elkem in separate deals to sell silicon, hydropower plants*, December 20, 2005, found at [http://amm.com/2005-12-19\\_13-15-42.html](http://amm.com/2005-12-19_13-15-42.html), retrieved August 17, 2006.

<sup>56</sup> United States Geological Survey, *Minerals Yearbook, The Mineral Industry of Oregon, 2000*, found at <http://minerals.usgs.gov/minerals/pubs/state/984101.pdf>, retrieved August 17, 2006.

<sup>57</sup> American Metal Market, *Globe Metallurgical files for Chapter 11 protection*, April 4, 2003, found at [http://amm.com/2003-04-04\\_01-17-00.html](http://amm.com/2003-04-04_01-17-00.html), retrieved August 17, 2006; American Metal Market, *Globe gives up 40% holding in Norway silicon producer. Niagara Falls facility to shut in weak mart*, September 29, 2003, found at [http://amm.com/2003-09-19\\_01-10-00.html](http://amm.com/2003-09-19_01-10-00.html), retrieved August 17, 2006.

Table I-2

**Silicon metal: Current U.S. producers, locations, positions on continuation of the antidumping duty orders, shares of reported 1997, 1999, and 2005 production, and parent company and country**

Producer	Production location(s)	Position on continuation of antidumping duty orders	Share of reported 1997 production (percent)	Share of reported 1999 production (percent)	Share of reported 2005 production (percent)	Parent company
Elkem	Alloy, WV	***	***	***	***	Orkla ASA (Norway) <sup>1</sup>
Globe	Alloy, WV Beverly, OH Niagara Falls, NY <sup>2</sup> Selma, AL	Support	***	***	***	*** <sup>3</sup>
Simcala	Mt. Meigs, AL	***	***	***	***	Dow Corning Corp. (USA) <sup>4</sup>

<sup>1</sup> In 2005, Orkla ASA acquired Elkem's production facility from Elkem ASA, the previous owner of Elkem (Elkem, General Presentation 2006, found at [http://www.elkem.com/hits/elkempub.nsf/Files/internet-general\\_presentation/\\$file/General\\_presentation\\_eng06.pdf](http://www.elkem.com/hits/elkempub.nsf/Files/internet-general_presentation/$file/General_presentation_eng06.pdf), retrieved August 17, 2006). An agreement was reached to sell Elkem's Alloy, WV facility to Globe in 2005 (American Metal Market, *Norway's Elkem in separate deals to sell silicon, hydropower plants*, December 20, 2005, found at [http://amm.com/2005-12-19\\_13-15-42.html](http://amm.com/2005-12-19_13-15-42.html), retrieved August 17, 2006).

<sup>2</sup> The Niagara Falls, NY facility was closed in September 2003 (American Metal Market, *Globe gives up 40% holding in Norway silicon producer Niagara Falls facility to shut in weak mart*, September 19, 2003, found at [http://amm.com/2003-09-19\\_01-04-00.html](http://amm.com/2003-09-19_01-04-00.html), retrieved August 17, 2006).

<sup>3</sup> \*\*\*. In October 2005, a new company, International Metal Enterprises ("IME"), was created for the purpose of making acquisitions in the metal sector. On September 1, 2006, IME announced plans to acquire Globe. The acquisition must be approved by shareholders and is expected to be completed in October 2006 (American Metal Market, *International Metal eyeing buy of specialty metals businesses*, September 1, 2006, found at [http://amm.com/2006-09-01\\_16-45-42.html](http://amm.com/2006-09-01_16-45-42.html), retrieved September 5, 2006). On October 16, 2006, IME announced that a meeting of the shareholders to approve the acquisition of Globe is scheduled for November 10, 2006 (International Metal Enterprises, *AIM admission document despatched, dividend policy, share capital buyback and change of name*, news release dated October 16, 2006, found at <http://www.investigate.co.uk/Article.aspx?id=200610160730034871K>, retrieved October 25, 2006).

<sup>4</sup> Dow Corning Corp. ("Dow") acquired Simcala in June 2003. Dow Corning Corp. is a joint venture between the Dow Chemical Co. and Corning Inc. (Dow, *Dow Corning to purchase U.S. Silicon metal producer*, news release dated June 17, 2003, found at [http://www.dowcorning.com/content/news/pr\\_simcala.asp?DCWS=&DCWSS=](http://www.dowcorning.com/content/news/pr_simcala.asp?DCWS=&DCWSS=), retrieved September 27, 2006).

Source: Unless otherwise indicated, data were obtained from the *Staff Report on Investigation Nos. 731-TA-470-472 (Review)*, p. I-16, and from the domestic interested party's Response to the Notice of Institution and data compiled in response to Commission questionnaires in the current reviews.

bankruptcy period, Globe was forced to give up its 40-percent holding of Norwegian silicon producer Fesil ASA.<sup>58</sup> \*\*\*.<sup>59</sup> Simcala produces silicon metal in Mt. Meigs, AL.

During the period for which data were collected in the first reviews, five U.S. firms (American Alloys, American Silicon Technologies ("AST"), Elkem, Globe, and Simcala) produced silicon metal.

<sup>58</sup> American Metal Market, *Globe gives up 40% holding in Norway silicon producer. Move settles dispute over power contract*, September 19, 2003, found at [http://amm.com/2003-09-19\\_01-04-00.html](http://amm.com/2003-09-19_01-04-00.html), retrieved August 17, 2006.

<sup>59</sup> \*\*\* producer questionnaire response, section II-2.

American Alloys stopped production in 1998 and AST ceased production during 1999.<sup>60</sup> Information on U.S. producers active during the first reviews is presented in table I-3.

**Table I-3**

**Silicon metal: U.S. producers during the first reviews, positions on revocation of the antidumping duty orders in the first reviews, shares of reported 1997 and 1999 production, U.S. production locations, and parent companies**

Firm	Position	Share of 1997 production	Share of 1999 production (percent)	Production location	Parent company and country
American Alloys	***	***	***	New Haven, WV	***
AST	***	***	***	Rock Island, WA	***
Elkem	***	***	***	Pittsburgh, PA Alloy, WV	***
Globe	***	***	***	Beverly, OH Niagara Falls, NY Selma, AL Springfield, OR	***
Simcala	***	***	***	Montgomery, AL	***

Source: Data were obtained from the *Staff Report on Investigation Nos. 731-TA-470-472 (Review)*, p. I-16 (which were compiled from data submitted in response to Commission questionnaires).

### Related Party Issues

U.S. producer Simcala, acquired by Dow in June 2003 (as noted in table I-2), reported that \*\*\*.<sup>61</sup> Simcala is a sister company to Brazilian producer CBCC. Dow acquired CBCC in 2000.<sup>62</sup> CBCC stated that \*\*\*.<sup>63</sup> \*\*\*.<sup>64</sup> \*\*\*.<sup>65</sup>

### U.S. Importers

Seventeen importers responded to Commission questionnaires with usable data. Their locations, origin of imports, and shares of subject and total 2005 imports are summarized in table I-4. Responding importers accounted for \*\*\* percent of subject imports and \*\*\* percent of total imports from all sources

<sup>60</sup> Silicon Metal From Argentina, Brazil, and China, *Invs. Nos. 731-TA-471 and 472(Review)*, USITC Publication 3385, January 2001, p. III-1. "In April 2000, American Alloys filed for Chapter 11 bankruptcy protection and sold its factory and production equipment to Highlander Core Industries Ltd. ("Highlander") in December 2001. Highlander purchased American Alloy's assets with the intent of producing silicomanganese, not silicon metal" (domestic interested parties' posthearing brief, responses to Commission questions, p. 12). AST filed for bankruptcy protection and exited the silicon metal industry in 2000 (domestic interested parties' posthearing brief, responses to Commission questions, p. 12).

<sup>61</sup> Simcala's U.S. producer questionnaire response, sections II-1 and IV-B-4.

<sup>62</sup> Solvay S.A., *Solvay Group Sells Brazilian Subsidiary CBCC to Dow Corning Corp.*, news release dated March 13, 2000, found at <http://www.solvaypress.com/pressreleases>, retrieved September 27, 2006.

<sup>63</sup> CBCC's foreign producer questionnaire response, sections II-9 and II-16.

<sup>64</sup> \*\*\*.

<sup>65</sup> Ibid.

in 2005. \*\*\* accounts for most TIB imports from China: \*\*\* percent in 2000, \*\*\* percent in 2001, \*\*\* percent in 2002, \*\*\* percent in 2003, \*\*\* percent in 2004, and \*\*\* percent in 2005.

**Table I-4**

**Silicon metal: U.S. importers, locations, origin of imports, and shares of 2005 imports**

\* \* \* \* \*

**U.S. Purchasers**

Silicon metal is purchased by producers of primary and secondary aluminum; by firms in the chemical industry that produce silanes for use in the production of silicones; and by firms that produce other products such as brass and bronzes, steel, copper alloys, ceramic powders, refractory coatings, and solar panels.<sup>66</sup> Among the largest known purchasers are \*\*\*, \*\*\*.

**APPARENT U.S. CONSUMPTION AND MARKET SHARES**

Table I-5 presents apparent U.S. consumption for the review period and table I-6 presents U.S. market shares for the same period. The quantity of apparent U.S. consumption decreased in 2001 and 2002, increased in 2003 and 2004, and decreased in 2005 to a level below that of 2000. The value of apparent U.S. consumption experienced a similar trend, except that it increased in 2005 and was at a level in that year well above the level of 2000.

U.S. producers' market share by quantity decreased irregularly between 2000 and 2005, and was \*\*\* percentage points lower in 2005 than in 2000. The trend in U.S. producers' market share by value was similar. Subject imports' market share by quantity and value also decreased irregularly between 2000 and 2005. The market share of nonsubject (fairly traded) imports from Brazil increased \*\*\* while the market share of nonsubject imports (TIB) from China decreased irregularly during 2000-05.

---

<sup>66</sup> The silicon used in solar panels and computer applications requires further refining.

Table I-5

## Silicon metal: U.S. shipments of domestic product, U.S. imports, and apparent U.S. consumption, 2000-05

Item	2000	2001	2002	2003	2004	2005
<b>Quantity (short tons)</b>						
U.S. producers' U.S. shipments	***	***	***	***	***	***
U.S. imports from--						
Brazil (subject)	22,797	***	***	***	***	***
China (subject)	52	1,177	33	22	116	44
Subtotal (subject)	22,849	***	***	***	***	***
Brazil (nonsubject)	0	***	***	***	***	***
China (nonsubject TIB)	4,878	3,156	5,478	3,074	3,022	2,681
Other sources	113,040	107,766	111,851	79,042	97,449	90,467
Subtotal (nonsubject)	117,918	***	***	***	***	***
Total imports	140,768	129,544	159,569	138,395	176,511	162,525
Apparent consumption	***	***	***	***	***	***
<b>Value (\$1,000)</b>						
U.S. producers' U.S. shipments	***	***	***	***	***	***
U.S. imports from--						
Brazil (subject)	29,520	***	***	***	***	***
China (subject)	55	1,109	39	23	117	76
Subtotal (subject)	29,575	***	***	***	***	***
Brazil (nonsubject)	0	***	***	***	***	***
China (nonsubject TIB)	3,867	2,273	4,152	2,637	3,379	2,855
Other sources	123,846	112,794	114,367	88,818	127,481	139,163
Subtotal (nonsubject)	127,713	***	***	***	***	***
Total imports	157,287	138,823	173,191	157,572	223,549	239,940
Apparent consumption	***	***	***	***	***	***
<p>Note.--The antidumping duty order on imports from Brazilian producer Rima Industrial SA ("RIMA") was revoked effective July 1, 2001. The antidumping duty order on imports from Brazilian producer CBCC was revoked effective July 1, 2002. Imports from these two companies (RIMA during July-December 2001 and 2002-05 and CBCC during July-December 2002 and 2003-05) are presented in this table as Brazil nonsubject imports. "Subject" imports from China are imports which were not brought into the United States under the TIB program; "nonsubject" imports from China were imports brought in under the TIB program. In this program, the imports are free as articles to be processed under bond for exportation, including processes which result in articles manufactured or produced in the United States. If the imports are subsequently exported (including products made in the United States using the import as a raw material) the bond is refunded and no antidumping duties are levied. Although it is possible that the imports brought in under the TIB program were subsequently entered into the United States for consumption (upon which time antidumping duties would have been levied), staff believes that the great majority, if not all, of these imports were exported and therefore free of the antidumping duties.</p>						
Source: Compiled from data submitted in response to Commission questionnaires and from official Commerce statistics.						

**Table I-6**  
**Silicon metal: U.S. market shares, 2000-05**

\* \* \* \* \*

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

### MARKET SEGMENTS AND PRODUCT SPECIFICATIONS

The vast majority of silicon metal covered by these reviews is sold as chemical grade, as primary aluminum grade, or as secondary aluminum grade.<sup>1</sup> Each of these grades requires silicon metal with different maximum impurity levels; however, within each grade different purchasers may also require silicon metal of different purity. Purchasers were asked what the specifications were for these three grades and whether the specifications had changed since 2000. Five of the six purchasers responding to the question of whether the specifications had changed reported that they had not changed, and the other purchaser reported that domestically produced secondary aluminum grade silicon metal now had lower levels of iron impurities. Purchasers reported differing acceptable levels of iron and calcium impurities in their secondary aluminum grade. Seven purchasers reported maximum calcium levels ranging from 0.07 percent to 2.0 percent, and maximum levels of iron ranging from 0.5 percent to 1.0 percent. Only two purchasers provided their impurity levels for chemical grade silicon metal, and one purchaser provided its impurity levels for primary aluminum grade silicon metal.

The parties disagreed on the extent to which silicon metal is a commodity product. Globe reported that silicon metal is a commodity product,<sup>2</sup> and that most of the variation in the product is brought about during processing after manufacture of the silicon metal. It also reported that it produces two product lines for silicon metal; one is a low-iron grade mainly used by primary aluminum producers and the other is “all other” grade. A Globe representative stated that “within the all other grade there’s some tweaking with aluminum and calcium, but basically there’s two product lines.”<sup>3</sup> For the low-iron grade, charcoal levels in the furnace are adjusted, but for all other products the same raw materials go into the furnace. For the “all other” grade of silicon metal, there may be some secondary refinement to adjust impurity levels.<sup>4</sup> Globe reported that the iron and calcium content of its silicon metal products exceeded customer specifications in the majority of sales; specifically, in \*\*\* percent of its sales (by volume) iron content met the next higher level of customer specification and in \*\*\* percent of sales calcium content matched the next highest level of customer specification.<sup>5</sup>

In contrast, the Brazilian respondents reported that silicon metal is not a commodity product because “the standard classification system that is used has really given way to specific formulas by particular customers.”<sup>6</sup> Brazilian respondents reported that silicon metal is tailor-made for specific companies,<sup>7</sup> and that impurities in iron, phosphorous, and titanium cannot be refined later in the process.<sup>8</sup> Alcoa reported that it uses at least seven different specifications of silicon metal.<sup>9</sup> Alcoa typically will

---

<sup>1</sup> Globe reported that in FY 2006 \*\*\* percent of its sales went to the aluminum industry, \*\*\* percent went to the chemical industry, and \*\*\* percent were to other customers including the solar cell and refractory industries.

<sup>2</sup> Hearing transcript, p. 27 (Perkins).

<sup>3</sup> *Ibid.*, p. 57 (Sims).

<sup>4</sup> *Ibid.*, pp. 102-103 (Sims). “To a certain degree, the aluminum and calcium contents of silicon metal can be further reduced through post-furnace refining.” Globe’s posthearing brief, responses to Commissioner questions, p. 2.

<sup>5</sup> Globe’s posthearing brief, answers to Commission questions, p. 1.

<sup>6</sup> Hearing transcript, p. 166 (Vander Schaaf).

<sup>7</sup> *Ibid.*, p. 210 (Melgaco).

<sup>8</sup> *Ibid.*, p. 211 (Vander Schaaf).

<sup>9</sup> *Ibid.*, p. 153 (McHale).

buy the range of these products used by a particular plant or group of plants from a single supplier.<sup>10</sup> Alcoa stated that the silicon metal products it purchases have “very different chemistries” and that the products it purchased from Globe have different compositions as well as different prices.<sup>11</sup>

## CHANNELS OF DISTRIBUTION

Most domestically produced silicon metal is sold directly to end users; no distributors responded to the Commission’s questionnaires sent to purchasers. In addition, five of 11 responding importers<sup>12</sup> did not sell silicon metal but were solely end users, and \*\*\* responding U.S. producers internally consumed some silicon metal.

Importers were asked to report whether their sales of Brazilian or Chinese product were on a spot basis or on a contract basis. Only one importer (\*\*\*) answered this question; it reported selling all of its product via short-term contracts.

Purchasers were asked if any product was purchased under a “Buy American” program. None reported legal or regulatory reasons for “Buy American;” however, five reported purchasing some minimum amount of U.S. product (from 45 to 100 percent). They reported that they purchased U.S. product either because it allowed them to keep lower inventories, for better logistics and an easier supply chain, or because keeping domestic suppliers was a sound business practice. Five purchasers reported that buying silicon metal produced in the United States was an important factor in their purchases, and nine reported that buying silicon metal produced in the United States was not an important factor.

With regard to geographic market areas served by U.S. producers of silicon metal, \*\*\* responding U.S. producers reported that they serve the entire U.S. market. While two of the six responding importers reported selling to all parts of the United States, four importers reported selling to specific markets, such as the Northeast, the Mid-Atlantic, the Midwest, the Southeast, the Southwest, and the West Coast.<sup>13</sup>

## MARKET STRUCTURE

### Participants

#### Purchasers

Fifteen purchasers responded to Commission’s purchaser questionnaire. \*\*\*<sup>14</sup> \*\*\*, \*\*\*, a chemical producer, reported that its largest suppliers are two firms \*\*\*. In 2005 these two firms provided \*\*\*, \*\*\*, \*\*\*.

---

<sup>10</sup> Ibid., pp. 185-187 (McHale).

<sup>11</sup> Ibid., pp. 189, 190 (McHale).

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

<sup>13</sup> Two additional importers responded to this question; one reported that it shipped to U.S. ports and that the product was distributed from there, and one reported that all of its product was shipped to \*\*\*.

<sup>14</sup> One of these reported that it was no longer a secondary aluminum producer, \*\*\*.

## Foreign Participants

The original investigations reported 31 producers in China and six producers in Brazil. There are currently more than \*\*\* potential producers in China,<sup>15</sup> some estimate that there are 200 to 300 Chinese producers,<sup>16</sup> and seven producers in Brazil.<sup>17</sup> Four Brazilian producers, but none of the Chinese producers, provided foreign producer questionnaire responses. In addition, partial information about RIMA and Italmagnesio was provided by ABRAFE, a Brazilian manufacturers' association.<sup>18</sup> ABRAFE also reported that Sibra and Cia Industrial Fluminense no longer produce silicon metal.

## Product

The product itself has remained relatively unchanged since 2000. Producers and importers were asked if there had been, or if they foresaw, changes in product range, product mix, or marketing since 2000. One of the three responding producers reported both that changes had occurred and that it expected future changes. One of the 12 responding importers reported that changes had occurred and one of the 12 responding importers expected changes to occur.<sup>19</sup> The producer reported that more "Western" producers were capable of producing silicon metal for chemical as well as aluminum uses and that it expected increased demand in \*\*\*. One importer reported that the U.S. market has become more focused on chemical uses, as aluminum users have left for Canada or other countries since 2000. One importer foresaw an increased use of silicon metal for solar energy cells.

## U.S. Market Leadership

Purchasers were asked if individual firms acted as price leaders. Six of the 12 responding purchasers reported that Globe was a price leader; one of these firms also reported that Elkem was a price leader. One purchaser, \*\*\*, reported that it \*\*\* and that there was only one independent U.S. producer as of the end of 2005.<sup>20</sup> Three purchasers reported no price leaders, and two reported they did not know.

## SUPPLY AND DEMAND CONSIDERATIONS

### U.S. Supply

#### Domestic Product

Based on available information, U.S. producers are likely to respond to changes in price with moderate changes in the quantity of shipments to the U.S. market. There are some constraints on the U.S. producers' ability to reduce or increase production, including \*\*\* inventories and \*\*\* exports that could be shifted to the U.S. market.

---

<sup>15</sup> \*\*\*.

<sup>16</sup> Hearing transcript, p. 156 (Heckendorn).

<sup>17</sup> One of these producers, Eletrosilex, is no longer producing, but RIMA has leased its facilities and is using them to produce silicon metal.

<sup>18</sup> Rima's reported production includes its production in facilities leased from Electrosilex.

<sup>19</sup> An additional importer reported that a change had occurred, but that this consisted of its withdrawal from the market.

<sup>20</sup> The Brazilian respondents report that Globe is really the only U.S. producer that sells in the open market. Hearing transcript, p. 159 (Vander Schaaf).

### ***Industry Capacity***

Between 2000 and 2005, U.S. production of silicon metal declined from \*\*\* to \*\*\* gross short tons, with the lowest production in 2002, \*\*\* gross short tons. U.S. total capacity also declined, from \*\*\* gross short tons in 2000 to \*\*\* gross short tons in 2005; capacity was its lowest in 2002, \*\*\* gross short tons. U.S. producers' capacity utilization in 2000 for silicon metal was \*\*\* percent and was \*\*\* percent in 2005; capacity utilization was lowest in 2002 at \*\*\* percent. In all years, it apparently would have been possible for U.S. producers to increase output somewhat in response to increased prices.

### ***Export Markets***

U.S. producers' exports tend to be \*\*\* their total production, ranging from a high of \*\*\* percent in 2000 to a low of \*\*\* percent in 2004. In 2005, U.S. producers' exports were \*\*\* percent of their total production. \*\*\* exported product \*\*\*. The \*\*\* that exported reported that it would be difficult to increase exports; \*\*\*. Only one U.S. producer reported \*\*\*.

### ***Production Alternatives***

U.S. producers were asked if production alternatives existed. \*\*\* reported that there were no production alternatives. One firm, \*\*\*, reported that it had \*\*\*.

### ***Inventory Levels***

U.S. producers' inventories, as a share of their total shipments, ranged from \*\*\* percent in 2000 to a low of \*\*\* percent in 2001. Therefore, there was \*\*\* ability to increase U.S. sales from inventories.

### ***Lead Times***

All three U.S. producers sell some silicon metal from inventories, with shipment times ranging from one hour to one month. \*\*\* firms reported the sale of product made to order, with times ranging from one week to one month. Three of the four responding importers sold all their product from inventories, with lead times ranging from 5 to 75 days. The other importer sold all its product made to order, but it did not report lead times.

## **Brazil**

### ***Production***

Six Brazilian companies produced silicon metal in 1990, and there are currently seven Brazilian producers. Two of these firms, however, are no longer subject to the antidumping duty order and another producer, Eletrosilex, has leased its silicon metal plant to RIMA, a nonsubject producer.<sup>21</sup> Four Brazilian producers answered the Commission's questionnaire; of these, one (CBCC) is currently a producer of fairly traded product. In addition, ABRAFE, the Brazilian association of ferroalloy and silicon metal producers, provided some information about Rima and Italmagnesio.<sup>22</sup> Reported Brazilian subject production was 135,114 gross short tons in 2005, up slightly from 133,581 tons in 2000; however, in

---

<sup>21</sup> Ibid., p. 144 (Melgaco).

<sup>22</sup> Rima's reported production includes its production in facilities leased from Electrosilex.

2005, \*\*\* tons of Brazilian production was produced by companies that are no longer subject to the U.S. antidumping duty order.<sup>23</sup> Reported subject Brazilian capacity in 2005 was 140,747 gross short tons, down from 161,815 tons in 2000, with \*\*\* tons of Brazilian capacity no longer subject to the U.S. antidumping duty order. Reported subject exports from Brazil to the United States were \*\*\* gross short tons in 2000 and \*\*\* tons in 2005, while nonsubject Brazilian exports in 2005 were \*\*\* gross short tons.

All four responding Brazilian producers reported that there were differences between the U.S. and Brazilian market or that there were changes in the market since 2000. Three of the four producers reported that they sold to the \*\*\* in Brazil, and two of these reported that \*\*\*. \*\*\* (which did not sell to the U.S. market) reported a shift in demand from \*\*\*; it also reported that the product is \*\*\*. Demand for silicon metal grew between 2000 and 2005 as Brazilian primary aluminum production increased from 1.1 million metric tons in 2000 to 1.5 million metric tons in 2005.<sup>24</sup>

It is unclear how much Brazil will be able to increase shipments to the United States if the antidumping duty order were removed. CBCC and RIMA are already excluded from the antidumping duty order. \*\*\*. \*\*\*. \*\*\* reported that their output was committed to customers with whom they had strong ties and long-term contracts; in addition, they had agents in other countries but not in the United States.

### ***Industry Capacity***

Brazilian subject producers reported a capacity utilization rate that increased from 82.6 percent in 2000 to 96.0 percent in 2005; these firms have a limited ability to expand production.<sup>25</sup> The subject Brazilian producers' aggregate inventories amounted to \*\*\* percent of their shipments in 2000 and \*\*\* percent in 2005.<sup>26</sup> The only subject Brazilian producers producing both ferrosilicon and silicon metal are Minasligas and Italmagnesio and these firms produce the products on separate furnaces.<sup>27</sup> Brazilian producers report that \*\*\* electric furnace from production of ferrosilicon to silicon metal.<sup>28</sup> On the other hand, Globe reports that its cost of conversion is approximately \$\*\*\* and that the conversion would require approximately one week.<sup>29</sup> The Brazilian producers report that the cost of conversion of furnaces from ferrosilicon to silicon metal depends on the initial configuration of the furnaces, particularly if the furnaces have been designed to hold the electrode used to make silicon metal as well as the electrode used to make ferrosilicon. If the furnace is not designed for the electrode used to produce silicon metal, major changes in the plant might be necessary to be able to switch production from ferrosilicon to silicon metal.<sup>30</sup> Globe reports that it is not necessary to make these major changes in order to switch from ferrosilicon to silicon metal. According to Globe, if composite electrodes are used to produce silicon

---

<sup>23</sup> The Brazilian producers reported that their production of silicon metal in 2001 was reduced because of energy rationing.

<sup>24</sup> World Bureau of Metal Statistics, *World Metal Statistics Yearbook 2004* p. 12, and *World Metal Statistics*, March 2006, p. 16.

<sup>25</sup> Capacity utilization does not necessarily indicate an actual ability to increase production in all years. In 2001, capacity utilization fell to \*\*\* percent because of energy rationing. If energy rationing were required again, this would reduce Brazilian production.

<sup>26</sup> \*\*\* of the four responding Brazilian producers, \*\*\*, reported producing any other product (\*\*\*) on the same equipment used for silicon metal. \*\*\*, \*\*\*.

<sup>27</sup> Hearing transcript, p. 147 (Melgaco).

<sup>28</sup> Brazilians' posthearing brief, p. Q6. The cost of conversion of \*\*\*.

<sup>29</sup> Globe's posthearing brief, answers to the Commissioner's questions, p. 35.

<sup>30</sup> Hearing transcript, pp. 204-206 (Melgaco).

metal, they can replace Soederberg electrodes used in production of ferrosilicon without the major modifications the Brazilians reported are necessary.<sup>31</sup>

All four responding Brazilian producers reported that there had been changes affecting their supply since 2000. \*\*\* reported energy rationing in 2001 and that this had reduced the amount of silicon metal the Brazilian firms were able to produce in 2001. \*\*\* reported that limited energy supply limited Brazilian capacity to produce silicon metal and that the cost of shipping to the United States has increased since September 11, 2001, so that it now is less expensive to ship to Europe or Asia than to the United States. Brazilian producers further reported that restrictions on transportation by the U.S. customs authorities have increased U.S. transportation costs.<sup>32 33</sup>

### ***Alternative Markets***

\*\*\* responding Brazilian producers reported that demand in the Brazilian market and in markets other than the United States had increased since 2000. \*\*\* firms reported that the increased demand in Brazil was due to increased demand for aluminum and one firm reported that there was increased demand in \*\*\*. The Brazilian market absorbed \*\*\* percent of the subject Brazilian producers' total shipments in 2000 and \*\*\* percent of subject Brazilian producers' shipments in 2005; in 2001, when production was abnormally low because of energy rationing, \*\*\* percent of Brazilian shipments by subject producers were consumed in Brazil. Sales to export markets other than the United States accounted for \*\*\* percent of subject Brazilian producers' shipments in 2000 and \*\*\* percent in 2005; by 2005, \*\*\* subject Brazilian product was sold to the United States. Other markets for Brazilian product included Europe, Asia, South America, North America, and the Middle East. All four Brazilian producers reported that they faced no antidumping duties on their Brazilian product in markets other than the United States.

### **China**

#### ***Production***

There were more than \*\*\* Chinese firms producing silicon metal in 2005.<sup>34</sup> No Chinese producers responded to the Commission's foreign producers' questionnaire. Chinese production is estimated to have \*\*\*.<sup>35</sup>

China appears to be able to substantially increase shipments of silicon metal to the United States. \*\*\*.

#### ***Industry Capacity***

Chinese production is reported to be \*\*\*.<sup>36</sup>

---

<sup>31</sup> Globe's posthearing brief, p. 35.

<sup>32</sup> Hearing transcript, p. 177 (Melgaco).

<sup>33</sup> U.S. producers, however, reported that although transportation costs to the United States increased in 2001, they have since decreased. Hearing transcript, p. 126 (Lutz).

<sup>34</sup> \*\*\*.

<sup>35</sup> Ibid., p. \*\*\*.

<sup>36</sup> Ibid., pp. \*\*\*.

## ***Alternative Markets***

Chinese exports of silicon metal are \*\*\*.<sup>37</sup>

## **U.S. Demand**

### **Demand Characteristics**

U.S. demand for silicon metal depends on demand in its end-use markets and is largely determined by demand in the aluminum industry and the chemical industry. Demand in aluminum applications is particularly influenced by demand by the auto industry, where aluminum use has increased in order to improve vehicle fuel efficiency. Demand in chemical uses also appears to be growing, particularly use in silicone for construction. In addition, there has been increased use of silicon metal in solar panels.

Price changes for silicon metal will likely have only a moderate-to-small effect on consumption. First, there are almost no substitutes for silicon metal. Second, the cost share of silicon metal tends to be a moderate share of the cost of products made from it. However, the products made from silicon metal can themselves be imported, and a number of purchasers reported that this has reduced U.S. demand for silicon metal.

There were large year-to-year fluctuations in U.S. consumption between 2000 and 2005, so no overall trend in consumption is apparent, but consumption fell from \*\*\* short tons in 2000 to \*\*\* short tons in 2005. U.S. primary aluminum production, however, fell from 3.7 million metric tons in 2000 to 2.5 million metric tons in 2005 while secondary aluminum production (recovery) fell from 3.4 to 3.0 million metric tons between 2000 and 2005.<sup>38</sup>

### **Substitute Products**

\*\*\* responding U.S. producers, all 13 responding purchasers, and six of nine responding importers reported that no product can be substituted for silicon metal. Ferrosilicon powder, scrap metal, and high silicon aluminum alloys were reported by one or more importers to be potential substitutes. One importer reported the end-use application of the substitute, reporting that \*\*\* but that it was not a perfect substitute. Another importer reported that the use of high silicon in aluminum end uses was “\*\*\*.” All firms reported that the price of substitutes did not influence the price of silicon metal.

### **Cost Share**

Producers, importers, and purchasers were asked the share of the cost of end-use products typically accounted for by silicon metal. One producer, five importers, and 13 purchasers responded. Their responses ranged from less than 1 percent to 40 percent of the cost of the final product. Responses

---

<sup>37</sup> Ibid., p. \*\*\*.

<sup>38</sup> USGS 2004 Minerals Yearbook: Aluminum Chapter, p. 5.9  
<http://minerals.usgs.gov/minerals/pubs/commodity/aluminum/alumimyb04.pdf>, retrieved Oct. 16, 2006,  
and USGS 2005 Minerals Yearbook: Aluminum Chapter, p. 5.9  
<http://minerals.usgs.gov/minerals/pubs/commodity/aluminum/alumimyb05.pdf>, retrieved Oct 16, 2006.

for primary and secondary aluminum ranged from less than 1 percent to 12 percent, and responses for chemical and other products ranged from 10 to 40 percent.<sup>39</sup>

### **Trends in U.S. Supply and Demand**

U.S. producers, importers, and purchasers were asked to discuss any supply factors that affected the availability of silicon metal in the U.S. market since 2000. \*\*\* reported changes; \*\*\* reported that increased imports of nonsubject silicon metal had reduced U.S. production. Specifically, \*\*\* reported that two U.S. plants had shut down in 2001 because of low-priced imports from Russia and the \*\*\* reported that nonsubject product had reduced prices and caused U.S. production to fall. Six of nine responding importers reported some change in supply: three reported increased energy costs; two of these reported that other costs had increased, including labor costs and the cost of coal, charcoal, and electrodes; one importer reported increased availability and Globe's starting a new furnace; another reported that U.S. prices and production are high when demand for aluminum is high; and one reported that U.S. scrap silicon metal used to make powder has become less available. Nine of 13 responding purchasers reported changes that affected availability, with seven of these reporting why these changes occurred; specifically, four purchasers reported that increases in energy costs increased prices (one of these reported that other costs also had increased), and four purchasers reported that having fewer producers affected production, with one of these reporting that, because of Dow's purchase of Simcala, Globe had become a virtual monopolist that can control U.S. prices.

U.S. producers, importers, purchasers, and foreign producers were also asked to discuss how demand for silicon metal has changed in the U.S. market since 2000. Most U.S. and Brazilian producers reported that demand had increased while most importers and purchasers reported that demand was unchanged. Specifically, \*\*\* responding U.S. producers, two of eight responding importers, four of 12 responding purchasers, and both responding Brazilian producers reported that demand in the United States had risen since 2000. The U.S. producers and importers typically reported that demand had increased because of the increased use of silicon metal by the chemical industry in the production of silicone, in the solar energy industry, and in semiconductor production; on the other hand, all four responding purchasers reported that one of the reasons demand for silicon metal increased was increased demand for aluminum alloys, and one purchaser also reported that demand for silicon metal had also increased with increased demand for silicone and solar panels. \*\*\* reported an increase in demand for aluminum because of tighter fuel efficiency standards on autos. Both responding Brazilian producers reported that demand had increased in both aluminum and chemical uses. \*\*\*, four importers, and seven purchasers reported that demand was unchanged, with four of these firms (\*\*\*, two importers, and one purchaser) explaining that increased demand in the chemical sector had been offset by reduced demand in the aluminum sector. Two importers and one purchaser reported that demand had fallen; all three of these firms attributed this to a shift out of the United States in the production of products that use silicon metal.

Purchasers were asked how demand for their products incorporating silicon metal had changed since 2000. Nine of 15 responding purchasers reported that demand had increased, three reported that demand was unchanged, and three reported that demand had fallen. In addition, purchasers were asked if the end uses for silicon metal had changed. Four of 13 responding purchasers reported that they had; specifically, one firm reported that a change in its product mix had virtually eliminated its consumption of silicon metal, one firm reported that it had discontinued production of some products that had used silicon metal, one firm reported that growth in the solar industry was increasing silicon metal demand, and one firm reported that demand in the semiconductor and solar industry had increased demand for

---

<sup>39</sup> One importer reported silicon metal use in \*\*\* and reported that this was 3.5 percent of the cost of the \*\*\*.

silicon metal. Three of 13 responding purchasers reported that they expected changes in demand for their end-use products; one firm reported that it expected increased demand in the solar industry and for silicones; one firm reported that it expected growth in solar industry to continue; and the other firm reported that it had to compete with Canadian firms that purchase Chinese silicon metal at much lower prices.

When asked if they anticipated future changes in U.S. demand, \*\*\* reported that they did; specifically, \*\*\* anticipated demand growth in the \*\*\* industries, and \*\*\* also expected increased demand for \*\*\*. Six of 11 responding importers reported that they expected U.S. demand to change, with four expecting demand to increase and two expecting it to decrease. Reasons reported by importers for expected increases in U.S. demand included growth in the solar energy sector, growth in the use of silicones, an increase in use of silicon metal in products used in construction, and an increase in the use of silicon metal in the computer industry. The two importers expecting demand to fall reported expecting that firms that used silicon metal would move production out of the United States. Reasons purchasers reported for changes in demand outside the United States include: increased demand in China as it produced more alloys; shifting aluminum production to China; growth in China and in Asia; and growth in the solar energy industry. One of the two responding Brazilian producers reported that it expected U.S. demand to increase due to increased demand for aluminum, silicones, semiconductors, and solar energy, while the other producer reported that it did not expect U.S. demand to increase.

U.S. producers, importers, purchasers, and foreign producers were asked to discuss how demand for silicon metal has changed outside the U.S. market since 2000. \*\*\* responding U.S. producers, four of seven responding importers, and eight of 12 responding purchasers reported that demand outside the United States had risen since 2000. Importers reported growth in chemical uses in Europe, Japan, and Thailand; in use in silicones in construction and silicon based chemicals; and in the chemical automotive and semiconductor industries; and the shifting of aluminum production out of the United States because of high costs. Purchasers reported increased demand in various worldwide markets including Europe (including Central and Eastern Europe), Asia (China, India, Japan, and Thailand were specifically mentioned) and the Pacific Rim; and Mexico and Canada (due to shifting from the U.S. market); purchasers also cited increased demand in the auto industry. \*\*\* responding Brazilian producers reported that demand in Brazil and in other markets outside the United States had increased since 2000. They reported that increased demand was the result of normal economic growth; growth in Asia; growth in chemical uses; and increased silicon metal use in construction, solar energy, and industrial fluids. Regarding demand in Brazil, the \*\*\* responding Brazilian producers reported that Brazilian consumption had increased because of increased use by the aluminum industry, while one also reported increased use in the chemical and solar energy industries. At the hearing, the Brazilian respondents also reported that, in the last 15 years, worldwide demand for aluminum grade silicon metal has grown 3.5 percent and worldwide demand for chemical grade silicon metal has grown 8 percent.<sup>40</sup>

When asked if they anticipated future changes in demand outside the United States, \*\*\* reported that they expected demand to increase. \*\*\* anticipated demand growth as a result of \*\*\*, and \*\*\* expected growth in demand because of economic growth in China and Asia and increased use in \*\*\*. Six of eight responding importers reported that they expected demand outside the United States to increase while two expected no change in demand. Reasons importers reported for expected increased demand outside the United States include: strong growth in demand for chemicals, autos, solar panels and semiconductors; increased capacity of silicone producers; and movement of production of aluminum or chemicals from the United States to other countries. Seven of 12 purchasers reported that they expected changes in demand outside the United States, including: increased demand in China as it produced more alloys; shifting aluminum production to China; growth in Asia, and specifically, growth

---

<sup>40</sup> Hearing transcript, p. 163 (Vander Schaaf).

in China; growth in the solar energy industry; and growth in demand for both silicone and aluminum uses in emerging markets that have readily available silicon metal. \*\*\* of four responding Brazilian producers reported that they expected Brazilian demand to increase in the future, while \*\*\* did not. Two reported that they expected growth in Brazil's aluminum industry and one reported that it expected Brazil to follow the world pattern of growth. \*\*\* responding Brazilian producers reported that they expected their export markets outside the United States to grow in the future. \*\*\* firms reported that they expected growth in chemical/silicone demand and increased demand for use in solar energy markets; \*\*\* reported that they expected increased demand in the aluminum market; \*\*\* reported that they expected growth in the semiconductor market; and one reported that it expected increased consumer demand in China. At the hearing, the Brazilian producers reported that world demand is expected to increase from 1.5 million tons per year in 2005 to 1.95 million tons per year in 2010, or about 5.39 percent per year in the next five years.<sup>41</sup>

## **SUBSTITUTABILITY ISSUES**

The degree of substitution between domestic and imported silicon metal depends on such factors as relative prices, quality (chemical purity, chemical consistency, lump size, etc.), availability of the grade of silicon metal required, and conditions of sale (e.g., lead times, payment terms, value added services, etc.). Based on available data, staff believes that there is at least a moderate degree of substitution between the domestic silicon metal and both Chinese and Brazilian imported silicon metal.

One factor that might reduce substitutability is that many purchasers seldom change their suppliers. Seven of 15 responding purchasers reported that they had not changed suppliers in the last 5 years. Of the eight firms that changed suppliers, three reported that they either were no longer able to purchase from suppliers because the suppliers had gone out of business, merged, or were no longer importing silicon metal; one reported that it changed suppliers because of price; one had added suppliers in response to increased demand; one had used additional suppliers because of non-delivery; one had added \*\*\* but not dropped any suppliers; and one had shifted from Globe to other suppliers but did not report the reason.

## **Factors Affecting Purchasing Decisions**

### **Major Factors in Purchasing**

Purchasers were asked to identify the three major factors considered by their firm in deciding from whom to purchase silicon metal (table II-1). Quality was reported as the most important factor (six firms). Price was most frequently reported as the second most important factor (four firms) and third most important factor (four firms). Other factors listed among the top three factors were availability, meeting specifications, reliability of delivery and supply, service, extension of credit, and delivery in small quantities.

Only one of the 15 responding purchasers reported always buying the lowest-priced silicon metal, but none reported never buying the lowest-priced silicon metal. Seven firms usually purchased the lowest-priced material and seven firms sometimes purchased the lowest-priced material.

---

<sup>41</sup> Hearing transcript, p. 163 (Vander Schaaf).

## Factors Determining Quality

Purchasers were asked what characteristics were considered to determine quality; 14 responded with one or more factors. Five reported that the chemical composition determined quality; five reported meeting the purchaser's specifications; four reported the size of the lumps; four reported the percentage

**Table II-1**

**Silicon metal: Most important factors in selecting a supplier, as reported by purchasers**

Factor	First	Second	Third
Price	5	4	4
Quality	6	3	1
Availability	3	2	2
Meet specifications	1	0	1
Reliability of delivery	0	2	2
Reliability of supply	0	1	2
Service	0	1	1
Extension of credit	0	1	2
Delivery in small quantities	0	1	0

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

of fines; two reported that metal recovery determined quality; and one each reported that consistency, yield, non-metallics, and trial runs determined quality.

## Certification/Qualification Issues

Ten of 14 responding purchasers require that all the product they purchase has certification or prequalification; the other four did not require any certification or prequalification. Four purchasers reported that they needed to have trial runs of the material; other requirements for certification included plant audits, chemical analysis, reputation of supplier, evidence that the supplier can provide on-time deliveries, and ISO certification. Purchasers were asked how long it took to certify a new supplier; eight firms responded, with times ranging from a few days to 18 months. Four reported times of one month or less, and four reported times of 3 months to 18.<sup>42</sup> Twelve firms reported the names of the producers already qualified to sell to them; 11 of these reported that Globe was qualified, and other qualified producers include Elkem, RIMA, Simcala, Chemical and Alloys, Hunan Metal and Chemical, Hunan Sino, ASMP, Ferro Atlantica, Becancour, and CBCC.<sup>43</sup> Thus only one purchaser reported that some Chinese producers were prequalified, and none of the purchasers reported that subject Brazilian

<sup>42</sup> The two firms reporting either no specific time or several days to qualify did not report which firms they had prequalified. The two purchasers that had prequalified only U.S. producers reported qualification times of 1 month and 3 to 6 months. The three purchasers that had prequalified both U.S. producer(s) and \*\*\* reported qualification times of 1 month, 6 to 12 months, and 12 months. \*\*\*, which reported \*\*\* months required for prequalification, \*\*\*.

<sup>43</sup> Six purchasers reported that only U.S. producers (Globe, Elkem, and/or Simcala) were prequalified by their firm, two firms reported that only U.S. producers and \*\*\* were prequalified, one reported that U.S. firms and \*\*\* were prequalified but no Chinese firms were prequalified, and one reported that in addition to U.S. producers, \*\*\* were prequalified.

producers were prequalified. Purchasers were also asked if firms had become disqualified; 13 of 15 reported that they had not. Of the two other firms, one reported that \*\*\* had been disqualified because of too high levels of calcium, and one reported that \*\*\* was disqualified because it had not sold to the purchaser recently enough.

Globe reported that “in the past customers required suppliers to undergo a more rigorous prequalification process, now that process can be accomplished in a matter of days or weeks in most cases. In some circumstances such as chemical segment sales for electronic applications, it can take up to a few months, but these cases are the exception today.”<sup>44</sup> Globe reported that, for example, GE Silicones held an “internet auction in 2001 where suppliers were qualified in a matter of days.”<sup>45</sup> Many consumers are transnational corporations and Brazilian suppliers of silicon metal that are certified suppliers of silicon metal in other regions can expedite the qualification process in the United States.<sup>46</sup> Globe also reported that \*\*\* and thus might be able to be qualified to sell to \*\*\* on an accelerated basis.<sup>47</sup>

In contrast, the Brazilian producers report that qualification and certification can be time-consuming, expensive, and still not lead to sales. For example, \*\*\* attempted to be certified for sales of silicon metal to \*\*\*. \*\*\*, then material was tested; this took one year, and cost \$\*\*\*, but even after this year of effort \*\*\* was not certified by \*\*\*.<sup>48</sup> Alcoa reported that to be qualified, a producer must demonstrate that it can supply sufficient quantities. Then a sample of material is analyzed for chemical composition and melt loss and a full shipment is used to produce test aluminum. In addition, Alcoa may audit the producer’s facility. This process costs about \$30,000 to conduct.<sup>49</sup>

## Specific Sources

Purchasers were also asked whether they purchase silicon metal from one source when comparable product was available at a lower price. One of the 13 responding purchasers reported that it did not. Of the remaining 12, two reported that they preferred domestic material, four required qualification or certification, four reported the importance of reliability of supply, one reported that calcium content would cause it to pick one choice over another, and one reported the importance of the supplier’s ability to guarantee supply silicon metal within a short time.

## Importance of 24 Specified Purchase Factors

Purchasers were also asked to rate the importance of 24 factors in their purchasing decisions (table II-2). The factors listed most frequently as very important were product consistency and reliability of supply (13 firms); availability and delivery time (12 firms); price, and percentage of fines (10 firms); quality meets industry standards, availability on contract, and delivery terms (9 firms); size of lumps, and payment terms (8 firms); and extension of credit, and consistency of lump size (7 firms). No other factor was reported as very important by half or more of the responding purchasers.

---

<sup>44</sup> Hearing transcript, p. 31 (Perkins).

<sup>45</sup> Ibid.

<sup>46</sup> Globe’s posthearing brief, p. 11.

<sup>47</sup> Globe’s posthearing brief, responses to Commission questions, p. 38.

<sup>48</sup> Brazilian respondents’ posthearing brief, p. Q-25 and e-mail transmission from Vander Schaaf, Oct. 25, 2006.

<sup>49</sup> Hearing transcript, pp. 152-153 (McHale).

**Table II-2**  
**Silicon metal: Importance of purchase factors, as reported by purchasers**

Factor	Very important	Somewhat important	Not important
	<i>Number of firms responding</i>		
Availability	12	2	0
Availability on contract	9	3	2
Delivery terms	9	4	1
Delivery time	12	2	0
Discounts offered	3	7	4
Extension of credit	7	5	2
Price	10	4	0
Payment terms	8	6	0
Minimum quantity requirement	3	8	3
Packaging	5	8	1
Product consistency	13	1	0
Percentage of fines	10	4	0
Size of lumps	8	6	0
Consistency of lump size	7	7	0
Quality meets industry standards	9	4	1
Quality exceeds industry standards	3	8	3
Specifications that are not standard to the industry	2	7	5
Product range	1	5	8
Reliability of supply	13	1	0
Technical support/service	2	5	7
Traditional supplier	3	9	2
Related supplier	1	1	12
Buy American	2	8	4
U.S. transportation costs	4	6	4

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

### Changes in Purchasing Patterns

Purchasers were asked a number of questions about whether their purchasing patterns for silicon metal from subject and nonsubject sources had changed since 2000. Four of 14 responding purchasers reported that they had purchased silicon metal from subject countries before 2000. These four were asked if they had changed their purchases since then. Two of the four responded that they had reduced their purchases from Brazil because of the antidumping duty order, one purchaser reported that its purchasing pattern is essential unchanged and that it had purchased Brazilian product but not Chinese, and one purchaser, \*\*\*, reported that it had increased purchases for reasons other than the order (\*\*\*). Purchasers were asked if their purchases from nonsubject countries had changed since the antidumping duty orders; seven of the 14 responding had changed purchases, but all but one of these reported that it was for reasons other than the antidumping duties on product from Brazil and China.

## Purchases from Specific Producers and Countries

Purchasers were asked if the purchase of product produced in the United States was an important consideration for the firms. Nine of the 15 responding purchasers reported that it was not. The remaining six reported preferring U.S. product either because it was important to have a healthy U.S. source of supply (reported by three), or because of better logistics, lower inventories, and lower freight costs (reported by the other three). Five of these reported requiring that from 45 to 100 percent of their purchases be U.S. product, the other did not report requiring a specific percentage.

Purchasers were asked how frequently they and their customers purchased silicon metal from specific producers and from specific countries. The following tabulation summarizes the responses.

<u>Purchaser/customer decision</u>	<u>Always</u>	<u>Usually</u>	<u>Sometimes</u>	<u>Never</u>
Purchaser makes decision based on producer	3	2	2	6
Purchaser's customer makes decision based on producer	0	0	0	10
Purchaser makes decision based on country	3	0	3	7
Purchaser's customer makes decision based on country	0	0	0	11

Seven of 13 responding purchasers reported that they at least sometimes make purchasing decisions based on the producer of the silicon metal, and six of 13 at least sometimes make purchase decisions based on the country of origin. In contrast, their customers never make decisions based on either the producer or the country of origin of the silicon metal. Reasons purchasers gave for making purchase decisions based on the producer included quality, price, requiring qualification, reliability of supply, and preference for U.S. producers. Reasons for purchase decisions based on the country of origin included domestic supply chains being easier to manage, U.S. producers' shorter lead times, supporting domestic producers, quality, balancing imported and domestic product, and the potential for antidumping cases.

Purchasers were asked if they or their customers ever specifically requested silicon metal from any particular countries; only three of the 15 responding purchasers reported that they did.<sup>50</sup> These three all reported specifically requesting/preferring U.S. product, and none reported requesting product from any other country. Purchasers were asked if any types of silicon metal were available only from a single source. Only one of the 13 responding purchasers reported that some types of product were available from a single source. It reported that \*\*\*.

## Comparisons of Domestic Product and Imports from Brazil

Questionnaire respondents were asked to discuss the interchangeability between U.S.-produced silicon metal and Brazilian product (table II-3) and differences other than price between the two (table II-4). \*\*\*, four of the six responding importers, and nine of 11 responding purchasers reported that U.S. and Brazilian imported silicon metal could always be used interchangeably in the same applications. \*\*\* U.S. producers and two of six responding importers reported that there were never differences other than price between U.S. and Brazilian product. Five purchasers compared U.S. and imported silicon metal from Brazil on 22 factors (table II-5). For all characteristics listed, half or more of the responding purchasers reported that U.S. and Brazilian products were comparable.

---

<sup>50</sup> One of the three purchasers is included in those purchasing from particular countries because, although it checked the box that it did not specifically purchase from any country, it also elaborated that it purchased 90 percent of its product from U.S. producers because they had the best quality and delivery.

**Table II-3****Silicon metal: U.S. firms' perceived degree of interchangeability of products produced in the United States, subject, and nonsubject countries<sup>1</sup>**

Country comparison	U.S. producers				U.S. importers				U.S. purchasers			
	A	F	S	N	A	F	S	N	A	F	S	N
U.S. vs. Brazil	***	***	0	0	4	1	1	0	9	2	0	0
U.S. vs. China	***	***	0	0	5	0	2	0	5	2	1	0
Brazil vs. China	***	***	0	0	4	1	1	0	5	2	1	0
U.S. vs. nonsubject	***	***	0	0	5	0	2	0	7	3	0	0
Brazil vs. nonsubject	***	***	0	0	4	0	2	0	6	3	0	0
China vs. nonsubject	***	***	0	0	5	0	2	0	5	2	1	0

<sup>1</sup> Producers, importers, and purchasers were asked if silicon metal produced in the United States and in other countries is used interchangeably.

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

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

**Table II-4****Silicon metal: U.S. firms' perceived significance of differences other than price between U.S.-produced and imported product<sup>1</sup>**

Country comparison	U.S. producers				U.S. importers			
	A	F	S	N	A	F	S	N
U.S. vs. Brazil	0	0	***	***	0	0	4	2
U.S. vs. China	0	0	***	***	2	1	6	1
Brazil vs. China	0	0	***	***	0	1	4	1
U.S. vs. nonsubject	0	0	***	***	0	0	5	2
Brazil vs. nonsubject	0	0	***	***	0	0	4	2
China vs. nonsubject	0	0	***	***	0	1	5	1

<sup>1</sup> Producers and importers were asked if differences other than price between silicon metal produced in the United States and in other countries were a significant factor in their sales of the products.

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

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

**Table II-5**

**Silicon metal: Comparisons of imported and U.S. product, as reported by purchasers**

Factor	U.S. vs Brazil			U.S. vs China			Brazil vs China			U.S. vs nonsubject <sup>1</sup>			Brazil vs nonsubject <sup>1</sup>			China vs nonsubject <sup>1</sup>		
	S	C	I	S	C	I	S	C	I	S	C	I	S	C	I	S	C	I
Availability	0	4	1	0	1	1	0	0	1	1	3	0	0	2	0	1	0	0
Availability on contract	0	5	0	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Delivery terms	1	3	1	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Delivery time	1	2	1	0	1	0	0	1	0	0	3	0	0	2	0	0	1	0
Discounts offered	0	3	2	0	2	0	1	0	0	0	4	0	1	1	0	0	1	0
Extension of credit	0	5	0	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Price <sup>2</sup>	0	4	1	0	1	1	0	0	1	0	4	0	0	2	0	1	0	0
Payment terms	0	5	0	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Minimum quantity requirement	0	5	0	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Packaging	0	5	0	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Product consistency	0	5	0	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Percentage of fines	0	5	0	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Size of lumps	0	5	0	0	2	0	0	1	0	1	3	0	0	2	0	0	1	0
Consistency of lump size	0	5	0	0	2	0	0	1	0	1	3	0	0	2	0	0	1	0
Quality meets industry standards	0	5	0	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Quality exceeds industry standards	0	5	0	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Specifications that are not standard to the industry	0	4	0	0	2	0	0	1	0	0	3	0	0	1	0	0	1	0
Product range	0	4	0	0	2	0	0	1	0	0	3	0	0	1	0	0	1	0
Reliability of supply	0	4	1	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
Technical support/service	0	5	0	0	2	0	0	1	0	1	3	0	0	2	0	0	1	0
Traditional supplier	0	5	0	0	2	0	0	1	0	0	4	0	0	2	0	0	1	0
U.S. transportation costs	0	4	0	0	2	0	0	1	0	0	3	0	0	1	0	0	1	0

<sup>1</sup> Some firms reported answers for multiple nonsubject countries. When these answers differed among the different nonsubject countries, all answers have been reported; however, when they were the same they were recorded only once.

<sup>2</sup> A rating of superior for the first-named country means that the price is generally lower. For example, if a firm reported "U.S. superior," it meant that the price of the U.S. product was generally lower than the price of the imported product.

Note.--S=first listed country's product is superior; C=both countries' products are comparable; I=first listed country's product is inferior. Not all companies gave responses for all factors.

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

Purchasers were asked if the prices of Brazilian and Chinese silicon metal had changed relative to the price of U.S. product since 2000, and if Brazilian and Chinese prices had risen or fallen relative to the U.S. price. Ten purchasers responded with regard to Brazilian prices, with seven reporting that U.S. and Brazilian prices had changed by the same amount and three reporting that Brazilian prices had changed relative to U.S. prices. One of these firms reported that U.S. prices are now higher than the price of imports from Brazil and two reported that U.S. prices are now lower than imports from Brazil. Only one purchaser reported on relative changes of U.S. and Chinese prices, reporting that Chinese prices had changed relative to U.S. prices. This firm reported that Chinese prices had fallen relative to U.S. prices of silicon metal.

### **Comparisons of Domestic Product and Imports from China**

Questionnaire respondents were asked to discuss the interchangeability between U.S.-produced silicon metal and Chinese product (table II-3) and differences other than price between the two (table II-4). \*\*\* U.S. producers, five of seven responding importers, and five of eight responding purchasers reported that U.S. and Chinese imported silicon metal could always be used interchangeably in the same applications. \*\*\* and one of 10 responding importers reported that there were never differences between U.S. and Chinese product other than price. Six importers reported there were sometimes differences other than price between U.S. and Chinese product, one reported frequent differences other than price between U.S. and Chinese product, and two reported that there were always differences other than price. Two purchasers compared U.S. and Chinese imported silicon metal on 22 factors discussed previously (table II-5). For all characteristics listed, one or both of the responding purchasers reported that U.S. and Chinese products were comparable.

### **Comparisons of Domestic Product and Nonsubject Imports**

Imports of silicon metal are available from a variety of sources not subject to the antidumping duty orders under review. Purchasers reported silicon metal was available from Australia, Canada, France, Norway, Russia, South Africa, Spain, the Philippines, and Ukraine. Russian product is covered by another antidumping duty order. In 2005, nonsubject imports accounted for the majority of all imports by both quantity and value. U.S. producers, importers, and purchasers reported on whether domestic silicon metal and silicon metal from nonsubject countries were interchangeable (table II-3), on differences other than price (table II-4), and on differences in 22 factors (table II-5). While most importers (five of seven responding), and most purchasers (seven of 10 responding) reported that U.S. and nonsubject product were always interchangeable, \*\*\* U.S. producers reported that they were only frequently interchangeable. The majority of \*\*\* importers reported there were sometimes differences other than price between U.S. and nonsubject product. For all characteristics listed, at least three of the four responding purchasers reported that U.S. and nonsubject products were comparable.

Producers and importers were asked if the availability of nonsubject product had changed since 2000. Both responding U.S. producers reported that availability of nonsubject product had changed. One firm reported that Russian product became less available with imposition of antidumping duties on Russian product and the other reported that in addition to changes in the availability of Russian product because of the duties, Brazilian product had become more available because some was no longer subject, and that the amount of product from Australia had increased in recent years. Ten of the 13 importers reported that there had been no change in the availability of nonsubject product. Three importers reported changes including: increased imports from South Africa, Norway, and Australia; increased availability of product from Simcoa, an Australian producer, in the U.S. market; and one reported that changes in currency affect competitiveness.

## **Comparisons of Imports from Brazil with Imports from China**

U.S. producers, importers, and purchasers compared the interchangeability of product from Brazil and China (table II-3). Most importers (four of six responding) and most purchasers (five of eight responding) reported that Chinese and Brazilian product were always interchangeable, while \*\*\* reported that they were always interchangeable and \*\*\* reported that they were frequently interchangeable. U.S. producers and importers reported on differences other than price (table II-4). \*\*\* reported there were never differences other than price between Brazilian and Chinese product, while four of the six responding importers reported there were sometimes differences other than price between Brazilian and Chinese product. Only one purchaser compared differences in the 22 factors discussed previously (table II-5), and reported that the Brazilian and Chinese products are comparable in all factors other than discounts offered (Brazil superior) and availability and price (Brazil inferior). In addition, Alcoa reported that “the Chinese, over the past two years, have reached levels of purity that Alcoa requires. Previous to that, they were a higher iron product. But with continuous improvement, they have lowered their iron levels to meet Alcoa’s tough specifications.”<sup>51</sup>

## **Comparisons of Imports from Subject Countries with Nonsubject Imports**

U.S. producers, importers, and purchasers compared the interchangeability of product from subject countries with product from nonsubject countries (table II-3); most importers and most purchasers reported that they were always interchangeable, and \*\*\* U.S. producers reported that these products were always interchangeable. U.S. producers and importers reported whether there were differences other than price (table II-4); the majority of the importers reported that there were sometimes differences other than price, and \*\*\* agreed. Two purchasers compared differences in the 22 factors discussed previously (table II-5) for the Brazilian and nonsubject product, with one reporting that they were comparable for every factor and the other reporting that they were comparable for the great majority of factors. Only one purchaser compared Chinese and nonsubject products on the same 22 factors, and found them to be comparable on all factors other than availability (China superior) and price (China’s price generally lower).

## **ELASTICITY ESTIMATES FOR SILICON METAL**

This section discusses elasticity estimates. Although parties were requested to provide comments in their briefs and the elasticities were discussed at the hearing, no changes were suggested.

### **U.S. Supply Elasticity<sup>52</sup>**

The domestic supply elasticity for silicon metal measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price for silicon metal. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers’ ability to shift to the production of other products, the existence of inventories, and the availability of alternative markets for U.S.-produced silicon metal. Analysis of these factors earlier indicates that the U.S. silicon metal industry is likely to be able to only moderately increase or decrease shipments to the U.S. market within a one-year time frame; an estimate in the range of 3 to 5 is suggested.

---

<sup>51</sup> Hearing transcript, p. 217 (McHale).

<sup>52</sup> A supply function is not defined in the case of a non-competitive market.

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

The U.S. demand elasticity for silicon metal measures the sensitivity of the overall quantity demanded to a change in the U.S. market price for silicon metal. This estimate depends on the factors discussed earlier such as the lack of substitute products. Based on the available information, the aggregate demand for silicon metal is likely to be low; a range of -0.20 to -0.45 is suggested.

### **Substitution Elasticity**

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products. Product differentiation, in turn, depends upon such factors as quality and conditions of sale. Staff estimates the elasticity of substitution between U.S. and both Brazilian and Chinese product to be in the range of 3 to 5.

### **Elasticity of Foreign Supply**

Brazilian and Chinese elasticities of supply are estimated separately because of the differences in both the data between the countries and the amount of data available from each of the countries. The limited information available indicates that the supply of subject Brazilian imports of silicon metal is moderately elastic. Elasticity of supply depends on unused capacity and the ability to shift supply between markets. Staff estimates that the subject Brazilian silicon metal producers are likely to be able to sell moderate amounts of shipments to the U.S. market within a one-year time frame, and that the elasticity of foreign supply is in the range of 3 to 5 percent. In contrast, Chinese supply is estimated to be more elastic because of the size of Chinese capacity relative to the U.S. market and the relatively low level of capacity utilization. Staff estimates that the Chinese silicon metal producers are likely to be able to increase shipments relatively rapidly to the U.S. market within a one-year time frame, and that the elasticity of foreign supply is in the range of 8 to 12 percent.



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

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

During the period of review, U.S. producers' capacity declined by \*\*\* percent, production declined by \*\*\* percent, and capacity utilization declined by \*\*\* percentage points (table III-1). Although production and capacity utilization declined for all producers during the review period, \*\*\*, \*\*\*. As noted in Part I, Globe closed its Springfield, OR facility in 2000 and its Niagara Falls, NY facility in 2003. Throughout the review period, U.S. production capacity was well below apparent U.S. consumption.

All producers were asked if they produced other products using the same equipment and/or production workers used to produce silicon metal. Elkem responded “\*\*\*.” Globe responded “\*\*\*.” \*\*\*. Simcala responded “\*\*\*.”<sup>1</sup>

In their questionnaire responses, U.S. producers provided information on the production status of all of their production furnaces. Globe \*\*\*. Simcala \*\*\*.<sup>2</sup>

**Table III-1**

**Silicon metal: U.S. capacity, production, and capacity utilization, 2000-05**

\* \* \* \* \*

\*\*\* able to produce other products using the same equipment and workers as are used to produce silicon metal.<sup>3</sup> The tabulation below presents information on \*\*\* production of products other than silicon metal on the equipment used to produce silicon metal.

\* \* \* \* \*

### U.S. PRODUCERS' DOMESTIC SHIPMENTS, COMPANY TRANSFERS, AND EXPORT SHIPMENTS

During 2000-05, U.S. producers' U.S. shipments were at their highest level in 2000, both by quantity and value. U.S. producers' U.S. shipments decreased \*\*\* in 2001. Between 2001 and 2005, the quantity of U.S. shipments remained fairly constant except for 2002. The quantity of U.S. shipments declined irregularly during the review period by \*\*\* percent. The value of U.S. shipments increased in each year beginning in 2003. The unit value of U.S. shipments increased irregularly during 2000-05 and was at its highest in 2005. Most U.S. producers' U.S. shipments consisted of open-market (commercial) shipments.

Captive production constitutes \*\*\* of total production and decreased during 2000-05 from about \*\*\* percent in 2000 to \*\*\* percent in 2005 (table III-2). Globe entered into a toll agreement with Marco International, Inc. (“Marco”), a trading company, during arrangements Globe made to emerge from

---

<sup>1</sup> Elkem's, Globe's, and Simcala's producer questionnaire responses, sections II-2 and II-5.

<sup>2</sup> Globe's and Simcala's producer questionnaire responses, sections II-2, II-5, II-6, II-7, and II-10.

<sup>3</sup> Although \*\*\*, \*\*\* producer questionnaire response, section II-5. \*\*\*.

Chapter 11 bankruptcy.<sup>4</sup> \*\*\*. Simcala \*\*\*. Exports make up \*\*\* of total shipments and declined during the review period from \*\*\* percent in 2000 to \*\*\* percent in 2005.

**Table III-2**  
**Silicon metal: U.S. producers' shipments, by types, 2000-05**

\* \* \* \* \*

**U.S. PRODUCERS' INVENTORIES**

U.S. producers' inventories decreased by \*\*\* percent in 2001 before increasing each year during 2002-05. Nevertheless, inventories decreased by \*\*\* percent between 2000 and 2005 (table III-3).

**Table III-3**  
**Silicon metal: U.S. producers' end-of-period inventories, 2000-05**

\* \* \* \* \*

**U.S. PRODUCERS' PURCHASES**

U.S. producers reported purchases \*\*\*.<sup>5</sup>

**U.S. PRODUCERS' EMPLOYMENT, WAGES, AND PRODUCTIVITY**

Several employment factors worsened during the period of review. Employment, hours worked, and wages paid all decreased during the period of review (table III-4). However, productivity increased and unit labor costs declined. Hours worked per worker increased, and average hourly wages increased by \*\*\* percent between 2000 and 2005.

**Table III-4**  
**Silicon metal: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2000-05**

\* \* \* \* \*

---

<sup>4</sup> American Metal Market, *Marco in Globe tolling deal as it nabs assets for \$23M*, January 2, 2003, found at [http://amm.com/2003-01-02\\_01-04-00.html](http://amm.com/2003-01-02_01-04-00.html), retrieved September 27, 2006. \*\*\*.

<sup>5</sup> U.S. producers' questionnaire responses, section II-12.

## FINANCIAL EXPERIENCE OF U.S. PRODUCERS

### Background

The same three firms (Elkem, Globe, and Simcala)<sup>6</sup> that provided production and shipment data reported usable financial data on their operations on silicon metal. These data accounted for all known U.S. production of subject silicon metal in 2005.

These firms were listed in the first reviews as “currently producing silicon metal in the United States” while two other firms that provided usable trade and financial data (American Alloys and AST) had recently shut their facilities.<sup>7</sup> Elkem, which reported on its operations at Alloy, WV during the original investigations as well as in the first reviews, sold that plant to Globe in December 2005 and ceased producing silicon metal in the United States.<sup>8</sup> Simcala, which had purchased SiMETCO’s assets in 1995, was acquired by Dow Corning in June 2003. Finally, another change of ownership was reported when International Metal Enterprises announced on September 1, 2006, that it had entered into a merger agreement with Globe, which it expected to complete in November 2006.<sup>9</sup>

### Operations on Silicon Metal

Results of U.S. firms’ operations on silicon metal are briefly summarized here. Total net sales quantities fell by approximately \*\*\* percent between 2000 and 2002 before recovering in each

---

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

<sup>7</sup> American Alloys closed in 1998 and AST ceased production in 1999. *See, Silicon Metal from Argentina, Brazil, and China, Investigations Nos. 731-TA-470-472 (Review)*, USITC Publication 3385, January 2001, p. III-1. During the original investigations there were eight firms producing the subject product.

<sup>8</sup> The 2005 annual report of Elkem’s Norwegian parent (Elkem ASA) stated the following: “Elkem has a strong position within silicon for the chemicals, electronics and aluminium market. These markets were affected in 2005 by over-capacity and fierce competition from Brazil and China. In addition energy prices in Europe have risen by 40 percent. This resulted in Elkem deciding in 2005 to reduce its exposure within silicon by selling its American business and beginning to reduce capacity in Norway.” Elkem ASA *Annual Review 2005*, “President & CEO’s Report 2005,” p. 4, found at Internet site [www.orkla.com](http://www.orkla.com), retrieved on September 26, 2006. Orkla ASA (Norway) completed its purchase of Elkem in 2005, and stated the following with respect to silicon: “Elkem’s silicon business faced more difficult operating parameters in 2005, in the form of high energy costs, higher raw material prices, and strong competition. An agreement has therefore been entered into to sell the silicon metal business in the USA, and it has been decided to carry out a number of structural changes in Norway. All in all, these measures will reduce the silicon business production capacity by approximately 50% or 100,000 tonnes.” Orkla ASA *Annual Report 2005*, “Report of the Board of Directors,” p. 8, found at Internet site [www.orkla.com](http://www.orkla.com), retrieved on September 26, 2006.

<sup>9</sup> A special meeting of voting stockholders of International Metal Enterprises (IME) to approve the acquisition has been scheduled for November 10, 2006. IME announcement dated October 16, 2006, found at Internet site [www.investegate.co.uk/Article.aspx?id=200610160730034871K](http://www.investegate.co.uk/Article.aspx?id=200610160730034871K), retrieved on October 24, 2006. Also, *see* IME, *Reverse Takeover Announcement*, September 1, 2006, found at Internet site [www.investegate.co.uk/article.aspx?id=2006090107003003349I](http://www.investegate.co.uk/article.aspx?id=2006090107003003349I), retrieved on September 28, 2006. IME is a special purpose acquisition corporation (SPAC) formed on the AIM Market of the London Stock Exchange in October 2005 to acquire targeted companies involved in mining ore, smelting and rolling, foundry, distribution and fabrication, or otherwise substantially involved in the metals and mining industries. IME press release, October 3, 2005, found at Internet site [www.investegate.co.uk/article.aspx?id=200510030800020606S](http://www.investegate.co.uk/article.aspx?id=200510030800020606S), retrieved on September 28, 2006. According to Globe’s president and CEO, the “acquisition is a change in parent ownership without impact on the operation or management of Globe.” Hearing transcript, p. 69 (Sims); also, *see* Globe’s posthearing brief, Globe’s responses to Commission questions, pp. 11-12.

successive year including 2005 (sales quantity increased by approximately \*\*\* percent between 2002 and 2005). Total net sales values followed a similar pattern, falling by \*\*\* percent between 2000 and 2002, and increasing between 2002 and 2005 by about \*\*\* percent.<sup>10</sup> The fall and subsequent increase in sales values between the years identified were because of changes in quantity and average unit values. The industry’s total cost of goods sold (“COGS”) declined between 2000 and 2002 by \*\*\* percent and then increased between 2002 and 2005 by \*\*\* percent, reflecting increasing sales quantities. The average unit value (“AUV”) of COGS declined irregularly between 2000 and 2004 before increasing in 2005 to a somewhat higher level than in 2000. Changes in the AUVs of two categories of COGS, raw materials and other factory costs, offset one another to some extent, but increases in raw material and energy costs drove COGS higher in 2004 and 2005.<sup>11</sup> Unit selling, general, and administrative (“SG&A”) expenses also fluctuated during the period investigated, but declined after 2003 (\*\*\*<sup>12</sup> and \*\*\*). The industry recorded \*\*\* during 2000-03 \*\*\* in 2004 and 2005. The \*\*\* in 2001 because of \*\*\*<sup>13</sup> \*\*\*; without the \*\*\*, the industry’s \*\*\* in 2002. Net income and cash flow followed the trend of operating income in each year except 2002 (\*\*\*). These data for the industry are shown in table III-5 while table III-6 provides operating data on a firm-by-firm basis.

**Table III-5**  
**Silicon metal: Results of operations of U.S. firms, fiscal years 2000-05**

\* \* \* \* \*

---

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

<sup>11</sup> This is due to how firms classified certain expenses within raw materials or other factory costs. For example, \*\*\*. Staff conformed the raw material costs and other factory costs in table III-5 with table III-7 to make the reporting by each firm consistent; although the components changed slightly, total COGS remained the same.

<sup>12</sup> Globe filed a petition for relief under Chapter 11 of the federal bankruptcy laws on April 2, 2003. Its plan of reorganization was accepted and the firm emerged from bankruptcy on May 11, 2004.

<sup>13</sup> The reporting and footnote disclosure for “impairment” of long-lived assets to be held and used is defined under Financial Accounting Standard (FAS) 144 as the condition that exists when the carrying amount of an asset (its cost less accumulated depreciation, which is defined as net book value) exceeds its fair value and is not recoverable. The amount of the impairment loss is the difference between the carrying value and the fair value of the asset. It is recorded as a charge to net book value on the firm’s balance sheet and included in income from continuing operations before income taxes in the firm’s income statement (if the asset is part of an entity that has either been disposed or is held for sale, then the impairment is shown as part of the discontinued operations below income from continuing operations). This standard also applies to intangible assets that are subject to amortization like patents and trademarks. The accounting for goodwill and other intangible assets that are not amortized generally is defined under FAS-142, and the periodic test on an exception basis for impairment is similar to that under FAS-144. Williams, J.R. and J.V. Carcello, *2005 Miller GAAP Guide Level A* (Chicago: CCH, Inc, 2005), “Impairment of Long-Lived Assets,” pp. 20.03-20.04 and 20.12-20.13. Just prior to the Commission’s hearing, staff obtained additional information regarding \*\*\*. Under fresh start accounting the financial statements of the successor firm are presented on a different basis—assets and liabilities are restated to reflect their reorganization value, which approximates fair value—instead of historical cost, and the two sets of statements are not comparable in all respects. In other words, during the reorganization all assets and liabilities were restated to fair value at the time of reorganization, resulting generally in lower values on \*\*\* reporting date. Unlike the accounting treatment for impairment under FAS-144, these writedowns are not reflected in the fresh-start income statement of \*\*\* because that entity never had the pre-writedown amounts on its books. The writedowns are not reflected in the income statement of \*\*\* because no such charges were taken prior to reorganization, and the writedowns occurred as part of the reorganization. Staff believes the appropriate accounting treatment is that under SOP 90-7 because this was the method used to prepare \*\*\*. See Weiss, J., J.R. Williams, and J.V. Carcello, *2005 Miller GAAP Guide Levels B, C and D* (Chicago: CCH, Inc., 2005), “Bankruptcy and Reorganization,” pp. 5.01-5.19.

**Table III-6**  
**Silicon metal: Results of operations of U.S. firms, by firm, fiscal years 2000-05**

\* \* \* \* \*

As depicted by the data in table III-6, \*\*\* sales were higher than \*\*\* during 2000-04, but \*\*\*.<sup>14</sup> \*\*\*,<sup>15</sup> during these years, \*\*\*.<sup>16</sup>

Differences between the average unit values of each firm’s sales may be explained by examining the structure of each firm’s sales of the three pricing products: primary aluminum, secondary aluminum, and chemical grades of silicon metal.<sup>17</sup> Between 2000 and 2004 the average unit value of U.S. producers’ sales of chemical grade silicon metal was \*\*\* each quarter reviewed \*\*\*; \*\*\* primary aluminum grade and secondary aluminum grade silicon metal were \*\*\* chemical grade silicon metal. \*\*\*. These data are shown in figures V-4, V-5, and V-6 later in this report.

The Commission’s questionnaire requested U.S. firms to report data on their raw materials and energy used in the production of silicon metal. Each of the three reporting U.S. firms provided data on the costs of its raw materials, electrodes, coal, electricity, and natural gas. \*\*\*. Each firm also stated whether it classified costs of electrode consumption, coal, or electricity in its raw material costs or its other factory costs; \*\*\* was included within other factory costs. Irrespective of the classification, each firm’s total reconciled with the total raw material costs in its income statement. These data, adjusted so that classifications are consistent (e.g., \*\*\* is in raw materials and \*\*\* is in other factory costs), are presented in table III-7.

**Table III-7**  
**Silicon metal: Raw material and other costs of U.S. producers, fiscal years 2000-05**

\* \* \* \* \*

### Variance Analysis

A summary variance analysis, with and without impairments, showing the effects of prices and volume on U.S. producers’ net sales of silicon metal and of costs and volume on their total expenses, is presented in table III-8. The information for this variance analysis is derived from table III-5. The variance analysis provides an assessment of changes in profitability as related to changes in pricing, cost, and volume. Operating income is affected by changes in price, volume, and product mix (reflected by changes in the pattern of sales and unit prices to different consuming industries). This analysis is more effective when the product involved is a homogeneous product with no variation in product mix. Although there were changes in product mix, as shown by the data for the three pricing products, these changes do not materially affect the variance analysis.

---

<sup>14</sup> See notes earlier in this section regarding \*\*\*.

<sup>15</sup> \*\*\*.

<sup>16</sup> A spokesman for Globe agreed that his firm’s “financial condition has improved significantly in the past two years,” but reminded the Commission that Globe had emerged “from bankruptcy after a costly and painful restructuring process,” and that the antidumping duty orders on imports from Brazil, China, and Russia made that emergence possible. Hearing transcript, p. 25 (Sims).

<sup>17</sup> These are pricing products 1, 2, and 3, respectively. Data for total pricing products accounted for approximately \*\*\* percent, by quantity, and approximately \*\*\* percent, by value, of U.S. producers’ total commercial shipments on a calendar year basis during 2000-05.

**Table III-8**  
**Silicon metal: Summary variance analyses on U.S. firms' operations, fiscal years 2000-05**

\* \* \* \* \*

The variance analysis without impairment charges shows that the increase in operating income from 2000 to 2005 is attributable to a combined favorable price variance (higher unit prices) and favorable net cost/expense variance (lower unit costs). This pattern generally prevailed except during 2000-01 and 2001-02 when the price variance was unfavorable (lower unit sales), and during 2004-05 when the favorable price variance was overcome by an unfavorable net cost/expense variance (higher unit costs). \*\*\* led to an increased net cost/expense variance and caused operating income to fall \*\*\* in those years.

**Assets and Return on Investment**

The Commission's questionnaire requested data on assets used in the production, warehousing, and sale of silicon metal to compute return on investment ("ROI") for 2000 to 2005. The data for total net sales and operating losses are from table III-5. Total net sales was divided by total assets, resulting in the asset turnover ratio. The operating income ratio was then multiplied by the asset turnover ratio, resulting in ROI; the expanded form of this equation shows how the profit margin and total asset turnover ratio interact to determine the return on investment. There were \*\*\* downward changes in noncurrent assets (property, plant, and equipment) between 2000 and 2001 (primarily attributable to \*\*\*) as well as between 2004 and 2005 (primarily attributable to \*\*\*).<sup>18</sup> Although ROI generally followed operating income (discussed earlier in connection with table III-5), ROI was greater than the ratio of operating income to net sales because of decreased total assets of the industry in 2004 and 2005.<sup>19</sup> These data are shown in table III-9.

**Table III-9**  
**Silicon metal: Value of assets used in production, warehousing, and sales, and return on investment, fiscal years 2000-05**

\* \* \* \* \*

**Capital Expenditures and Research and Development Expenses**

U.S. producers' data on their capital expenditures and research and development ("R&D") expenses for their operations on silicon metal are shown in table III-10.

**Table III-10**  
**Silicon metal: U.S. firms' capital expenditures and research and development expenses, fiscal years 2000-05**

\* \* \* \* \*

---

<sup>18</sup> See footnote 13 earlier regarding impairment \*\*\*.

<sup>19</sup> Domestic interested parties referred to this improvement in ROI over the operating income ratio as "artificial" because of \*\*\*, but stated that it bolstered the argument for vulnerability. Prehearing brief of domestic interested parties, pp. 23-24. Also, hearing transcript, pp. 89-90 (Button).

## PART IV: U.S. IMPORTS AND THE FOREIGN INDUSTRY

### U.S. IMPORTS

Import data in table IV-1 were compiled from official U.S. Department of Commerce statistics and from proprietary company-specific U.S. import data provided by Customs. Subject imports from Brazil decreased \*\*\* during 2000-05, \*\*\*. Nonsubject imports from Brazil increased \*\*\* because two major Brazilian producers, CBCC and RIMA, were exempted from the antidumping duty order effective July 1, 2002, and July 1, 2001, respectively. Most of the remaining nonsubject imports in 2005 were from South Africa, Canada, and Norway. The great majority of imports from China came in under the TIB program, which are duty-free as articles to be processed under bond for exportation, including processes which result in articles manufactured or produced in the United States; these imports are also not subject to antidumping duties if the articles are exported. Accordingly, staff believes there are currently only minimal subject imports of silicon metal from China on which antidumping duties are paid.

**Table IV-1**  
**Silicon metal: U.S. imports, by sources, 2000-05**

Source	Calendar year					
	2000	2001	2002	2003	2004	2005
<b>Quantity (gross short tons)</b>						
Brazil (subject)	22,797	***	***	***	***	***
China (subject) <sup>1</sup>	52	1,177	33	22	116	44
Subtotal (subject)	22,849	***	***	***	***	***
Brazil (nonsubject)	0	***	***	***	***	***
China (nonsubject TIB)	4,878	3,156	5,478	3,074	3,022	2,681
Other sources	113,040	107,766	111,851	79,042	97,449	90,467
Subtotal (nonsubject)	117,918	***	***	***	***	***
Total	140,768	129,544	159,569	138,395	176,511	162,525
<b>Value (1,000 dollars)<sup>2</sup></b>						
Brazil (subject)	29,520	***	***	***	***	***
China (subject)	55	1,109	39	23	117	76
Subtotal (subject)	29,575	***	***	***	***	***
Brazil (nonsubject)	0	***	***	***	***	***
China (nonsubject TIB)	3,867	2,273	4,152	2,637	3,379	2,855
Other sources	123,846	112,794	114,367	88,818	127,481	139,163
Subtotal (nonsubject)	127,713	***	***	***	***	***
Total	157,287	138,823	173,191	157,572	223,549	239,940
<b>Unit value (dollars per gross short ton)<sup>2</sup></b>						
Brazil (subject)	1,295	***	***	***	***	***
China (subject)	1,058	942	1,182	1,045	1,009	1,727
Average (subject)	1,294	***	***	***	***	***
Brazil (nonsubject)	( <sup>3</sup> )	***	***	***	***	***
China (nonsubject TIB)	793	720	758	858	1,118	1,065
Other sources	1,096	1,047	1,022	1,124	1,308	1,538
Average (nonsubject)	1,083	***	***	***	***	***
Average	1,117	1,072	1,085	1,139	1,266	1,476
<b>Share of quantity (percent)</b>						
Brazil (subject)	16.2	***	***	***	***	***
China (subject)	( <sup>4</sup> )	0.9	( <sup>4</sup> )	( <sup>4</sup> )	0.1	( <sup>4</sup> )
Subtotal (subject)	16.2	***	***	***	***	***
Brazil (nonsubject)	0.0	***	***	***	***	***
China (nonsubject TIB)	3.5	2.4	3.4	2.2	1.7	1.6
Other sources	80.3	83.2	70.1	57.1	55.2	55.7
Subtotal (nonsubject)	83.8	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0

Table continued on next page.

**Table IV-1--Continued**  
**Silicon metal: U.S. imports, by sources, 2000-05**

Source	Calendar year					
	2000	2001	2002	2003	2004	2005
<b>Share of value (percent)</b>						
Brazil (subject)	18.8	***	***	***	***	***
China (subject)	( <sup>4</sup> )	0.8	( <sup>4</sup> )	( <sup>4</sup> )	0.1	( <sup>4</sup> )
Subtotal (subject)	18.8	***	***	***	***	***
Brazil (nonsubject)	0.0	***	***	***	***	***
China (nonsubject TIB)	2.5	1.6	2.4	1.7	1.5	1.2
Other sources	78.7	81.3	66.0	56.4	57.0	58.0
Subtotal (nonsubject)	81.2	***	***	***	***	***
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Ratio to U.S. production (percent)</b>						
Brazil (subject)	***	***	***	***	***	***
China (subject)	***	***	***	***	***	***
Subtotal (subject)	***	***	***	***	***	***
Brazil (nonsubject)	( <sup>4</sup> )	***	***	***	***	***
China (nonsubject TIB)	***	***	***	***	***	***
Other sources	***	***	***	***	***	***
Subtotal (nonsubject)	***	***	***	***	***	***
Total	***	***	***	***	***	***
<p><sup>1</sup> "Subject" imports from China are imports which were not brought into the United States under the TIB; "nonsubject" imports from China were imports brought in under TIB program. In this program, the imports are free as articles to be processed under bond for exportation, including processes which result in articles manufactured or produced in the United States. If the imports are subsequently exported (including products made in the United States using the import as a raw material) the bond is refunded and no antidumping duties are levied. Although it is possible that the imports brought in under the TIB program were subsequently entered into the United States for consumption (upon which time antidumping duties would have been levied), staff believes that the great majority, if not all, of these imports were exported and therefore free of the antidumping duties. This distinction between TIB and non-TIB imports from China was not made in the original investigation or in the first reviews.</p> <p><sup>2</sup> Landed, duty-paid.</p> <p><sup>3</sup> Not applicable.</p> <p><sup>4</sup> Less than 0.05 percent.</p>						
<p>Note.--Because of rounding, figures may not add to the totals shown.</p> <p>Source: Compiled from official Commerce statistics (HTS subheadings 2804.69.10 and 2804.69.50) which were adjusted to remove imports out of the scope of these reviews and misclassified imports. Information from proprietary Customs data was used to determine imports provided for under subheading 2804.69.50 and containing less than 89 percent silicon by weight; these were removed. The amount of silicon contained in these imports was determined by dividing the second unit of quantity (kilograms of contained silicon metal) noted in the HTS by the first unit of quantity (gross kilograms). Misclassified imports, determined by responses to the Commission's importer questionnaire, were also removed. These included: imports from nonsubject countries in 2000 of 15.9 short tons and \$45,016 of landed-duty-paid value ***, imports from nonsubject countries in 2001 of 8.5 short tons and \$14,220 landed-duty-paid value ***, and imports from China of 4.5 short tons and \$3,504 in landed-duty-paid value in 2002 ***. Data for nonsubject imports from CBCC and RIMA were obtained from proprietary Customs data. Nonsubject imports consist of the sum of imports from RIMA during July-December 2001 and 2002-05 and imports from CBCC during July-December 2002 and 2003-05. The antidumping duty orders were revoked for RIMA effective July 1, 2001 and for CBCC effective July 1, 2002.</p>						

### Cumulation Considerations

In assessing whether subject imports are likely to compete with each other and with the domestic like product with respect to cumulation, the Commission generally has considered the following four factors: (1) the degree of fungibility, including specific customer requirements and other quality-related questions; (2) presence of sales or offers to sell in the same geographical markets; (3) common channels of distribution; and (4) simultaneous presence in the market. In the first reviews, the Commission exercised its discretion to cumulate the subject imports from Brazil and China.

## U.S. IMPORTERS' INVENTORIES

\*\*\*. No reporting importers had inventories of imports from China. Silicon metal for reporting importers was imported for use as an input in a downstream product.

### SUBJECT IMPORTS SUBSEQUENT TO DECEMBER 31, 2005

Importers were requested to report whether they imported or arranged for the importation of silicon metal from Brazil or China for delivery after December 31, 2005. Thirteen importers answered "No" and three importers answered "Yes." \*\*\*. \*\*\*. \*\*\*.

### THE INDUSTRY IN BRAZIL

Domestic interested parties identified six silicon metal producers in Brazil; the respondent interested parties identified eight producers.<sup>1</sup> Both parties identified CBCC, Camargo, Italmagnesio Nordeste S.A. ("Italmagnesio"), LIASA, Minasligas, and RIMA. The respondent interested parties also identified Eletrosilex S.A. (Eletrosilex) and Sibra Electrosiderurgica Brasileira S.A. (Sibra). Four of the firms (CBCC, Camargo, LIASA, and Minasligas) submitted questionnaire responses. Although RIMA and Italmagnesio did not respond to the Commission's questionnaire, members of ABRAFE (the Brazilian Association of Ferroalloy and Silicon Metal Producers) supplied it with production, capacity, and export data which ABRAFE submitted to the Commission for \*\*\*. Reported production for 2005 included production of all known firms that produced silicon metal in 2005.<sup>2</sup> Eletrosilex and Sibra did not submit a questionnaire response.<sup>3</sup>

The industry in Brazil experienced substantial changes since 2000. In 2000, Dow acquired CBCC and RIMA leased Eletrosilex's facilities and produced silicon metal on the leased facilities. Eletrosilex then ceased all production and exportation.<sup>4</sup> From July 1, 2001 to the beginning of March 2002, Brazil had a period of electricity rationing resulting in about half of its silicon metal furnaces being shut down during this period.<sup>5</sup> A new producer since the first reviews, Italmagnesio, started operations in 2003. Data on Brazilian production, capacity, and shipments during 2000-05 are presented in table IV-2.

The capacity of companies subject to the antidumping duty order and exports to the United States of subject product from Brazil decreased \*\*\* between 2000 and 2005 because \*\*\* subject Brazilian product became nonsubject product when CBCC and RIMA were exempted from the antidumping duty

---

<sup>1</sup> Domestic and responding interested parties' response to the Commission's Notice of Institution.

<sup>2</sup> \*\*\* Ferbasa, a producer of ferrochrome and other products in Brazil, could potentially shift production to silicon metal. (Staff interview, October 6 and 11, 2006).

<sup>3</sup> Eletrosilex ceased silicon metal production in 2000 and in September 2000 leased its entire silicon production facility to RIMA for a 10-year period. Since September 2000, RIMA has been using Eletrosilex's facility for RIMA's own production (hearing transcript, p. 144 (Adelmo Melgaco, Executive Director, ABRAFE)). Any exports of silicon metal to the United States by RIMA of silicon metal produced in the Eletrosilex facility apparently enter the United States free of the antidumping duty on imports from Brazil. "If Electrosilex were to run its own facility and have its facility back, it would be subject to the order. But the fact of the matter is, RIMA has a 10-year lease agreement with Electrosilex to use 100 percent of its capacity in this entire facility; and when RIMA uses that facility to produce the product and ship to the United States, it is nonsubject material" (hearing transcript, pp. 248-249 (Lyle B. Vander Schaaf of Bryan Cave LLP)). SIBRA "ceased producing silicon metal in 2000 . . . and produces manganese ore and manganese ferro-alloys" (hearing transcript, p. 145 (Melgaco)); it was redenominated as Rio Doce Manganese ("RDM") in October 2003 (Brazilian respondents' prehearing brief, p. 10).

<sup>4</sup> Ibid.

<sup>5</sup> United States Geological Survey, *2001 Minerals Yearbook, Silicon chapter*, p. 68.4.

**Table IV-2**  
**Silicon metal: Reported Brazilian production, capacity, production, shipments, and inventories, 2000-05**

Item	Calendar year					
	2000	2001	2002	2003	2004	2005
<b>Quantity (gross short tons)</b>						
Capacity (subject)	161,815	187,884	135,479	127,424	129,629	140,747
Capacity (nonsubject)	0	***	***	***	***	***
Production (subject)	133,581	109,510	90,425	107,256	126,077	135,114
Production (nonsubject)	0	***	***	***	***	***
End-of-period inventories	12,005	9,474	8,940	5,778	5,551	***
Shipments:						
Internal consumption	***	***	***	***	***	***
Home market	***	***	***	***	***	***
Exports to--						
United States (subject)	***	***	***	***	***	***
United States (nonsubject)	0	***	***	***	***	***
European Union	***	***	***	***	***	***
Asia	***	***	***	***	***	***
All other markets	***	***	***	***	***	***
Total exports	111,981	75,559	75,409	***	***	***
Total shipments	***	***	***	***	***	***
<b>Ratios and shares (percent)</b>						
Capacity utilization (subject)	82.6	58.3	66.7	84.2	97.3	96.0
Inventories to subject production	9.0	8.7	9.9	5.4	4.4	***
Inventories to total shipments	***	***	***	***	***	***
Share of total quantity of shipments:						
Internal consumption	***	***	***	***	***	***
Home market	***	***	***	***	***	***
Exports to--						
United States (subject)	***	***	***	***	***	***
European Union	***	***	***	***	***	***
Asia	***	***	***	***	***	***
All other markets	***	***	***	***	***	***
All export markets	***	***	***	***	***	***
<b>Value (\$1,000)<sup>1</sup></b>						
Commercial shipments:						
Home market	***	***	***	***	***	***
Exports to--						
United States (subject)	***	***	***	***	***	***
European Union	***	***	***	***	***	***
Asia	***	***	***	***	***	***
All other markets <sup>2</sup>	***	***	***	***	***	***
Total exports <sup>2</sup>	115,455	76,525	73,297	***	***	***
Total commercial shipments <sup>2</sup>	***	***	***	***	***	***

Table continued on next page.

**Table IV-2--Continued**

**Silicon metal: Reported Brazilian production, capacity, production, shipments, and inventories, 2000-05**

Item	Calendar year					
	2000	2001	2002	2003	2004	2005
<b>Unit value (dollars per short ton)</b>						
Commercial shipments: Home market	***	***	***	***	***	***
Exports to-- United States (subject)	***	***	***	***	***	***
European Union	***	***	***	***	***	***
Asia	***	***	***	***	***	***
All other markets <sup>2</sup>	***	***	***	***	***	***
All export markets <sup>2</sup>	1,031	1,013	972	995	1,152	1,244
Total commercial shipments <sup>2</sup>	***	***	***	***	***	***
<sup>1</sup> Net value, f.o.b. point of shipment in Brazil. <sup>2</sup> Value data were not provided for Italmagnesio. Therefore, unit values for shipments to all other markets, all export markets, and all commercial shipments do not include Italmagnesio.  Note.--Unless otherwise noted, data are for Brazilian companies subject to the antidumping duty order.  Note.--Because of rounding, figures may not add to the totals shown.  Note.--Italmagnesio did not report its export data by market - ***.  Note.--Subject and nonsubject capacity and production refers to capacity of and production by firms subject and not subject to the antidumping duty order. The antidumping duty order was revoked for RIMA effective July 1, 2001 and revoked for CBCC effective July 1, 2002. Production and capacity for RIMA and CBCC were prorated for these companies using the ratio of the quantity of imports reported by Customs for each company during January-June (subject) with their imports reported during July-December (nonsubject) during 2001 for RIMA and 2002 for CBCC. Of the imports from RIMA during 2001, *** percent were subject and *** percent were nonsubject. Of the imports from CBCC during 2002, *** percent were subject, and *** were nonsubject.  Source: Compiled from data submitted in response to Commission questionnaires.						

order effective July 1, 2002, and July 1, 2001, respectively. However production, after steadily decreasing during 2000-02, increased steadily during 2003-05 as subject producers increased their production.

Information on capacity, production, and exports for all producers during the original investigations and the current reviews is presented in table IV-3. Of the seven producers in the original investigations, Cia Industrial Fluminense ceased operations and Eletrosilex ceased production in 2000 and leased its facilities to RIMA. All producers that existed in the original investigations and that are still in operation increased their production and production capacity \*\*\* since the original investigations. There is one new producer, Italmagnesio, since the original investigations.

Table IV-3

**Silicon metal: Brazilian capacity, production, and exports, by company, 1988-90, 2000-05, and projected capacity, production, and exports, by company, 2006-07**

Item	Calendar year										
	Actual									Projected	
	1988	1989	1990	2000	2001	2002	2003	2004	2005	2006	2007
Capacity ( <i>gross short tons</i> ):											
CBCC	( <sup>1</sup> )	***	***	***	***	***	***	***	***	( <sup>1</sup> )	( <sup>1</sup> )
Camargo	( <sup>1</sup> )	***	***	***	***	***	***	***	***	***	***
Cia. Industrial Fluminense	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )							
Eletroila/ Eletrosilex <sup>3</sup>	( <sup>1</sup> )	***	***	( <sup>2</sup> )							
Italmagnesio	( <sup>2</sup> )	***	***	***	***	***					
LIASA <sup>4</sup>	( <sup>1</sup> )	***	***	***	***	***	***	***	***	***	***
Minasligas	( <sup>1</sup> )	***	***	***	***	***	***	***	***	***	***
RIMA	( <sup>1</sup> )	***	***	( <sup>1</sup> )	***	***	***	***	***	( <sup>1</sup> )	( <sup>1</sup> )
Total	107,364	154,500	170,305	161,815	***	***	***	***	***	***	***
Production ( <i>gross short tons</i> ):											
CBCC	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	( <sup>1</sup> )	( <sup>1</sup> )
Camargo	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	***
Cia. Industrial Fluminense	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )							
Eletroila/ Eletrosilex	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )							
Italmagnesio	( <sup>2</sup> )	***	***	***	***	***					
LIASA	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	***
Minasligas	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	***
RIMA	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	( <sup>1</sup> )	( <sup>1</sup> )
Total <sup>5</sup>	87,398	129,807	145,177	133,581	***	***	***	***	***	***	***

Table continued on next page.

Table IV-3--Continued

## Silicon metal: Brazilian capacity, production, and exports, by company, 1988-90 and 2000-05

Item	Calendar year											
	Actual									Projected		
	1988	1989	1990	2000	2001	2002	2003	2004	2005	2006	2007	
Exports to United States (gross short tons):												
CBCC	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	( <sup>1</sup> )	( <sup>1</sup> )
Camargo	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	***	***
Cia Industrial Fluminense	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )								
Eletroila/Eletrosilex	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )								
Italmagnesio	( <sup>2</sup> )	***	***	***	***	***	***					
LIASA	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	***	***
Minasligas	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	***	***
RIMA	( <sup>1</sup> )	***	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )							
Total <sup>6</sup>	21,626	22,050	49,586	***	***	***	***	***	***	***	***	***
Exports to all other markets (gross short tons):												
CBCC	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	( <sup>1</sup> )	( <sup>1</sup> )
Camargo	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	***	***
Cia Industrial Fluminense	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )								
Eletroila/Eletrosilex	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>2</sup> )								
Italmagnesio	( <sup>2</sup> )	***	***	***	***	***	***					
LIASA	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	***	***
Minasligas	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	***	***	***	***	***	***	***	***	***
RIMA	( <sup>1</sup> )											
Total <sup>7</sup>	56,425	81,711	80,955	***	***	***	***	***	***	***	***	***
<sup>1</sup> Data unavailable. <sup>2</sup> Not applicable. Cia Industrial Fluminense ceased production in the early 1990s and Eletrosila (now Eletrosilex) ceased production in 2000 and leased its facilities for a 10-year period, beginning in 2000, to RIMA. Italmagnesio did not begin operations until 2003. <sup>3</sup> When Eletroila changed ownership in 1992 (from Norway's Ila Og Lilleby company to the Silex Group) its name changed to Eletrosilex (American Metal Market, <i>Eletrosilex returning to US - exports of silicon metal</i> , March 19, 1995, found at <a href="http://findarticles.com/p/articles/mi_m3MKT/is_n46_v103/ai_16648137/print">http://findarticles.com/p/articles/mi_m3MKT/is_n46_v103/ai_16648137/print</a> , retrieved October 17, 2006). <sup>4</sup> Capacity and production ***. <sup>5</sup> Does not include RIMA in 2000. <sup>6</sup> Does not include RIMA during 2000-04 and 2006-07. <sup>7</sup> Does not include RIMA during 2000-05 and 2006-07.												
Source: Data for the period 1988-90 were obtained from the <i>Staff Report on Investigation No. 731-TA-471 (Final)</i> and the <i>Staff Report on Investigation No. 731-TA-472 (Final)</i> (which were compiled from data submitted in response to Commission questionnaires). Data for the 2000-05 period were compiled from data submitted in response to Commission questionnaires. Projections data for 2006-07 were obtained from responses to a Commission information request on October 26, 2006.												

Brazilian producers were asked whether they experienced plant openings, relocations, expansions, acquisitions, consolidations, closures, or prolonged shutdowns because of strikes or equipment failure; curtailment of production because of shortages of materials; or any other change in the character of their operations or organization relating to the production of silicon metal since 2000. \*\*\* energy rationing; \*\*\*, \*\*\* do not anticipate any changes in the character of their operations or organization relating to the

production of silicon metal in the future, and that they do not have any plans to add, expand, curtail, or shut down production capacity and/or production of silicon metal in Brazil in the future.

\*\*\*. Silicon metal accounted for \*\*\* percent of CBCC's sales in its last fiscal year, \*\*\* percent of Camargo's sales, \*\*\* percent of LIASA's sales, and \*\*\* percent of Minasligas' sales.

When asked about any constraint(s) that set limit(s) on their production capacity, \*\*\*.

When asked to identify export markets (other than the United States) which they developed or where they increased their sales of silicon metal since June 1991, \*\*\*.

When asked whether there have been any changes affecting supply (e.g., changes in availability or prices of energy or labor; transportation conditions; production capacity and/or methods of production; technology; export markets; or alternative production opportunities) that affected the availability of Brazil-produced silicon metal in the U.S. market since 2000, \*\*\*.

When asked whether they anticipate any changes in terms of the availability of Brazilian silicon metal in the U.S. market in the future, \*\*\*.

When asked how easily their firm can shift its sales of silicon metal between the U.S. market and alternative country markets, \*\*\*.

When asked whether the product range, product mix, or marketing of silicon metal in their home market is significantly different from the product range, product mix, or marketing of silicon metal for export to the United States or to third-country markets, \*\*\*; the focus for silicon metal in Brazil consists of the primary and secondary aluminum industries, and the silicone market does not exist in Brazil. \*\*\*.

Firms in Brazil were asked to discuss whether they anticipated any changes in the product range, product mix, or marketing of silicon metal in Brazil, for export to the United States, or for export to third-country markets since 2000. \*\*\*.

When asked whether the silicon metal produced by their firm and sold in its home market is interchangeable (i.e., can be used in the same applications) with their silicon metal sold to the United States and/or to third-country markets, \*\*\*.

When asked to describe the end uses of the silicon metal that they manufacture and sell to their home market and whether the end uses differ from those of the silicon metal they sell to the U.S. market or to third-country markets, \*\*\* the demand in Brazil is only by the primary and secondary aluminum industries, that the European market is for silicone and primary and secondary aluminum, and that \*\*\*.

Firms in Brazil were asked whether there have been any changes in the end uses of silicon metal since 2000. \*\*\*. Firms were also asked whether they anticipate any changes in terms of the end uses of silicon metal in the future. \*\*\*.

\*\*\* demand for silicon metal in the home market has increased since 2000. With regard to the U.S. market, \*\*\*. With regard to other export markets, \*\*\*. \*\*\* increased demand from the aluminum alloys and chemical (silicone and semiconductor) industries, \*\*\*.

Firms in Brazil were asked whether they anticipated any future changes in silicon metal demand in their home market, in the U.S. market, and in their export markets. With regard to the home market, \*\*\*. With regard to the U.S. market, \*\*\*. With regard to other export markets, \*\*\* in Europe, demand will follow the natural growth of the aluminum alloys, silicones, and semiconductor industries, and that there is a growing demand from solar energy industries. It also mentioned a growing demand from consumers in China. \*\*\*.

Firms in Brazil were requested to compare market prices of silicon metal in their home market, the United States, and third-country markets, if known. \*\*\*.

Firms in Brazil were asked to describe their home market for silicon metal, including the number of, and competition between, producers. \*\*\* the home market consists of primary and secondary aluminum producers that can be supplied by any of the six silicon metal producers (CBCC, Camargo, Italmagnesio, LIASA, Minasligas, and RIMA). \*\*\*.

\*\*\* responding producers of silicon metal in Brazil reported that they face competition from imports of silicon metal from China in their home market in Brazil.

Firms in Brazil were requested to discuss how conditions of competition for the industry have changed in recent years both in the United States, Brazil, China and other countries, and how those changes have affected their business and operations. \*\*\* stated that China has become a major producer, causing price erosion in the markets in which it sells. \*\*\* there has been a continuous demand for chemical grade silicon metal used in the production of silicones, semiconductors, and solar cells, especially in Europe and Asia. \*\*\* the demand for silicon metal has especially increased in Asia and Europe and that both production and demand have grown at very high rates in China, all reflecting the growth of the aluminum, chemical, electronics, and solar energy industries worldwide.

### **THE INDUSTRY IN CHINA**

There are no valid data available on the number of silicon producers nor on the amount of production capacity in China. There are a large number of small producers in China. Capacity has been expanding in the last few years. Announced capacity expansions include:

2002: In February, Dow Corning announced that it would build a silicon metal beneficiation plant with China's Dalian Kangnig Silicon Development Corp. with a production capacity of up to 50,000 tons per year. On August 20, China National Bluestar (Group) Corp. announced that it would develop a silicon metal plant in Gansu Province expected to be operational in early 2003 with a production capacity of 50,000 tons per year;<sup>6</sup>

2003: In November, the Inner Mongolia Electric Power Metallurgy Co. Ltd. of the ERDOS Group started production at a ferrosilicon plant but planned to add 200,000 tons per year of silicon metal production capacity in the future;<sup>7</sup>

2004: Ordins Trading Company announced plans to bring a new 10,000-ton-per-year silicon metal plant online.<sup>8</sup>

The Government of China has announced its intentions of shutting down small producers but it is unknown if these producers have in fact closed. The announced measures include: "(1) immediately closing all electric furnaces and blast furnaces with capacities less than 3,200 kilovolt-amperes (kVA) and 100 cubic meters, respectively; (2) closing electric furnaces with capacities below 5,000 kVA before 2005; (3) eliminating favorable policies for . . . producers including discounted electricity rates, reduced tax rates, and benefits regarding land usage; and (4) tightening enforcement of environmental regulations. Financial institutions were prohibited from offering financing to closed plants or illegal producers."<sup>9</sup>

No firm in China submitted a questionnaire response. The only information on the record concerning industry data on China are from \*\*\*. Data on China's production and shipments of silicon metal are presented in table IV-4.<sup>10</sup>

---

<sup>6</sup> United States Geological Survey, *Minerals Yearbook, Silicon chapter*, for the years 2002-04.

<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

<sup>9</sup> United States Geological Survey, *2004 Minerals Yearbook, Silicon chapter*, p. 67.4.

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

**Table IV-4**  
**Silicon metal: China's production and shipments, 2000-05**

\* \* \* \* \*

**ANTIDUMPING DUTY ORDERS IN THIRD-COUNTRY MARKETS**

Silicon metal from Brazil is not currently subject to antidumping duty orders in other countries. Silicon metal from China is currently subject to antidumping duties in the European Union (at a rate of 49 percent)<sup>11</sup> and in Australia (effective February 16, 2005, at a rate ranging from 3.7 to 8.1 percent).<sup>12</sup>

**THE WORLD MARKET<sup>13</sup>**

**Production**

\* \* \* \* \*

**Consumption**

\* \* \* \* \*

---

<sup>11</sup> Domestic interested parties' response to the Commission's notice of institution, p. 19, and Brazilian respondents' prehearing brief, exh. 6.

<sup>12</sup> World Trade Organization, *Semi-Annual Report under Article 16.4 (G/ADP/N/132/AUS)*, July 28, 2005, found at [http://www.wto.org/english/tratop\\_e/adp\\_e/adp\\_e.htm](http://www.wto.org/english/tratop_e/adp_e/adp_e.htm), retrieved August 24, 2006.

<sup>13</sup> Information about the world market \*\*\*.

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

### **FACTORS AFFECTING PRICES**

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

Transportation costs for silicon metal from Brazil to the United States (excluding U.S. inland costs) are estimated to be equivalent to 5.3 percent of the customs value of the silicon metal during 2005. The Brazilian producers reported that the cost of transporting silicon metal to the United States is higher than to Europe or Japan.<sup>1</sup> Transportation costs from China are estimated to be 8.7 percent during 2005. These estimates are derived from official import data for HTS subheadings 2804.69.10 and 2804.69.50, and represent the transportation and other charges on imports valued on a c.i.f. basis, as compared with customs value.

The Brazilian producers reported that the shipping cost to North America averaged \$\*\*\*, \*\*\* than shipping costs to Europe, \$\*\*\*.<sup>2</sup> Globe provided information indicating that the average unit value of insurance and freight for shipping Brazilian silicon metal to the United States was lower than the average unit value of these costs for product shipped to Europe in every year during 2000-05 except 2002.<sup>3</sup>

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

\*\*\* U.S. producers reported that U.S.-inland transportation costs accounted for between 2 and 4 percent of the total cost of the silicon metal. \*\*\* also reported that \*\*\* generally arrange the transportation from their facility to their customers' location while \*\*\* reported that \*\*\* customers arrange transportation. Importers that provided estimates indicated that U.S.-inland transportation costs accounted for between 2 and 10 percent of the total delivered cost of the silicon metal.<sup>4</sup> Five of the six responding importers stated that they arrange transportation, while the remaining importer reported that its customers usually make such arrangements.

Producers reported very similar shipping distances, with \*\*\* stating that the vast majority (i.e., over 90 percent) of the silicon metal that they sell is shipped to customers within 101 and 1,000 miles. There was more variation in the responses from the importers. One importer reported shipping all of its product within 100 miles, one shipped half within 100 miles and the other half between 101 and 1,000 miles, and the other three responding importers shipped 95<sup>5</sup> to 100 percent between 101 and 1,000 miles. No importer reported shipping product over 1,000 miles.

#### **Exchange Rates**

Quarterly data reported by the International Monetary Fund for the Brazilian and Chinese currencies relative to the U.S. dollar from January 2000 through December 2005 are shown in figure V-1.

---

<sup>1</sup> Hearing transcript, p. 148 (Melgaco).

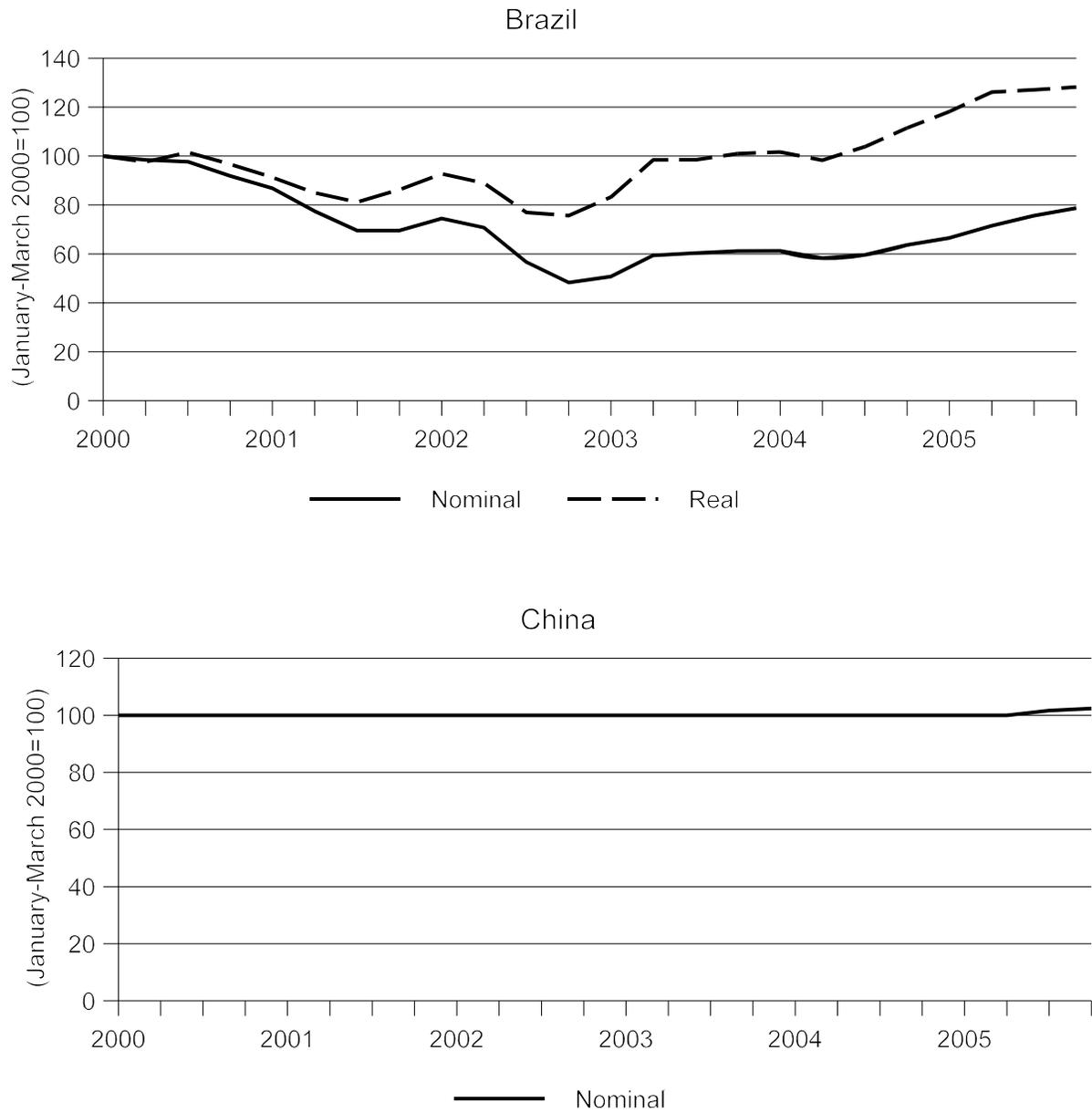
<sup>2</sup> Brazilian posthearing brief, p. Q-3 and exh. 12 and 13.

<sup>3</sup> Globe's posthearing brief, exh. 23.

<sup>4</sup> One importer reported that shipping costs were 50 percent of the cost of its product.

<sup>5</sup> This firm shipped 5 percent 100 miles or less.

**Figure V-1**  
**Exchange rates: Indices of the nominal and real exchange rates of the currencies of Brazil and China relative to the U.S. dollar, by quarters, January 2000-December 2005**



Source: International Monetary Fund, *International Financial Statistics*, <http://ifs.apdi.net/imf/ifsbrowser.aspx?branch=ROOT> retrieved July 27, 2006.

## PRICING PRACTICES

### Pricing Methods

Available information from questionnaires indicates that sales of silicon metal in the U.S. market are made on both a contract and spot basis. \*\*\* U.S. producers reported that \*\*\* percent or more of their sales are made on a contract basis, with \*\*\* selling most product using long-term contracts.<sup>6</sup> Long-term contracts were reported to range from 1 to 10 years; \*\*\* had adjustable prices, and \*\*\* had adjustable quantities. \*\*\* responding producers reported meet-or-release provisions on \*\*\* long-term contracts, while \*\*\* responding producers reported meet-or-release provisions for some contracts. \*\*\* reports that even if long-term contracts do not explicitly include price adjustments, purchasers will reduce the amount they buy if prices are not adjusted when the market price falls.

Importers were asked about contract or spot sales of product from China or Brazil. Most importers responding to the questionnaire only imported product from countries other than China and Brazil since 2000 and therefore did not respond to questions specifying only China or Brazil. Only one firm, an importer of \*\*\*, responded regarding the shares of sales that were long-term contracts, short-term contracts, and spot sales; it reported that \*\*\* of its sales were short-term contracts. Four importers reported the length of their contracts, but the question did not specify product from China and Brazil. These firms reported contracts of 1 month to 1 year, with three importers reporting contracts between 1 and 3 months and one reporting contracts of 6 months to 1 year. The three importers reporting contracts of 1 to 3 months reported fixed prices, and the other importer reported price negotiations within the contract. Contracts typically fix both price and quantity.<sup>7</sup> Only one of the four responding importers reported meet-or-release provisions on short-term contracts.

Silicon metal prices published by *Metal Bulletin* or *Ryan's Notes* are sometimes used in price negotiations and typically used for price adjustments within a contract. Figure V-2 shows prices for silicon metal in the United States, Europe, and China (shipping prices from the port of Hong Kong) as reported by *Metal Bulletin*. These published prices have increased substantially in the United States since 2000 and peaked in 2004. By September 2006 the price of silicon metal was rising and in the first week in October the price was higher still, ranging from \$1,700 to \$1,760 per ton.<sup>8</sup> This price was higher than that reported in all but four months in 2004 and one month in 2005.

The price of Chinese product was below the price of U.S. and European product in all months for which such data were available. The price of European product was sometimes above and sometimes below the price of U.S. product. \*\*\*.<sup>9</sup> *Platts Metals Week* reports that purchasers predict that silicon metal prices will increase in 2007. As a result, purchasers were seeking to set fixed rather than formula-based prices in their contracts for 2007 and were trying to reach agreements on these 2007 contracts earlier in 2006 than they did for 2006 contracts set in 2005. The current starting point for the negotiations for 2007 delivery was reported to be \$1,730 to \$1,740 per ton, up from \$1,700 in mid-September 2006.<sup>10</sup> This price was \*\*\* the prices reported by U.S. producers for products 1 and 2, used in primary and secondary aluminum throughout the 2000-2005 period for which price data were collected, but was \*\*\* the price of product 3 used in chemical applications in 2000 and 2001 and in one quarter of 2003.

---

<sup>6</sup> However, one of these, \*\*\*, reported that \*\*\*.

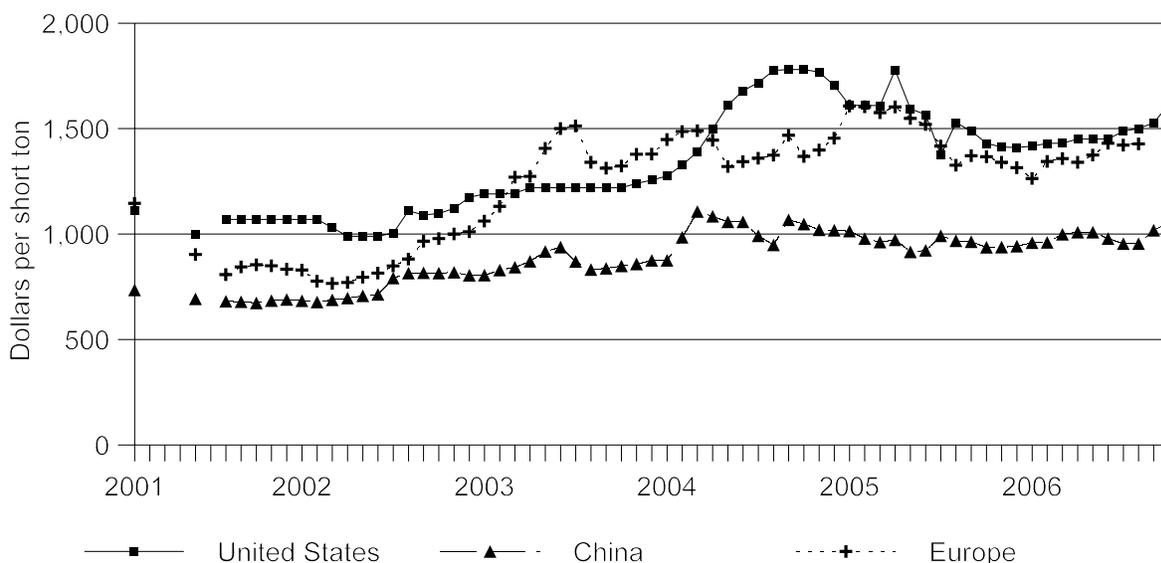
<sup>7</sup> One importer reported that although price and quantity are fixed, they can be changed if the customer requests.

<sup>8</sup> "U.S. Spot Silicon Availability Seen Tightening Further," *Platts Metals Week*, vol. 77, no. 41, October 9, 2006, p. 12.

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

<sup>10</sup> "U.S. Spot Silicon Availability Seen Tightening Further," *Platts Metals Week*, vol. 77, no. 41, October 9, 2006, p. 12.

**Figure V-2**  
**Silicon metal: Published prices for the United States, China,<sup>1</sup> and Europe, by month, January 2001-September 2006**



<sup>1</sup> Prices for “China” are shipping prices from the port of Hong Kong.

Source: *Metal Bulletin*. (Metal Bulletin provides high and low prices; the price used is the midpoint between these on the last day of the month for which prices were reported. Quantities have been converted to short tons and prices have been converted into U.S. dollars where necessary.)

U.S. producers, importers, and foreign producers were asked to compare prices in the United States to prices in other countries if they knew them. Two U.S. producers, three importers, and four Brazilian producers responded. One U.S. producer reported that prices were available from CRU; the other reported that U.S. prices have been higher than those in other countries because of the antidumping duty orders against Brazil, China, and Russia, but reported that prices have declined since 2004. One importer referred to price data from *Metal Bulletin*, and reported that the price in Japan reflects the much lower price of Chinese silicon metal compared to the price in Europe and the United States; one reported that the U.S. price tends to be 10 to 15 percent higher because of duties, that the price is also affected by one U.S. producer being dedicated to a single purchaser, and because of transportation costs; the other importer reported that CRU is the best source of price information, that in the past five years silicon prices have been affected by fluctuations in exchange rates, that European and U.S. prices tend to fluctuate together although in 2004 U.S. prices were higher than European prices, and that prices in Japan tend to be lower than prices in the rest of the world. One Brazilian producer reported that prices vary by specification; one reported that silicon metal is not a commodity product and that there are typically not large price gaps between markets, although it did not know the U.S. market; one referred to CRU prices; and one reported that prices are higher now than in 2001 and that the U.S. and European prices are similar.

## Pricing Based on Purity

Producers traditionally base prices on purity levels; however, \*\*\*.<sup>11</sup>

## Sales Terms and Discounts

In general, U.S. producers reported that they have no specific discount policies for their sales of silicon metal, while one of the five responding importers offered discounts for multiple shipments. Some firms stated that discounts (in the form of lower prices) may arise in the course of negotiations but that they have no formal policies. Firms reported that sales terms are generally net 30.

## PRICE DATA

The Commission requested quarterly sales data for the total quantity and value of three silicon metal products during 2000-05. The products for which pricing data were requested are as follows:

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

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

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

Three U.S. producers<sup>12</sup> and two importers<sup>13</sup> provided usable pricing data for sales of the requested products in the U.S. market, although not all firms reported pricing data for all products for all quarters. The reported price data accounted for \*\*\* percent of the quantity of domestically produced commercial shipments of silicon metal and \*\*\* percent of the quantity of subject imports from Brazil in 2000-05.<sup>14</sup> While all three products showed similar overall trends during the period examined, each is priced somewhat differently based on the type and level of impurities.

Price data are shown in tables V-1 to V-3 and figure V-3. The high and low prices and change in prices between January 2000 and December 2005 are summarized in table V-4. Table V-5 shows, by year, the number of quarters of under/overselling and the average margins of under/overselling.

**Table V-1**  
**Silicon metal: Weighted-average f.o.b. selling prices and quantities for product 1, by quarters, January 2000-December 2005**

\* \* \* \* \*

---

<sup>11</sup> \*\*\*.

<sup>12</sup> Elkem, Globe, and Simcala.

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

<sup>14</sup> The low coverage is in part because price data were not reported by end users that import product for their own use. \*\*\*. In addition, coverage of imported product tends to be higher in more recent periods because importers that are currently active are more likely to respond to the questionnaires; however, imports of subject Brazilian product have been much lower after 2002.

**Table V-2**

**Silicon metal: Weighted-average f.o.b. selling prices and quantities for product 2, and margins of underselling/(overselling), by quarters, January 2000-December 2005**

\* \* \* \* \*

**Table V-3**

**Silicon metal: Weighted-average f.o.b. selling prices and quantities for product 3, and margins of underselling/(overselling), by quarters, January 2000-December 2005**

\* \* \* \* \*

**Figure V-3**

**Silicon metal: Weighted-average f.o.b. selling prices for products 1-3, by quarters, January 2000-December 2005**

\* \* \* \* \*

**Table V-4**

**Silicon metal: Summary of weighted-average f.o.b. prices for products 1-3, by country**

\* \* \* \* \*

**Table V-5**

**Silicon metal: Summary of underselling/(overselling)**

\* \* \* \* \*

Average unit values and quantities sold by individual U.S. producers for products 1-3 are provided in figures V-4 to V-6. Between 2000 and 2004, chemical grade silicon metal had \*\*\* average unit values in each quarter \*\*\* primary or secondary aluminum grade product. In 2005, average unit values of primary aluminum grade and secondary aluminum grade silicon metal were \*\*\* chemical grade silicon metal. The average unit value of primary aluminum grade silicon metal was \*\*\* secondary aluminum grade product in all but two quarters. \*\*\*.

**Figure V-4**

**Silicon metal: U.S. producers' average unit values and quantities for primary aluminum grade product, by firm, January 2000-December 2005**

\* \* \* \* \*

**Figure V-5**

**Silicon metal: U.S. producers' average unit values and quantities for secondary aluminum grade product, by firm, January 2000-December 2005**

\* \* \* \* \*

**Figure V-6**  
**Silicon metal: U.S. producers' average unit values and quantities for chemical grade product, by firm, January 2000-December 2005**

\* \* \* \* \*



**APPENDIX A**

***FEDERAL REGISTER* NOTICES AND THE  
COMMISSION'S STATEMENT ON ADEQUACY**



## INTERNATIONAL TRADE COMMISSION

[Investigation Nos. 731-TA-471 and 472  
(Second Review)]

### Silicon Metal From Brazil and China

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

**ACTION:** Institution of five-year reviews concerning the antidumping duty orders on silicon metal from Brazil and China.

**SUMMARY:** The Commission hereby gives notice that it has instituted reviews pursuant to section 751(c) of the Tariff Act of 1930 (19 U.S.C. 1675(c)) (the Act) to determine whether revocation of the antidumping duty orders on silicon metal from Brazil and China would be likely to lead to continuation or recurrence of material injury. Pursuant to section 751(c)(2) of the Act, interested parties are requested to respond to this notice by submitting the information specified below to the Commission;<sup>1</sup> to be assured of consideration, the deadline for responses is February 22, 2006. Comments on the adequacy of responses may be filed with the Commission by March 20, 2006. For further information concerning the conduct of these reviews 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, D, E, and F (19 CFR part 207).

**DATES:** *Effective Date:* January 3, 2006.

**FOR FURTHER INFORMATION CONTACT:** Mary Messer (202-205-3193), Office of Investigations, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000. General information concerning the Commission may also be obtained by accessing its internet server (<http://www.usitc.gov>). The public record for these reviews may be viewed on the

<sup>1</sup> No response to this request for information is required if a currently valid Office of Management and Budget (OMB) number is not displayed, the OMB number is 3117-0016/USITC No. 06-5-144, expiration date June 30, 2008. Public reporting burden for the request is estimated to average 10 hours per response. Please send comments regarding the accuracy of this burden estimate to the Office of Investigations, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436.

Commission's electronic docket (EDIS) at <http://edis.usitc.gov>.

#### SUPPLEMENTARY INFORMATION:

**Background.** On June 10, 1991, the Department of Commerce ("Commerce") issued an antidumping duty order on imports of silicon metal from China (56 FR 26649). On July 31, 1991, Commerce issued an antidumping duty order on imports of silicon metal from Brazil (56 FR 36135). Following five-year reviews by Commerce and the Commission, effective February 16, 2001, Commerce issued a continuation of the antidumping duty orders on imports of silicon metal from Brazil and China (66 FR 10669). The Commission is now conducting second reviews to determine whether revocation of the orders would be likely to lead to continuation or recurrence of material injury to the domestic industry within a reasonably foreseeable time. It will assess the adequacy of interested party responses to this notice of institution to determine whether to conduct full reviews or expedited reviews. The Commission's determination in any expedited reviews will be based on the facts available, which may include information provided in response to this notice.

**Definitions.** The following definitions apply to these reviews:

(1) *Subject Merchandise* is the class or kind of merchandise that is within the scope of the five-year reviews, as defined by Commerce.

(2) The *Subject Countries* in these reviews are Brazil and China.

(3) The *Domestic Like Product* is the domestically produced product or products which are like, or in the absence of like, most similar in characteristics and uses with, the *Subject Merchandise*. In its original determinations, the Commission defined the *Domestic Like Product* as silicon metal, regardless of grade, having a silicon content of at least 96.00 percent but less than 99.99 percent of silicon by weight, and excluding semiconductor grade silicon, corresponding to Commerce's scope. In its full five-year review determinations, the Commission defined the *Domestic Like Product* as all silicon metal, regardless of grade, corresponding to Commerce's scope. For purposes of this notice, you should report information on all silicon metal, regardless of grade, corresponding to Commerce's scope.

(4) The *Domestic Industry* is the U.S. producers as a whole of the *Domestic Like Product*, or those producers whose collective output of the *Domestic Like Product* constitutes a major proportion of the total domestic production of the product. In its original determinations,

the Commission defined the *Domestic Industry* as all producers of the *Domestic Like Product*. In its full five-year review determinations, the Commission defined the *Domestic Industry* as all domestic producers of silicon metal. For purposes of this notice, you should report information for all domestic producers of silicon metal.

(5) An *Importer* is any person or firm engaged, either directly or through a parent company or subsidiary, in importing the *Subject Merchandise* into the United States from a foreign manufacturer or through its selling agent.

**Participation in the reviews and public service list.** Persons, including industrial users of the *Subject Merchandise* and, if the merchandise is sold at the retail level, representative consumer organizations, wishing to participate in the reviews as parties must file an entry of appearance with the Secretary to the Commission, as provided in section 201.11(b)(4) of the Commission's rules, no later than 21 days after publication of this notice in the **Federal Register**. The Secretary will maintain a public service list containing the names and addresses of all persons, or their representatives, who are parties to the reviews.

Former Commission employees who are seeking to appear in Commission five-year reviews are reminded that they are required, pursuant to 19 CFR 201.15, to seek Commission approval if the matter in which they are seeking to appear was pending in any manner or form during their Commission employment. The Commission is seeking guidance as to whether a second transition five-year review is the "same particular matter" as the underlying original investigation for purposes of 19 CFR 201.15 and 18 U.S.C. 207, the post employment statute for Federal employees. Former employees may seek informal advice from Commission ethics officials with respect to this and the related issue of whether the employee's participation was "personal and substantial." However, any informal consultation will not relieve former employees of the obligation to seek approval to appear from the Commission under its rule 201.15. For ethics advice, contact Carol McCue Verratti, Deputy Agency Ethics Official, at 202-205-3088.

**Limited disclosure of business proprietary information (BPI) under an administrative protective order (APO) and APO service list.** Pursuant to section 207.7(a) of the Commission's rules, the Secretary will make BPI submitted in these reviews available to

authorized applicants under the APO issued in the reviews, provided that the application is made no later than 21 days after publication of this notice in the **Federal Register**. Authorized applicants must represent interested parties, as defined in 19 U.S.C. 1677(9), who are parties to the reviews. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

**Certification.** Pursuant to section 207.3 of the Commission's rules, any person submitting information to the Commission in connection with these reviews must certify that the information is accurate and complete to the best of the submitter's knowledge. In making the certification, the submitter will be deemed to consent, unless otherwise specified, for the Commission, its employees, and contract personnel to use the information provided in any other reviews or investigations of the same or comparable products which the Commission conducts under Title VII of the Act, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3.

**Written submissions.** Pursuant to section 207.61 of the Commission's rules, each interested party response to this notice must provide the information specified below. The deadline for filing such responses is February 22, 2006. Pursuant to section 207.62(b) of the Commission's rules, eligible parties (as specified in Commission rule 207.62(b)(1)) may also file comments concerning the adequacy of responses to the notice of institution and whether the Commission should conduct expedited or full reviews. The deadline for filing such comments is March 20, 2006. All written submissions must conform with the provisions of sections 201.8 and 207.3 of the Commission's rules and any submissions that contain BPI must also conform with the requirements of sections 201.6 and 207.7 of the Commission's rules. The Commission's rules do not authorize filing of submissions with the Secretary by facsimile or electronic means, except to the extent permitted by section 201.8 of the Commission's rules, as amended, 67 FR 68036 (November 8, 2002). Also, in accordance with sections 201.16(c) and 207.3 of the Commission's rules, each document filed by a party to the reviews must be served on all other parties to the reviews (as identified by either the public or APO service list as appropriate), and a certificate of service must accompany the document (if you

are not a party to the reviews you do not need to serve your response).

**Inability to provide requested information.** Pursuant to section 207.61(c) of the Commission's rules, any interested party that cannot furnish the information requested by this notice in the requested form and manner shall notify the Commission at the earliest possible time, provide a full explanation of why it cannot provide the requested information, and indicate alternative forms in which it can provide equivalent information. If an interested party does not provide this notification (or the Commission finds the explanation provided in the notification inadequate) and fails to provide a complete response to this notice, the Commission may take an adverse inference against the party pursuant to section 776(b) of the Act in making its determinations in the reviews.

**Information to Be Provided in Response to This Notice of Institution:** If you are a domestic producer, union/worker group, or trade/business association; import/export *Subject Merchandise* from more than one *Subject Country*; or produce *Subject Merchandise* in more than one *Subject Country*, you may file a single response. If you do so, please ensure that your response to each question includes the information requested for each pertinent *Subject Country*. As used below, the term "firm" includes any related firms.

(1) The name and address of your firm or entity (including World Wide Web address if available) and name, telephone number, fax number, and E-mail address of the certifying official.

(2) A statement indicating whether your firm/entity is a U.S. producer of the *Domestic Like Product*, a U.S. union or worker group, a U.S. importer of the *Subject Merchandise*, a foreign producer or exporter of the *Subject Merchandise*, a U.S. or foreign trade or business association, or another interested party (including an explanation). If you are a union/worker group or trade/business association, identify the firms in which your workers are employed or which are members of your association.

(3) A statement indicating whether your firm/entity is willing to participate in these reviews by providing information requested by the Commission.

(4) A statement of the likely effects of the revocation of the antidumping duty orders on the *Domestic Industry* in general and/or your firm/entity specifically. In your response, please discuss the various factors specified in section 752(a) of the Act (19 U.S.C. 1675a(a)) including the likely volume of subject imports, likely price effects of

subject imports, and likely impact of imports of *Subject Merchandise* on the *Domestic Industry*.

(5) A list of all known and currently operating U.S. producers of the *Domestic Like Product*. Identify any known related parties and the nature of the relationship as defined in section 771(4)(B) of the Act (19 U.S.C. 1677(4)(B)).

(6) A list of all known and currently operating U.S. importers of the *Subject Merchandise* and producers of the *Subject Merchandise* in each *Subject Country* that currently export or have exported *Subject Merchandise* to the United States or other countries after 1999.

(7) If you are a U.S. producer of the *Domestic Like Product*, provide the following information on your firm's operations on that product during calendar year 2005 (report quantity data in gross short tons and value data in U.S. dollars, f.o.b. plant). If you are a union/worker group or trade/business association, provide the information, on an aggregate basis, for the firms in which your workers are employed/which are members of your association.

(a) Production (quantity) and, if known, an estimate of the percentage of total U.S. production of the *Domestic Like Product* accounted for by your firm's(s') production;

(b) The quantity and value of U.S. commercial shipments of the *Domestic Like Product* produced in your U.S. plant(s); and

(c) The quantity and value of U.S. internal consumption/company transfers of the *Domestic Like Product* produced in your U.S. plant(s).

(8) If you are a U.S. importer or a trade/business association of U.S. importers of the *Subject Merchandise* from each *Subject Country*, provide the following information on your firm's(s') operations on that product during calendar year 2005 (report quantity data in gross short tons and value data in U.S. dollars). If you are a trade/business association, provide the information, on an aggregate basis, for the firms which are members of your association.

(a) The quantity and value (landed, duty-paid but not including antidumping duties) of U.S. imports and, if known, an estimate of the percentage of total U.S. imports of *Subject Merchandise* from each *Subject Country* accounted for by your firm's(s') imports;

(b) The quantity and value (f.o.b. U.S. port, including antidumping duties) of U.S. commercial shipments of *Subject Merchandise* imported from each *Subject Country*; and

(c) The quantity and value (f.o.b. U.S. port, including antidumping duties) of U.S. internal consumption/company transfers of *Subject Merchandise* imported from each *Subject Country*.

(9) If you are a producer, an exporter, or a trade/business association of producers or exporters of the *Subject Merchandise* in the *Subject Countries*, provide the following information on your firm's(s') operations on that product during calendar year 2005 (report quantity data in gross short tons and value data in U.S. dollars, landed and duty-paid at the U.S. port but not including antidumping duties). If you are a trade/business association, provide the information, on an aggregate basis, for the firms which are members of your association.

(a) Production (quantity) and, if known, an estimate of the percentage of total production of *Subject Merchandise* in each *Subject Country* accounted for by your firm's(s') production; and

(b) The quantity and value of your firm's(s') exports to the United States of *Subject Merchandise* and, if known, an estimate of the percentage of total exports to the United States of *Subject Merchandise* from each *Subject Country* accounted for by your firm's(s') exports.

(10) Identify significant changes, if any, in the supply and demand conditions or business cycle for the *Domestic Like Product* that have occurred in the United States or in the market for the *Subject Merchandise* in each *Subject Country* after 1999, and significant changes, if any, that are likely to occur within a reasonably foreseeable time. Supply conditions to consider include technology; production methods; development efforts; ability to increase production (including the shift of production facilities used for other products and the use, cost, or availability of major inputs into production); and factors related to the ability to shift supply among different national markets (including barriers to importation in foreign markets or changes in market demand abroad). Demand conditions to consider include end uses and applications; the existence and availability of substitute products; and the level of competition among the *Domestic Like Product* produced in the United States, *Subject Merchandise* produced in each *Subject Country*, and such merchandise from other countries.

(11) (Optional) A statement of whether you agree with the above definitions of the *Domestic Like Product* and *Domestic Industry*; if you disagree with either or both of these definitions, please explain why and provide alternative definitions.

**Authority:** These reviews are being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.61 of the Commission's rules.

Issued: December 22, 2005.

By order of the Commission.

**Marilyn R. Abbott,**

*Secretary to the Commission.*

[FR Doc. 05-24586 Filed 12-30-05; 8:45 am]

**BILLING CODE 7020-02-P**



orders on silicon metal from Brazil and China would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time. A schedule for the reviews will be established and announced at a later date. For further information concerning the conduct of these reviews 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, D, E, and F (19 CFR part 207).

**DATES:** *Effective Date:* April 10, 2006.

**FOR FURTHER INFORMATION CONTACT:** Mary Messer (202-205-3193), Office of Investigations, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). The public record for these reviews may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>.

**SUPPLEMENTARY INFORMATION:** On April 10, 2006, the Commission determined that it should proceed to full reviews in the subject five-year reviews pursuant to section 751(c)(5) of the Act.<sup>1</sup> The Commission found that the domestic interested party group response to its notice of institution (71 FR 138, January 3, 2006) was adequate and that the respondent interested party group response with respect to Brazil was adequate. The Commission determined to conduct a full review with respect to silicon metal from Brazil. The Commission found that the respondent interested party group response with respect to China was inadequate. However, the Commission determined to conduct a full review concerning silicon metal from China to promote administrative efficiency in light of its decision to conduct a full review with respect to silicon metal from Brazil. A record of the Commissioners' votes, the Commission's statement on adequacy, and any individual Commissioner's statements will be available from the Office of the Secretary and at the Commission's Web site.

---

## INTERNATIONAL TRADE COMMISSION

[Investigation Nos. 731-TA-471 and 472 (Second Review)]

### Silicon Metal from Brazil and China

**AGENCY:** International Trade Commission.

**ACTION:** Notice of Commission determinations to conduct full five-year reviews concerning the antidumping duty orders on silicon metal from Brazil and China.

**SUMMARY:** The Commission hereby gives notice that it will proceed with full reviews pursuant to section 751(c)(5) of the Tariff Act of 1930 (19 U.S.C. 1675(c)(5)) to determine whether revocation of the antidumping duty

---

<sup>1</sup> Vice Chairman Deanna Tanner Okun did not participate.

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

By order of the Commission.

Issued: April 20, 2006.

**Marilyn R. Abbott,**

*Secretary to the Commission.*

[FR Doc. E6-6202 Filed 4-24-06; 8:45 am]

**BILLING CODE 7020-02-P**

---

---

**DEPARTMENT OF COMMERCE****International Trade Administration**

[A-570-806, A-351-806]

**Silicon Metal from the People's Republic of China and Brazil: Final Results of the Expedited Reviews of the Antidumping Duty Orders**

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

**SUMMARY:** On January 3, 2006, the Department of Commerce ("the Department") initiated sunset reviews of the antidumping duty orders on Silicon Metal from the People's Republic of China ("PRC") and Brazil, pursuant to section 751(c) of the Tariff Act of 1930, as amended, ("the Act"). See *Initiation of Five-year ("Sunset") Reviews*, 71 FR 91 (January 3, 2006) ("*Initiation Notice*"). On the basis of the notice of intent to participate and adequate substantive responses filed on behalf of the domestic interested parties, and no responses from respondent interested parties, the Department conducted expedited sunset reviews. As a result of these sunset reviews, the Department finds that revocation of the antidumping duty orders would likely lead to continuation or recurrence of dumping at the levels listed below in the section entitled "Final Results of Reviews."

**EFFECTIVE DATE:** May 4, 2006.

**FOR FURTHER INFORMATION CONTACT:** James Nunno, AD/CVD Operations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC, 20230; telephone: (202) 482-0783.

**SUPPLEMENTARY INFORMATION:****Background**

The Department published an antidumping duty order on silicon metal from the PRC on June 10, 1991, and from Brazil on July 31, 1991. See *Antidumping Duty Order: Silicon Metal from the People's Republic of China*, 56 FR 26649; see also *Antidumping Duty Order: Silicon Metal from Brazil*, 56 FR 36135. On January 3, 2006, the Department initiated sunset reviews of the antidumping duty orders on Silicon Metal from the PRC and Brazil pursuant to section 751(c) of the Act. See *Initiation Notice*. The Department received a notice of intent to participate from a domestic interested party, Globe Metallurgical Inc. ("Globe"), within the deadline specified in section 351.218(d)(1)(i) of the Department's regulations. Globe claimed interested party status pursuant to section

771(9)(C) of the Act as a U.S. producer of the domestic like product. We received a submission from the domestic interested party within the 30-day deadline specified in section 351.218(d)(3)(i) of the Department's regulations. However, we did not receive submissions from any respondent interested parties. As a result, pursuant to section 751(c)(3)(B) of the Act and section 351.218(e)(1)(ii)(C)(2) of the Department's regulations, the Department conducted expedited sunset reviews of these orders.

### Scope of the Orders

#### PRC

The merchandise covered by this order is silicon metal containing at least 96.00 percent but less than 99.99 percent silicon by weight. Also covered by this antidumping order is silicon metal containing between 89.00 and 96.00 percent silicon by weight but which contains more aluminum than the silicon metal containing at least 96.00 percent but less than 99.99 percent silicon by weight. Silicon metal is currently provided for under subheadings 2804.69.10 and 2804.69.50 of the Harmonized Tariff Schedule of the United States (HTSUS) as a chemical product, but is commonly referred to as a metal. Semiconductor grade silicon (silicon metal containing by weight not less than 99.99 percent silicon and provided for in subheading 2804.61.00 of the HTSUS) is not subject to the order. Although the HTSUS item numbers are provided for convenience and for customs purposes, the written description remains dispositive.

#### Brazil

The merchandise covered by this order is silicon metal containing at least 96.00 percent but less than 99.99 percent silicon by weight. Also covered by this antidumping order is silicon metal containing between 89.00 and 96.00 percent silicon by weight but which contains more aluminum than the silicon metal containing at least 96.00 percent but less than 99.99 percent silicon by weight. Silicon metal is currently provided for under subheadings 2804.69.10 and 2804.69.50 of the Harmonized Tariff Schedule of the United States (HTSUS) as a chemical product, but is commonly referred to as a metal. Semiconductor grade silicon (silicon metal containing by weight not less than 99.99 percent silicon and provided for in subheading 2804.61.00 of the HTSUS) is not subject to the order. Although the HTSUS item numbers are provided for convenience

and for customs purposes, the written description remains dispositive.

### Scope Clarifications

#### PRC

There has been one scope clarification in this proceeding. See Scope Rulings, 58 FR 27542 (May 10, 1993). In a response to a request by domestic interested parties for clarification of the scope of the antidumping duty order, the Department determined that silicon metal containing between 89.00 percent and 99.00 percent silicon by weight, but which contains a higher aluminum content than the silicon metal containing at least 96.00 percent, but less than 99.99 percent silicon by weight, is the same class or kind of merchandise as the silicon metal described in the original order. Therefore, such material is within the scope of the order on silicon metal from the PRC.

### Analysis of Comments Received

All issues raised in these cases are addressed in the "Issues and Decision Memorandum" from Stephen J. Claeys, Deputy Assistant Secretary for Import Administration, to David M. Spooner, Assistant Secretary for Import Administration, dated April 27, 2006 ("Issues and Decision Memorandum"), which is hereby adopted by this notice. The issues discussed in the Issues and Decision Memorandum include the likelihood of continuation or recurrence of dumping and the magnitude of the margin likely to prevail if the orders were revoked. Parties can find a complete discussion of all issues raised in these sunset reviews and the corresponding recommendations in this public memorandum, which is on file in room B-099 of the main Department building.

In addition, a complete version of the Issues and Decision Memorandum can be accessed directly on our Web site at <http://ia.ita.doc.gov>. The paper copy and electronic version of the Decision Memorandum are identical in content.

### Final Results of Reviews

We determine that revocation of the antidumping duty orders on Silicon Metal from the PRC and Brazil would likely lead to continuation or recurrence of dumping at the following percentage weighted-average margins:

Manufacturers/Exporters/Producers	Weighted-Average Margin (Percent)
<b>PRC.</b>	
PRC-wide Rate .....	139.49
<b>Brazil<sup>1</sup>.</b>	

Manufacturers/Exporters/Producers	Weighted-Average Margin (Percent)
Camargo Correa Metais, S.A. ("CCM")	93.20
Companhia Brasileira Carbureto de Calcio ("CBCC") .....	Revoked
RIMA Eletrometalurgica S.A. ("RIMA") .....	Revoked
All Others .....	91.06

<sup>1</sup>We will notify the ITC that Companhia Brasileira Carbureto de Calcio ("CBCC") and RIMA Eletrometalurgica S.A. ("RIMA") are no longer subject to the order. See *Policies Regarding the Conduct of Five-Year ("Sunset") Reviews of Antidumping and Countervailing Duty Orders; Policy Bulletin*, 63 FR 18871 (April 16, 1998); see also *Silicon Metal From Brazil: Final Results of Antidumping Duty Administrative Review and Revocation of Order in Part*, 68 FR 57670 (October 6, 2003) (order revoked as to CBCC) and *Silicon Metal from Brazil: Final Results of Antidumping Duty Administrative Review and Revocation of Order in Part*, 67 FR 77225 (December 17, 2002) (order revoked as to RIMA).

This notice also serves as the only reminder to parties subject to administrative protective orders ("APO") of their responsibility concerning the return or destruction of proprietary information disclosed under APO in accordance with 19 CFR 351.305. Timely notification of the return or destruction of APO materials or conversion to judicial protective order is hereby requested. Failure to comply with the regulations and terms of an APO is a violation which is subject to sanction.

We are issuing and publishing these results and notice in accordance with sections 751(c), 752, and 777(i)(1) of the Act.

Dated: April 27, 2006.

**David M. Spooner,**

*Assistant Secretary for Import Administration.*

[FR Doc. E6-6760 Filed 5-3-06; 8:45 am]

**BILLING CODE 3510-DS-S**

---

**INTERNATIONAL TRADE  
COMMISSION**

**[Investigation Nos. 731-TA-471 and 472  
(Second Review)]**

**Silicon Metal From Brazil and China**

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

**ACTION:** Scheduling of full five-year reviews concerning the antidumping duty orders on silicon metal from Brazil and China.

**SUMMARY:** The Commission hereby gives notice of the scheduling of full reviews pursuant to section 751(c)(5) of the Tariff Act of 1930 (19 U.S.C. 1675(c)(5)) (the Act) to determine whether revocation of the antidumping duty orders on silicon metal from Brazil and China would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time. For further information concerning the conduct of these reviews 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, D, E, and F (19 CFR part 207).

**DATES:** *Effective Date:* May 2, 2006.

**FOR FURTHER INFORMATION CONTACT:**

Karen Taylor (202-708-4101), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). The public record for these reviews may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>.

**SUPPLEMENTARY INFORMATION:**

*Background.* On April 10, 2006, the Commission determined that responses to its notice of institution of the subject five-year reviews were such that full reviews pursuant to section 751(c)(5) of the Act should proceed (71 FR 23947, April 25, 2006). A record of the Commissioners' votes, the Commission's statement on adequacy, and any individual Commissioner's statements are available from the Office of the Secretary and at the Commission's Web site.

*Participation in the reviews and public service list.* Persons, including industrial users of the subject merchandise and, if the merchandise is sold at the retail level, representative consumer organizations, wishing to participate in these reviews 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, by 45 days after publication of this notice. A party that filed a notice of appearance following publication of the Commission's notice of institution of the reviews need not file an additional notice of appearance. The Secretary will maintain a public service list containing the names and addresses of all persons, or their representatives, who are parties to the reviews.

*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 these reviews available to authorized applicants under the APO issued in the reviews, provided that the application is

made by 45 days after publication of this notice. Authorized applicants must represent interested parties, as defined by 19 U.S.C. 1677(9), who are parties to the reviews. A party granted access to BPI following publication of the Commission's notice of institution of the reviews need not reapply for such access. 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 the reviews will be placed in the nonpublic record on August 22, 2006, and a public version will be issued thereafter, pursuant to section 207.64 of the Commission's rules.

*Hearing.* The Commission will hold a hearing in connection with the reviews beginning at 9:30 a.m. on September 7, 2006, 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 August 30, 2006. 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 September 5, 2006, 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), 207.24, and 207.66 of the Commission's rules. Parties must submit any request to present a portion of their hearing testimony *in camera* no later than 7 business days prior to the date of the hearing.

*Written submissions.* Each party to the reviews may submit a prehearing brief to the Commission. Prehearing briefs must conform with the provisions of section 207.65 of the Commission's rules; the deadline for filing is August 30, 2006. Parties may also file written testimony in connection with their presentation at the hearing, as provided in section 207.24 of the Commission's rules, and posthearing briefs, which must conform with the provisions of section 207.67 of the Commission's rules. The deadline for filing posthearing briefs is September 15, 2006; 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 reviews may submit a written statement of information pertinent to the subject of the reviews on or before September 15, 2006. On October 11,

2006, 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 October 13, 2006, but such final comments must not contain new factual information and must otherwise comply with section 207.68 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. The Commission's rules do not authorize filing of submissions with the Secretary by facsimile or electronic means, except to the extent permitted by section 201.8 of the Commission's rules, as amended, 67 FR 68036 (November 8, 2002). Even where electronic filing of a document is permitted, certain documents must also be filed in paper form, as specified in II (C) of the Commission's Handbook on Electronic Filing Procedures, 67 FR 68168, 68173 (November 8, 2002).

Additional written submissions to the Commission, including requests pursuant to section 201.12 of the Commission's rules, shall not be accepted unless good cause is shown for accepting such submissions, or unless the submission is pursuant to a specific request by a Commissioner or Commission staff.

In accordance with sections 201.16(c) and 207.3 of the Commission's rules, each document filed by a party to the reviews must be served on all other parties to the reviews (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:* These reviews are being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.62 of the Commission's rules.

Issued: May 2, 2006.

By order of the Commission.

**Marilyn R. Abbott,**

*Secretary to the Commission.*

[FR Doc. E6-6884 Filed 5-5-06; 8:45 am]

**BILLING CODE 7020-02-P**

---

---

**INTERNATIONAL TRADE  
COMMISSION**

[Investigation Nos. 731-TA-471 and 472  
(Second Review)]

**Silicon Metal From Brazil and China**

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

**ACTION:** Revised schedule for the subject  
investigations.

---

**DATES:** *Effective Date:* July 11, 2006.

**FOR FURTHER INFORMATION CONTACT:**  
Karen Taylor (202-708-4101), 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](http://www.usitc.gov)). The public record for  
these investigations may be viewed on  
the Commission's electronic docket  
(EDIS) at <http://edis.usitc.gov>.

**SUPPLEMENTARY INFORMATION:** On May 2,  
2006, the Commission established a  
schedule for the conduct of the final  
phase of the subject investigations (71  
FR 26783, May 8, 2006). Subsequently,  
the Commission found it necessary to  
revise the schedule.

The Commission's new schedule for  
the investigations is as follows: requests

to appear at the hearing must be filed with the Secretary to the Commission not later than September 12, 2006; the prehearing conference will be held at the U.S. International Trade Commission Building at 9:30 a.m. on September 15, 2006; the prehearing staff report will be placed in the nonpublic record on August 30, 2006; the deadline for filing prehearing briefs is September 12, 2006; the hearing will be held at the U.S. International Trade Commission Building at 9:30 a.m. on September 19, 2006; the deadline for filing posthearing briefs is October 6, 2006; the Commission will make its final release of information on October 31, 2006; and final party comments are due on November 2, 2006.

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

**Authority:** These investigations are being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.21 of the Commission's rules.

Issued: July 12, 2006.

By order of the Commission.

**Marilyn R. Abbott,**

*Secretary to the Commission.*

[FR Doc. E6-11273 Filed 7-14-06; 8:45 am]

**BILLING CODE 7020-02-P**

---

---

**EXPLANATION OF COMMISSION DETERMINATIONS ON ADEQUACY**  
in  
*Silicon Metal from Brazil and China*, Inv. Nos. 731-TA-471-472 (Second Review)

On April 10, 2006, the Commission determined<sup>1</sup> that it should proceed to full reviews in the subject five-year reviews pursuant to section 751(c)(3)(B) of the Tariff Act of 1930, as amended, 19 U.S.C. §1675(c)(3)(B).

The Commission unanimously determined that the domestic interested party group response to the notice of institution was adequate. The Commission received an individually adequate response from Globe Metallurgical Inc., which accounts for the majority of U.S. production of silicon metal. The Commission therefore determined that the domestic interested party group response was adequate.

With respect to the review pertaining to Brazil, the Commission unanimously determined that the respondent interested party group response to the notice of institution was adequate. The Commission received an individually adequate response from the Associação Brasileira dos Produtores de Ferroligas e de Silício Metálico, Ligas de Alumínio S.A., Companhia Ferroligas Minas Gerais - Minasligas, and Camargo Corrêa Metais S.A.. Because the Commission received an adequate response from foreign producers accounting for the vast majority of the total volume of production of subject merchandise in Brazil, the Commission determined that the Brazilian respondent interested party group response was adequate.

As pertains to the review regarding China, the Commission did not receive a response from any respondent interested party. Consequently, the Commission unanimously determined that the respondent interested party group response to the notice of institution was inadequate. However, the Commission determined to conduct a full review in order to promote administrative efficiency in light of its decision to conduct a full review with respect to silicon metal from Brazil.

A record of the Commissioners' votes is available from the Office of the Secretary and at the Commission's web site ([www.usitc.gov](http://www.usitc.gov)).

---

<sup>1</sup> Vice Chairman Okun did not participate.



**APPENDIX B**

**LIST OF WITNESSES AT THE COMMISSION'S HEARING**



## CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

**Subject:** Silicon Metal from Brazil and China  
**Inv. Nos.:** 731-TA-471 and 472 (Second Review)  
**Date and Time:** September 19, 2006 - 9:30 a.m.

Sessions were held in connection with these reviews in the Main Hearing Room, 500 E Street, SW, Washington, DC.

### **OPENING REMARKS:**

In Support of the Continuation of Antidumping Duty Orders (**William D. Kramer**,  
DLA Piper US LLP)

In Opposition to Continuation of Antidumping Duty Orders (**Lyle B. Vander Schaaf**,  
Bryan Cave LLP)

### **In Support of the Continuation of Antidumping Duty Orders:**

DLA Piper US LLP  
Washington, DC  
on behalf of

Globe Metallurgical, Inc. ("Globe")

**Arden C. Sims**, President and CEO, Globe

**J. Marlin Perkins**, Vice President, Sales, Globe

**Kenneth R. Button**, Senior Vice President, Economic Consulting Services, LLC

**Jennifer Lutz**, Senior Economist, Economic Consulting Services, LLC

**William D. Kramer**--OF COUNSEL

**Martin Schaefermeier**

**In Opposition to the Continuation of the Antidumping Duty Orders:**

Bryan Cave LLP  
Washington, DC  
on behalf of

Ligas de Alumínio S.A.  
Companhia Ferroligas Minas Gerais Minasligas  
Camargo Correa Metais S.A.  
Associacao Brasileira dos Produtores de Ferroligas e de Silicio Metalico (“ABRAFE”)

**Adelmo J. Melgaco**, Executive Director, ABRAFE  
**Robert J. McHale**, Director, Global Alloying Materials Commodity Council, Alcoa

**Lyle B. Vander Schaaf**—OF COUNSEL  
**Joseph H. Heckendorn**

**REBUTTAL/CLOSING REMARKS:**

In Support of the Continuation of the Antidumping Duty Orders (**William D. Kramer**,  
DLA Piper US LLP)

In Opposition to the Continuation of the Antidumping Duty Orders (**Lyle B. Vander Schaaf**,  
Bryan Cave LLP)

**APPENDIX C**  
**SUMMARY TABLE**



Table C-1  
Silicon metal: Summary data concerning the U.S. market, 2000-05

(Quantity—gross short tons, value—1,000 dollars, unit values, unit labor costs, and unit expenses are per short ton; period changes—percent except where noted)

Item	Reported data						Period changes					
	2000	2001	2002	2003	2004	2005	2000-05	2000-01	2001-02	2002-03	2003-04	2004-05
<b>U.S. consumption quantity:</b>												
Amount	...	...	...	...	...	...	...	...	...	...	...	...
Producers' share (1)	...	...	...	...	...	...	...	...	...	...	...	...
Importers' share (1)	...	...	...	...	...	...	...	...	...	...	...	...
Brazil (subject)	...	...	...	...	...	...	...	...	...	...	...	...
China (subject)	...	...	...	...	...	...	...	...	...	...	...	...
Subtotal (subject)	...	...	...	...	...	...	...	...	...	...	...	...
Brazil (non-subject)	...	...	...	...	...	...	...	...	...	...	...	...
China (non-subject)	...	...	...	...	...	...	...	...	...	...	...	...
All other sources	...	...	...	...	...	...	...	...	...	...	...	...
Subtotal (non-subject)	...	...	...	...	...	...	...	...	...	...	...	...
Total imports	...	...	...	...	...	...	...	...	...	...	...	...
<b>U.S. consumption value:</b>												
Amount	...	...	...	...	...	...	...	...	...	...	...	...
Producers' share (1)	...	...	...	...	...	...	...	...	...	...	...	...
Importers' share (1)	...	...	...	...	...	...	...	...	...	...	...	...
Brazil (subject)	...	...	...	...	...	...	...	...	...	...	...	...
China (subject)	...	...	...	...	...	...	...	...	...	...	...	...
Subtotal (subject)	...	...	...	...	...	...	...	...	...	...	...	...
Brazil (non-subject)	...	...	...	...	...	...	...	...	...	...	...	...
China (non-subject)	...	...	...	...	...	...	...	...	...	...	...	...
All other sources	...	...	...	...	...	...	...	...	...	...	...	...
Subtotal (non-subject)	...	...	...	...	...	...	...	...	...	...	...	...
Total imports	...	...	...	...	...	...	...	...	...	...	...	...
<b>U.S. imports from:</b>												
<b>Brazil (subject):</b>												
Quantity	22,797	...	...	...	...	...	...	...	...	...	...	...
Value	29,520	...	...	...	...	...	...	...	...	...	...	...
Unit value	\$1,295	...	...	...	...	...	...	...	...	...	...	...
Ending inventory quantity	0	...	...	...	...	...	...	...	...	...	...	...
<b>China (subject):</b>												
Quantity	52	1,177	33	22	116	44	-15.4	2163.5	-97.2	-33.3	427.3	-62.1
Value	55	1,109	39	23	117	76	38.2	1916.4	-66.5	-41.0	408.7	-35.0
Unit value	\$1,058	\$942	\$1,162	\$1,045	\$1,009	\$1,727	63.3	-10.9	25.4	-11.5	-3.5	71.3
Ending inventory quantity	0	0	0	0	0	0	(2)	(2)	(2)	(2)	(2)	(2)
Subtotal (subject)	...	...	...	...	...	...	...	...	...	...	...	...
Quantity	22,849	...	...	...	...	...	...	...	...	...	...	...
Value	29,575	...	...	...	...	...	...	...	...	...	...	...
Unit value	\$1,294	...	...	...	...	...	...	...	...	...	...	...
Ending inventory quantity	0	...	...	...	...	...	...	...	...	...	...	...
<b>Brazil (non-subject):</b>												
Quantity	0	...	...	...	...	...	...	...	...	...	...	...
Value	0	...	...	...	...	...	...	...	...	...	...	...
Unit value	(2)	...	...	...	...	...	...	...	...	...	...	...
Ending inventory quantity	0	...	...	...	...	...	...	...	...	...	...	...
<b>China (non-subject):</b>												
Quantity	4,878	3,156	5,478	3,074	3,022	2,681	-45.0	-35.3	73.6	-43.9	-1.7	-11.3
Value	3,867	2,273	4,152	2,637	3,379	2,855	-26.2	-41.2	82.7	-36.5	28.1	-15.5
Unit value	\$793	\$720	\$758	\$858	\$1,118	\$1,065	34.3	-9.1	5.2	13.2	30.3	-4.8
Ending inventory quantity	0	0	0	0	0	0	(2)	(2)	(2)	(2)	(2)	(2)
<b>All other sources:</b>												
Quantity	113,040	107,766	111,851	79,042	97,449	90,467	-20.0	-4.7	3.8	-29.3	23.3	-7.2
Value	123,846	112,794	114,367	88,818	127,481	139,163	12.4	-8.9	1.4	-22.3	43.5	9.2
Unit value	\$1,096	\$1,047	\$1,022	\$1,124	\$1,308	\$1,538	40.4	-4.5	-2.3	9.9	16.4	17.6
Ending inventory quantity	2,110	2,897	5,268	5,919	8,056	2,656	25.9	37.3	81.8	12.4	36.1	-67.0
Subtotal (non-subject)	...	...	...	...	...	...	...	...	...	...	...	...
Quantity	117,918	...	...	...	...	...	...	...	...	...	...	...
Value	127,713	...	...	...	...	...	...	...	...	...	...	...
Unit value	\$1,083	...	...	...	...	...	...	...	...	...	...	...
Ending inventory quantity	2,110	...	...	...	...	...	...	...	...	...	...	...
<b>All sources:</b>												
Quantity	140,768	129,544	159,569	138,395	176,511	162,525	15.5	-8.0	23.2	-13.3	27.5	-7.9
Value	157,287	138,823	173,191	157,572	223,540	239,940	52.5	-11.7	24.8	-9.0	41.9	7.3
Unit value	\$1,117	\$1,072	\$1,085	\$1,139	\$1,266	\$1,476	32.1	-4.1	1.3	4.9	11.2	16.6
Ending inventory quantity	2,110	2,897	5,268	7,843	9,606	6,486	207.4	37.3	81.8	48.9	22.5	-32.5
<b>U.S. producers:</b>												
Average capacity quantity	...	...	...	...	...	...	...	...	...	...	...	...
Production quantity	...	...	...	...	...	...	...	...	...	...	...	...
Capacity utilization (1)	...	...	...	...	...	...	...	...	...	...	...	...
<b>U.S. shipments:</b>												
Quantity	...	...	...	...	...	...	...	...	...	...	...	...
Value	...	...	...	...	...	...	...	...	...	...	...	...
Unit value	...	...	...	...	...	...	...	...	...	...	...	...
<b>Export shipments:</b>												
Quantity	...	...	...	...	...	...	...	...	...	...	...	...
Value	...	...	...	...	...	...	...	...	...	...	...	...
Unit value	...	...	...	...	...	...	...	...	...	...	...	...
Ending inventory quantity	...	...	...	...	...	...	...	...	...	...	...	...
Inventories/total shipments (1)	...	...	...	...	...	...	...	...	...	...	...	...
Production workers	...	...	...	...	...	...	...	...	...	...	...	...
Hours worked (1,000s)	...	...	...	...	...	...	...	...	...	...	...	...
Wages paid (\$1,000s)	...	...	...	...	...	...	...	...	...	...	...	...
Hourly wages	...	...	...	...	...	...	...	...	...	...	...	...
Productivity (tons/1,000 hours)	...	...	...	...	...	...	...	...	...	...	...	...
Unit labor costs	...	...	...	...	...	...	...	...	...	...	...	...
<b>Net sales:</b>												
Quantity	...	...	...	...	...	...	...	...	...	...	...	...
Value	...	...	...	...	...	...	...	...	...	...	...	...
Unit value	...	...	...	...	...	...	...	...	...	...	...	...
Cost of goods sold (COGS)	...	...	...	...	...	...	...	...	...	...	...	...
Impairment	...	...	...	...	...	...	...	...	...	...	...	...
Gross profit or (loss)	...	...	...	...	...	...	...	...	...	...	...	...
SG&A expenses	...	...	...	...	...	...	...	...	...	...	...	...
Operating income or (loss)	...	...	...	...	...	...	...	...	...	...	...	...
Capital expenditures	...	...	...	...	...	...	...	...	...	...	...	...
Unit COGS	...	...	...	...	...	...	...	...	...	...	...	...
Unit SG&A expenses	...	...	...	...	...	...	...	...	...	...	...	...
Unit operating income or (loss)	...	...	...	...	...	...	...	...	...	...	...	...
COGS/sales (1)	...	...	...	...	...	...	...	...	...	...	...	...
Operating income or (loss)/sales (1)	...	...	...	...	...	...	...	...	...	...	...	...

(1) "Reported data" are in percent and "period changes" are in percentage points.  
(2) Not applicable.

Note.—Financial data are reported on a fiscal year basis and may not necessarily be comparable to data reported on a calendar year basis. Because of rounding, figures may not add to the totals shown. Unit values and shares are calculated from the unrounded figures.

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



**APPENDIX D**

**RESPONSES OF U.S. PRODUCERS, IMPORTERS,  
FOREIGN PRODUCERS, AND PURCHASERS  
CONCERNING THE SIGNIFICANCE  
OF THE ANTIDUMPING DUTY ORDERS AND  
THE LIKELY EFFECTS OF REVOCATION**



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

**The Commission requested producers to describe any anticipated changes in their operations or organization relating to the production of silicon metal in the future if the existing antidumping duty orders on silicon metal from (1) Brazil and (2) China were to be revoked. (Question II-4)**

\*\*\*

\*\*\*.

\*\*\*

(1) \*\*\*.

(2) \*\*\*.

\*\*\*

(1) \*\*\*.

(2) \*\*\*.

**The Commission requested producers to describe the significance of the existing antidumping orders on their production capacity, production, U.S. shipments, inventories, purchases, employment, revenues, costs, profits, cash flow, capital expenditures, research and development expenditures, and asset values. (Question 11-16)**

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

**The Commission asked producers whether they anticipated changes in their production capacity, production, U.S. shipments, inventories, purchases, employment, revenues, costs, profits, cash flow, capital expenditures, research and development expenditures, or asset values relating to the production of silicon metal if the antidumping duty orders were revoked. (Question II-17)**

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

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

**The Commission requested importers to describe any anticipated changes in their operations or organization relating to the importation of silicon metal from (1) Brazil and (2) China if the existing antidumping duty orders were revoked. (Question II-4)**

\*\*\*

No.

\*\*\*

No.

\*\*\*

No.

\*\*\*

(1) No.  
(2) Yes. \*\*\*.

\*\*\*

No.

\*\*\*

(1) \*\*\*.  
(2) \*\*\*.

\*\*\*

No.

\*\*\*

No.

\*\*\*

(1) Yes, would consider the purchase of silicon metal from Brazil as a secondary source.  
(2) Yes, would consider the purchase of silicon metal from China as a secondary source.

\*\*\*

No.

\*\*\*

Yes.

\*\*\*

- (1) Yes. In the absence of dumping duties or threat of dumping duties, would expect Brazilian suppliers to move product sales from Europe to USA to get a better market spread and reduce risk. This action could be expected to reduce \*\*\* and U.S. manufacturers' sales in the United States given demand growth in the U.S. market is not expected to be strong.
- (2) Yes. Unprofitable levels for Western producers of silicon. This would cause importers like \*\*\* to exit the U.S. market. A good example of what could be expected to happen is evidenced by the Canadian market, where Chinese silicon now dominates. The Chinese selling price in Canada is \$\*\*\*/lb, a level that is below the production cost of all Western producers of silicon including U.S. and Canadian. \*\*\* withdrew from this market in \*\*\*.

\*\*\*

\*\*\*.

\*\*\*

- (1) {Unanswered with regard to Brazil}.
- (2) No.

\*\*\*

No.

\*\*\*

No.

\*\*\*

No.

**The Commission requested importers whether they intend to import silicon metal from (1) Brazil and (2) China if the antidumping duty orders are revoked and if so, to what extent (if any) would the increased imports from those countries replace their imports from nonsubject countries. (Question II-7)**

\*\*\*

Not applicable.

\*\*\*

- (1) Have never imported from Brazil. Would probably not in the future.
- (2) We buy domestic \*\*\* - no imports at present or planned.

\*\*\*

Unknown.

\*\*\*

- (1) \*\*\*.
- (2) \*\*\*.

\*\*\*

{Unanswered.}

\*\*\*

- (1) \*\*\*.
- (2) \*\*\*.

\*\*\*

Does not apply.

\*\*\*

Not applicable.

\*\*\*

- (1) About \*\*\* percent replacement.
- (2) About \*\*\* percent replacement.

\*\*\*

Not currently involved with silicon metal.

\*\*\*

Not applicable.

\*\*\*

- (1) Anti Dumping duties/or threat thereof have forced Brazilian suppliers to concentrate more on the European market. At times the European market has become oversupplied as a result.
- (2) If the antidumping duties against the Chinese did not exist into the U.S. it is very likely that \*\*\* would have no market presence. Sales prices would drop to unprofitable levels.

\*\*\*

Not applicable.

\*\*\*

- (1) {Unanswered}.
- (2) Our importation of silicon metal depends on the consumption of our clients. The antidumping duty order revocation might not impact our importation significantly.

\*\*\*

- (1) We have not imported silicon metal from nonsubject countries.
- (2) We have not decided on the course of our silicon metal business, since it is \*\*\* of our overall business and market in the USA.

\*\*\*

- (1) Unknown.
- (2) Unknown at this time.

\*\*\*

None.

**The Commission requested importers to describe the significance of the existing antidumping duty orders covering imports of silicon metal from (1) Brazil and (2) China in terms of their effect on their firm's imports, U.S. shipments of imports, and inventories. (Question II-9)**

\*\*\*

Not applicable.

\*\*\*

- (1) Not applicable.
- (2) Will not import from China as long as the antidumping duty orders are in place.

\*\*\*

Not applicable.

\*\*\*

- (1) \*\*\*.
- (2) \*\*\*.

\*\*\*

- (1) No impact.
- (2) No impact other than to unfavorably decreased pricing through impacting general silicon metal price level.

\*\*\*

- (1) \*\*\*.
- (2) \*\*\*.

\*\*\*

- (1) Have not been importing from Brazil.
- (2) Have reduced entirely all imports from China.

\*\*\*

Not applicable.

\*\*\*

None.

\*\*\*

- (1) \*\*\*.
- (2) {No response}.

\*\*\*

- (1) Brazil - There is no current antidumping on imports from RIMA.
- (2) Not applicable.

\*\*\*

- (1) Anti Dumping duties/or threat thereof have forced Brazilian suppliers to concentrate more on the European market. At times the European market has become oversupplied as a result.
- (2) If the antidumping duties against the Chinese did not exist into the U.S. it is very likely that \*\*\* would have no market presence. Sales prices would drop to unprofitable levels.

\*\*\*

- (1) \*\*\*.
- (2) \*\*\*.

\*\*\*

- (1) {Unanswered}.
- (2) We import silicon metal for a specific application \*\*\* which has a limited market. Existing antidumping duty increases our cost to import silicon metal.

\*\*\*

Makes it impossible for our company to import silicon metal.

\*\*\*

- (1) Not applicable - no imports from Brazil.
- (2) Because of the high anti-dumping duty penalty we are limited as to how much and in what product we can use the silicon.

\*\*\*

- (1) {Unanswered}.
- (2) Admin. costs to process TIB data; cost of the bond and material price increases.

**The Commission requested importers to describe any anticipated changes in their imports, U.S. shipments of imports, or inventories of silicon metal in the future if the existing antidumping duty orders covering imports from (1) Brazil and (2) China were revoked. (Question II-10)**

\*\*\*

No.

\*\*\*

- (1) No.
- (2) Yes. Probably. The market has changed. Not certain of pricing from China today. If Chinese silicon metal powder were less expensive, we would consider equally with all other sources. If less expensive, we would buy.

\*\*\*

Not applicable.

\*\*\*

- (1) \*\*\*.
- (2) \*\*\*.

\*\*\*

- (1) No.
- (2) \*\*\*.

\*\*\*

- (1) \*\*\*.
- (2) \*\*\*.

\*\*\*

Yes. This would allow imported material to become more competitive with U.S. production.

\*\*\*

No.

\*\*\*

- (1) Yes. Import about \*\*\* percent of our annual requirements from Brazil starting as early as \*\*\*. Quantity would be about \*\*\* short tons per year.
- (2) Yes. Import about \*\*\* percent of our annual requirements from China starting as early as \*\*\*. Quantity would be about \*\*\* short tons per year.

\*\*\*

Yes. Should this happen, \*\*\* will examine all import possibilities.

\*\*\*

- (1) Yes. Detrimental to \*\*\* - would create a flood of material resulting in deteriorating prices and loss of market share. Brazil has a large production capacity that could be converted to silicon metal exacerbating situation for U.S. companies.
- (2) Yes. Same as above except that China has an even larger capacity which could result in excessive imports that would drive prices down, thus hurting U.S. companies.

\*\*\*

- (1) Yes. If the antidumping duty orders on silicon metal from Brazil were to be revoked, the volume of imported silicon from Brazil would possibly increase, resulting in a price war. \*\*\* sales would drop.
- (2) Yes. If the antidumping duty orders on silicon metal from China were to be revoked, the volume of imported silicon from China will possibly increase, resulting in a price war. \*\*\* sales would drop.

\*\*\*

- (1) \*\*\*.
- (2) \*\*\*.

\*\*\*

- (1) {Unanswered}.
- (2) Yes. If the antidumping duty order on silicon metal from China is revoked, we may reduce our price. A new lower price would likely make the products of our client more competitive. In turn, likely increase the demand for their products. By this sense, we may increase importation of silicon metal. However, the cost of silicon metal only consists of a small portion in the product cost from our client. A \*\*\* percent increase per year might be a reasonable assumption.

\*\*\*

Yes. It will allow us to consider importing silicon metal for resale in the U.S.A.

\*\*\*

- (1) No.
- (2) No. But if the antidumping duty was gone and the prices were competitive we would purchase again.

\*\*\*

No.

#### **U.S. PURCHASERS' COMMENTS REGARDING THE EFFECTS OF THE ANTIDUMPING DUTY ORDERS AND THE LIKELY EFFECTS OF REVOCATION**

**The Commission asked the purchasers to comment on the effect of the revocation of the antidumping orders on (1) the future activities of their firm and (2) the U.S. market as a whole. (Question III-34)**

\*\*\*

- (1) "We will continue to buy from the low cost quality suppliers."
- (2) {Unanswered}

\*\*\*

- (1) {As regards Brazil} "Our firm gets solicitations from sellers so I would assume that more producers from Brazil would enter the market."  
{As regards China} "Our firm has had quality issues with Chinese silicon and we therefore do not buy material of that origin."
- (2) {As regards Brazil} "Same as above."  
{As regards China} "Producers from China would re-enter the U.S. market at competitive prices."

\*\*\*

- (1) “Would consider future purchases of silicon if at fair market prices.”
- (2) “Probably the same.”

\*\*\*

- (1) { As regards Brazil } “Increase competition - better availability of high quality product.”  
{ As regards China } “Better availability.”
- (2) { As regards Brazil } “See above.”  
{ As regards China } “See above.”

\*\*\*

- (1) “No change.”
- (2) “Price decrease.”

\*\*\*

- (1) { As regards Brazil } “\*\*\*.”  
{ As regards China } “\*\*\*.”
- (2) { As regards Brazil } “\*\*\*.”  
{ As regards China } “\*\*\*.”

\*\*\*

- (1) { As regards Brazil } “\*\*\*.”  
{ As regards China } “\*\*\*.”
- (2) { As regards Brazil } “\*\*\*.”  
{ As regards China } “\*\*\*.”

\*\*\*

- (1) “This would {be} a positive thing, as this would allow for more competition, \*\*\*.”
- (2) “ This would be positive, as this would allow for more competition.”

\*\*\*

- (1) “Unknown.”
- (2) “Unknown.”

\*\*\*

- (1) { As regards Brazil } “We will continue to support the domestic producers.”  
{ As regards China } “None.”
- (2) { As regards Brazil } “I don’t think it will change much because all producers are facing high power costs.”  
{ As regards China } “Aluminum production is growing and power is becoming an even bigger problem over there.”

\*\*\*

- (1) { As regards Brazil } “Possibly we would qualify another supplier from Brazil.”  
{ As regards China } “We would move to qualify suppliers from China.”
- (2) { As regards Brazil } “Not much as long as there is no dumping going on.”  
{ As regards China } “U.S. market would probably cease to exist if China were allowed to enter the market.”

\*\*\*

- (1) Unanswered.
- (2) “Price decline, domestic producers suffer.”

\*\*\*

- (1) { As regards Brazil } “We would seek quotations from Brazilian firms.”  
{ As regards China } “We would seek quotations from Chinese firms.”
- (2) { As regards Brazil } “The silicon market would become more competitive.”  
{ As regards China } “The United States would be more competitive with Mexico & Canada regarding their aluminum alloys. \*\*\*.”

\*\*\*

- (1) “Broaden silicon supplier base.”
- (2) “Broaden silicon supplier base.”

**FOREIGN PRODUCERS’ COMMENTS REGARDING THE EFFECTS OF THE  
ANTIDUMPING DUTY ORDERS AND THE LIKELY EFFECTS OF REVOCATION**

**The Commission requested foreign producers to indicate whether they anticipated any changes in their operations or organization relating to the production of silicon metal in the future if the existing antidumping duty orders were revoked, and if yes, to describe those changes.  
(Question II-3)**

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

**The Commission requested foreign producers to describe the significance of the existing antidumping duty orders covering imports of silicon metal from Brazil and China in terms of their effects on their firms' production capacity, production, home market shipments, exports to the United States and other markets, and inventories. (Question II-14)**

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

**The Commission requested foreign producers to describe any anticipated changes in their production capacity, production, home market shipments, exports to the United States and other markets, or inventories relating to the production of silicon metal in the future if the existing antidumping duty orders were revoked. (Question II-15)**

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

\*\*\*

\*\*\*.

