Large Power Transformers from Korea

Investigation No. 731-TA-1189 (Final)

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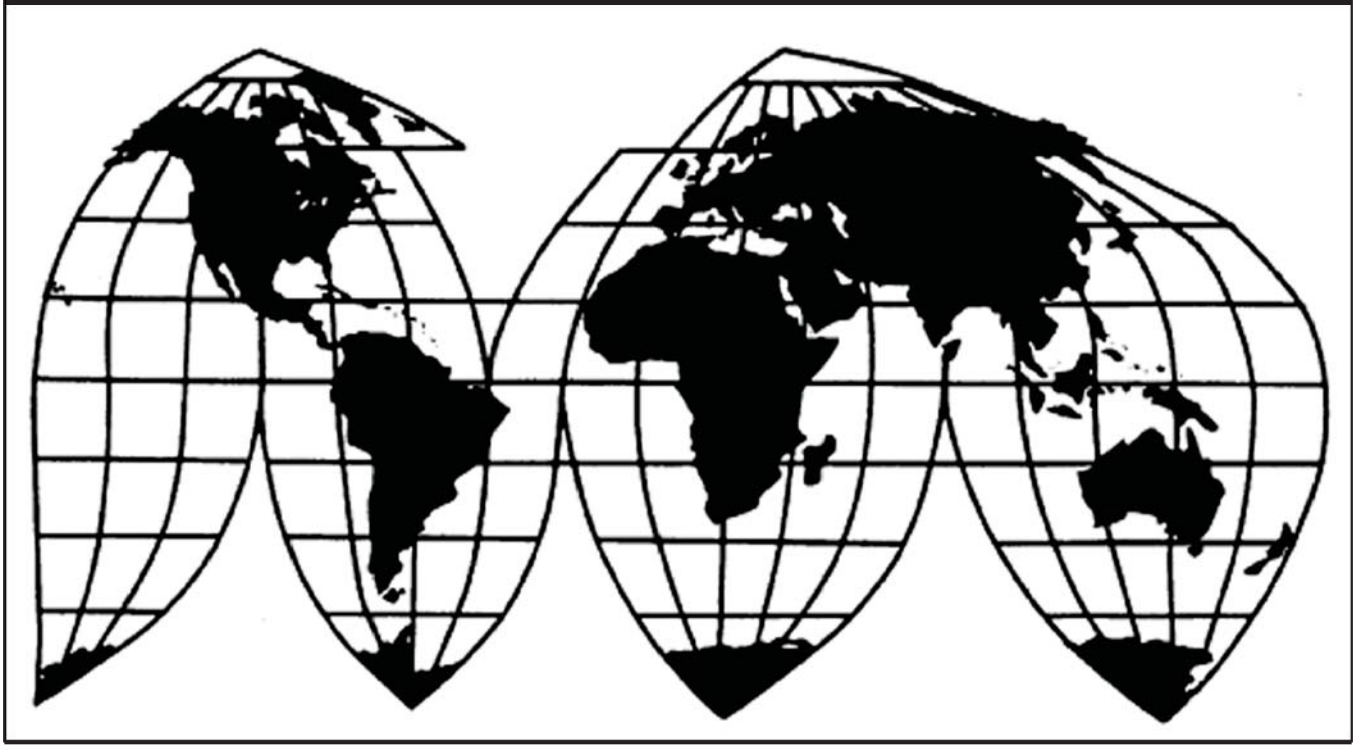
U.S. International Trade Commission



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UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-1189 (Final)

LARGE POWER TRANSFORMERS FROM KOREA

DETERMINATION

On the basis of the record[1] developed in the subject investigation, the United States International Trade Commission (Commission) determines, [2] pursuant to section 735(b) of the Tariff Act of 1930 (19 U.S.C. § 1673d(b)) (the Act), that an industry in the United States is materially injured, by reason of imports from Korea of large power transformers, provided for in subheadings 8504.23.00 and 8504.90.95 of the Harmonized Tariff Schedule of the United States, that have been found by the Department of Commerce (Commerce) to be sold in the United States at less than fair value (LTFV).

BACKGROUND

The Commission instituted this investigation effective July 14, 2011, following receipt of a petition filed with the Commission and Commerce by ABB Inc., Cary, NC; Delta Star Inc., Lynchburg, VA; and Pennsylvania Transformer Technology Inc., Canonsburg, PA. The final phase of the investigation was scheduled by the Commission following notification of a preliminary determination by Commerce that imports of large power transformers from Korea were being sold at LTFV within the meaning of section 733(b) of the Act (19 U.S.C. § 1673b(b)). Notice of the scheduling of the final phase of the Commission's investigation and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of March 21, 2012 (77 FR 16559). The hearing was held in Washington, DC, on July 10, 2012, and all persons who requested the opportunity were permitted to appear in person or by counsel.

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

[2] Commissioner Daniel R. Pearson not participating.

VIEWS OF THE COMMISSION

Based on the record in the final phase of this investigation, we find that an industry in the United States is materially injured by reason of imports of large power transformers ("LPTs") from Korea found by the U.S. Department of Commerce ("Commerce") to be sold in the United States at less than fair value.[1]

I. BACKGROUND

ABB Inc. ("ABB"), Delta Star Inc. ("Delta Star") and Pennsylvania Transformer Technology Inc. ("PTTI"), domestic producers of LPTs, filed the petition in this investigation.[2] Representatives from all three firms appeared at the hearing accompanied by counsel and submitted prehearing and posthearing briefs. Two respondent groups participated in the final phase investigation. Representatives and counsel for Hyundai Heavy Industries Co., Ltd. ("HHI") and Hyundai Corporation, USA ("Hyundai"), which respectively produce and import subject merchandise, appeared at the hearing and jointly submitted prehearing and posthearing briefs, as did representatives and counsel for Hyosung Corporation ("Hyosung") and HICO America Sales & Technology, Inc. ("HICO"), which respectively produce and import subject merchandise.

U.S. industry data are based on questionnaire responses from five domestic producers that accounted for nearly all U.S. LPT production in 2011.[3] U.S. import data are based on responses from nine U.S. importers, three of which reported imports of LPTs from Korea over the period of investigation and two of which accounted for all subject imports from Korea in 2011.[4] Korean industry data are based on questionnaire responses from two Korean producers that accounted for nearly all exports of subject merchandise to the United States in 2011.[5]

II. DOMESTIC LIKE PRODUCT AND DOMESTIC INDUSTRY

A. In General

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of imports of subject merchandise, the Commission first defines the "domestic like product" and the "industry."[6] Section 771(4)(A) of the Tariff Act of 1930, as amended ("the Tariff Act"), defines the relevant domestic industry as the "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[7] In turn, the Tariff Act defines "domestic like product" as "a

[1] Commissioner Daniel R. Pearson did not participate in this investigation.

[2] Confidential Staff Report ("CR"), INV-KK-082 (July 30, 2012), at III-1, Public Staff Report ("PR") at III-1.

[3] CR/PR at III-1 & n.2.

[4] CR/PR at IV-1.

[5] CR at VII-2 - VII-3 & n.3, PR at VII-2 & n.3. According to testimony provided at the hearing there are two other LPT producers in Korea. Tr. at 47 (Mr. Luberda), 57 (Ms. Cannon), 232 (Mr. Neal); see also CR at VII-3 & n.6, PR at VII-2 & n.6.

[6] 19 U.S.C. § 1677(4)(A).

[7] 19 U.S.C. § 1677(4)(A).

product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation."[8]

The decision regarding the appropriate domestic like product in an investigation is a factual determination, and the Commission has applied the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.[9] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[10] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[11] Although the Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized or sold at less than fair value,[12] the Commission determines what domestic product is like the imported articles Commerce has identified.[13]

B. Product Description

Commerce defined the scope of the imported merchandise under investigation (LPTs) as follows: [L]arge liquid dielectric power transformers (LPTs) having a top power handling capacity greater than or equal to 60,000 kilovolt amperes (60 megavolt amperes), whether assembled or unassembled, complete or incomplete. Incomplete LPTs are subassemblies consisting of the active part and any other parts attached to, imported with or invoiced with the active parts of LPTs. The "active part" of the transformer consists of one or more of the following when attached to or otherwise assembled with one another: The steel core or shell, the windings, electrical insulation between the windings, the mechanical frame for an LPT. The product definition encompasses all such LPTs regardless of name designation, including but not limited to

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[8] 19 U.S.C. § 1677(10).

[9] See, e.g., Cleo Inc. v. United States, 501 F.3d 1291, 1299 (Fed. Cir. 2007); NEC Corp. v. Department of Commerce, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); Nippon Steel Corp. v. United States, 19 CIT 450, 455 (1995); Torrington Co. v. United States, 747 F. Supp. 744, 749 n.3 (Ct. Int'l Trade 1990), aff'd, 938 F.2d 1278 (Fed. Cir. 1991) ("every like product determination 'must be made on the particular record at issue' and the 'unique facts of each case'"). The Commission generally considers a number of factors, including the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate, (6) price. See Nippon, 19 CIT at 455 n.4; Timken Co. v. United States, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996).

[10] See, e.g., S. Rep. No. 96-249 at 90-91 (1979).

[11] Nippon, 19 CIT at 455; Torrington, 747 F. Supp. at 748-49; see also S. Rep. No. 96-249 at 90-91 (1979) (Congress has indicated that the like product standard should not be interpreted in "such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not 'like' each other, nor should the definition of 'like product' be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.").

[12] See, e.g., USEC, Inc. v. United States, 34 Fed. Appx. 725, 730 (Fed. Cir. 2002) ("The ITC may not modify the class or kind of imported merchandise examined by Commerce."); Algoma Steel Corp. v. United States, 688 F. Supp. 639, 644 (Ct. Int'l Trade 1988), aff'd, 865 F.3d 240 (Fed. Cir.), cert. denied, 492 U.S. 919 (1989).

[13] Hosiden Corp. v. Advanced Display Mfrs., 85 F.3d 1561, 1568 (Fed. Cir. 1996) (the Commission may find a single like product corresponding to several different classes or kinds defined by Commerce); Cleo, 501 F.3d at 1298 n.1 ("Commerce's {scope} finding does not control the Commission's {like product} determination."); Torrington, 747 F. Supp. at 748-52 (affirming the Commission's determination defining six like products in investigations in which Commerce found five classes or kinds).

step-up transformers, step-down transformers, autotransformers, interconnection transformers, voltage regulator transformers, rectifier transformers, and power rectifier transformers.[14]

LPTs are used to increase or decrease voltage in the electric transmission system. Power, as measured in volt-amperes, is typically transmitted at a high voltage and low current (amperage) because transmission at higher amperages requires more cable, resulting in greater power losses, and is more expensive. Power is typically generated at less than 35 kV, increased for transmission to 69 to 765 kV (and the amps reduced), then decreased for distribution to 15 to 34.5 kV (and the amps increased). LPTs are the equipment in the electric power grid that increase or decrease these voltages.[15] They are used at coal, natural gas, wind, hydro, thermal, and nuclear generation plants.[16] LPTs are expensive pieces of capital equipment, typically costing millions of dollars, and are expected to last 15 to 40 years.[17]

LPTs are produced as "single phase" or "three phase" models. A single phase LPT has one primary and secondary set of windings, or conductors wound around the core, while a three phase LPT has three primary and secondary windings around three core limbs. With alternating current, the voltage and current rise and fall along a sine wave; thus, the current periodically stops. With three phase transformers, when the current stops in one phase it is flowing in the other two, so the output does not stop.[18]

There are two typical configurations of the core and windings of LPTs: the core form and the shell form. In the shell form, the windings are in rectangular shapes and are enclosed by the core. Shell form LPTs use more grain-oriented, silicon electrical steel ("GOES") than core types. With respect to performance, shell form LPTs are better able to withstand short circuits in the transmission system and are frequently used in industrial applications, such as steel mills where short circuits frequently occur.[19] Additionally, the shell form may be favored in very high voltage single-phase LPTs, and the core form may be favored for ease of servicing.[20]

The active part of the transformer is placed inside of a metal tank. The tank is filled with oil, generally mineral oil, which dissipates heat generated by the transformer. As the oil heats up, it circulates to a radiator, where it is cooled as the heat dissipates. Fans are generally attached to aid in cooling, and heat exchangers may also be used. As the oil expands, it may travel to a separate tank attached to a frame called an oil conservator.[21]

Bushings are used to connect transmission lines to the LPT ***. A single phase transformer has four bushings, and a three phase unit has six bushings. Other parts present in all LPTs include tap changers, power cable connectors, gas-operated relays (to detect certain types of problems and minimize subsequent damage within the transformers), thermometers, pressure relief devices, dehydrating breathers, oil level indicators, and other controls. A transformer may also have controls to allow remote monitoring of the transformer, ***.[22]

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[14] 77 Fed. Reg. 40857 (July 11, 2012).

[15] CR at I-7, PR at I-5.

[16] See CR at I-19, PR at I-13.

[17] CR/PR at II-1.

[18] CR at I-11, PR at I-9.

[19] CR at I-11 - I-12, PR at I-9.

[20] Conference Tr. at 58-59 (Mr. Stiegemeier).

[21] CR at I-12, PR at I-9.

[22] CR at I-12 - I-13, PR at I-10.

C. Arguments of the Parties

In the preliminary phase of this investigation, no party advocated a like product definition different than the one proposed by petitioners, who argued for a single domestic like product consistent with the scope definition. However, both HICO and HHI reserved the right to propose a different definition in any final phase of the investigation.[23] Based on the evidence in the record in the preliminary phase of the investigation, the Commission found that there was a single domestic like product coextensive with the scope of the investigation. It found that LPTs constitute a continuum of products, with certain common physical characteristics and uses, channels of distribution, manufacturing facilities, production processes, employees, and – perhaps – producer and customer perceptions.[24] In this final phase of the investigation, petitioners continue to argue that the Commission should find that there is one domestic like product consisting of all LPTs as defined in the scope of the investigation.[25]

Respondents maintain that the Commission should find two separate domestic like products based on megavolt-amperes ("MVA") ratings and high line system voltages: (1) 60-300 MVA top rated power transformers for 345 kilovolt ("kV") high line system voltage, plus 60 MVA or more top rated power transformers with a high line voltage of less than 345kV (designated as "Category A" in this investigation); and (2) 60 MVA and above power transformers with a high line voltage of 500 kV or more plus LPTs above 300 MVA with a 345 kV high line voltage (designated as "Category B" in this investigation).[26] [27] We provide our analysis of these arguments below.

D. Domestic Like Product Analysis

Physical Characteristics and Uses. All LPTs are used to increase or decrease voltage in the electric transmission system.[28] They all use electromagnetic induction between circuits to increase, decrease or regulate power. They are all large, heavy pieces of capital equipment with a life span ranging from 15 to 40 years, and a targeted life span of approximately 30 years.[29] They all have an "active part" where the electromagnetic induction occurs that consists of the core, the windings and electrical insulation between the windings.[30] The core is made of high permeability GOES around which are

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[23] Preliminary Determination at 5 n.12.

[24] Large Power Transformers from Korea, Inv. No. 731-TA-1189 (Preliminary), USITC Pub. 4256 (Sept. 2011), at 7 ("Preliminary Determination").

[25] Petitioners' Prehearing Brief at 1.

[26] HHI's Prehearing Brief at 4; Hyosung's Prehearing Brief at 8-9. The size of an LPT is determined by the load measured by MVA, the secondary output voltage and the primary input voltage. The MVA rating system is an industry standard and delineates the conditions under which the maximum load that a transformer can handle without overheating is measured. Typically, customer requests for bids will specify the MVA for the transformer at 55 degrees Celsius and then one or two stages of forced cooling. These ratings are displayed as three numbers, for example, 115/153/192 MVA. The higher ratings reflect the capacity of the transformer with more cooling (more fans and pumps running). The first rating is "oil natural, air natural," meaning that the fans are not aiding the cooling, and the second and third are with progressively more cooling added. In some generation plants where transformers run at full capacity all of the time, they may have only a single rating. CR at I-13, PR at I-10.

[27] We note that the designations Category A and B are not terms recognized by the industry, but were devised by respondents for the purpose of this investigation. See, e.g., Tr. at 43-44 (Mr. Luberda), 146, 181 (Mr. Neal).

[28] CR at I-7, PR at I-5.

[29] CR at I-8, PR at I-6.

[30] Windings are the primary and secondary conductors that are wound around the core. They usually consist of thin strands of copper wire insulated with paper. Between the windings are paper insulation and spacers of

(continued...)

wound primary and secondary conductors.[31] Category A and Category B LPTs follow the same basic design and can be in either shell or core form.[32]

All five responding domestic producers, HHI's wholly-owned U.S. subsidiary HYPO,[33] and six of eight responding U.S. importers agreed that Category A and Category B LPTs have the same physical characteristics and end uses.[34] When differences were noted, such as differences in size, MVA and high line voltages, these differences reflect differing customer specifications and do not suggest a clear differentiation between Category A and Category B. For instance, typical high line voltages used in power transmission are 69 kV, 115 kV, 138 kV, 230 kV, 345 kV, 500 kV, and 765 kV, although other specific high line voltages may be specified by the customer.[35]

Respondents argue that the vast majority of Category A generator step-up transformers involve non-critical and peaking generation projects, whereas the vast majority of Category B units involve critical base load generation plants and are also held to a higher quality standard. In addition, they claim that the vast majority of Category A step-down transformers are units with subtransmission class (34.5 kV to 88 kV) and distribution class (12 kV to 34.5 kV) low line voltages, which serve smaller loads and are also not deemed as critical as Category B step-down transformers.[36]

The record does not support the claim that there is a clear dividing line between the end uses of Category A and Category B transformers. Higher-capacity LPTs with higher line voltages, such as Category B transformers, would generally be larger and more costly than smaller LPTs with lower line voltages, such as Category A transformers, even though the overall design of the LPT may be similar.[37] Respondents assert that despite these similarities, Category A and Category B LPTs serve different end uses. Because a larger malfunctioning unit is likely to affect more customers than a smaller malfunctioning unit, large units may in a sense be considered more "critical." Nevertheless, LPTs used in conjunction with nuclear power generation are critical application units, and Category A transformers are sometimes used in this application. Factors such as load tap changers, basic insulation level requirements, short circuit requirements, impedances, noise levels, location of the LPT, seismic requirements, and other operating conditions all may contribute to the "critical" nature of the unit regardless of the MVA/kV combination of the unit.[38]

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[30] (...continued)
pressboard. Typically the low voltage winding is placed closest to the core, and the high voltage winding is placed outside the low voltage winding, which minimizes the amount of insulation required. The pattern of the windings varies depending on the size, type, and design of the transformer and the voltage and current. The ratio of turns between the primary and secondary windings is what determines the output voltage. The winding with more turns is the high voltage winding and the one with fewer turns is the low voltage winding. Inserting taps into the winding can change the ratio of the turns and, therefore, the output voltage. These taps can be changed either manually or automatically by a motor. CR at I-10 - I-11, PR at I-8.

[31] CR at I-9, PR at I-7.

[32] CR at I-8 - I-14, E-11, PR at I-6 - I-11, E-3.

[33] HYPO opened its facility in Montgomery, Alabama in November 2011. It did not produce any subject LPTs during the period for which data were gathered. CR/PR at III-1 & n.3. Production on HYPO's first LPT was completed in April 2012. Tr. at 165 (Mr. Egan).

[34] CR at E-5, E-11 -E12, PR at E-3.

[35] Petitioners' Prehearing Brief at 6.

[36] Hyosung's Prehearing Brief at 15; HHI's Prehearing Brief at 4-5.

[37] See CR at E-11, PR at E-3.

[38] Petitioners' Prehearing Brief at 5; Petitioners' Posthearing Brief, Exh. 1 at 10-12; see Hyosung's Posthearing Brief at A-39.

Interchangeability. LPTs are large, made-to-order products that are manufactured to the customer's individual specifications. LPTs are not interchangeable either within or between categories, unless built to the same specifications.[39]

Channels of Distribution. LPTs in both categories are sold in the same channels of distribution, i.e., to independent power producers and electric utilities.[40]

Common Manufacturing Facilities, Production Processes, and Production Employees. Once a producer receives an order for either a Category A or Category B LPT, the first step is designing the transformer. The design for any LPT is complex, with optimum transformer design balancing the costs of materials (e.g., steel, copper and cooling oil), electrical losses, manufacturing labor hours, plant capability constraints, and shipping constraints, such as tunnel and bridge dimensions.[41]

During the period of investigation, three domestic producers manufactured both Category A and Category B LPTs in similar facilities using the same production processes and employees: ***.[42] In addition, domestic producer Efacec made *** bids, including bids on both core and shell type LPTs, during the period of investigation for *** LPTs in Category B with a total capacity of *** MVA worth $***.[43] SPX Waukesha also reported that it can produce step-up transformers up to 900 MVA with a high line voltage of 500 kV.[44]

Producer and Customer Perceptions. Utilities purchase LPTs in both categories for specific applications throughout their systems.[45] Four of the six responding domestic producers stated that customers perceive Category A and Category B LPTs to be similar products.[46] However, only four of eight responding U.S. importers agreed.[47] Although respondents argue that domestic producers publish both the MVA and the kV for their LPTs, they concede that there is no recognized industry standard distinguishing between Category A and Category B LPTs.[48]

Price. The prices of LPTs vary depending on the specifications.[49] However, according to both U.S. producers and U.S. importers, the prices of Category B LPTs are generally *** than those of Category A LPTs.[50]

Conclusion. Based on the evidence on the record in this final phase of the investigation, we find that there is a single domestic like product consisting of a continuum of products without a clear dividing line between Category A and Category B LPTs.[51] As in the preliminary phase of the investigation, the record demonstrates that Category A and Category B LPTs share common physical characteristics and uses. They also share the same channels of distribution. Moreover, they are similar in terms of the

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[39] CR at I-20, PR at I-14; Petitioners' Prehearing Brief at 8.

[40] CR at I-8, I-21, PR at I-6, I-15.

[41] CR at I-14, PR at I-20.

[42] CR at I-20 n.61, PR at I-14 n.61; see also Petitioners' Posthearing Brief at 3.

[43] Petitioners' Prehearing Brief at 14; see also Tr. at 33 (Mr. Guerra), 47-48 (Mr. Luberda)..

[44] Petitioners' Prehearing Brief, Exh. 4; Petitioners' Posthearing Brief, Exh. 1 at 13.

[45] Petitioners' Prehearing Brief at 8, 10; see Petitioners' Posthearing Brief, Exh. 1 at 15-16.

[46] CR at E-9, PR at E-3.

[47] CR at E-15, PR at E-3.

[48] Tr. at 211 (Mr. Connelly).

[49] CR at I-21- I-22, PR at I-15.

[50] CR at E-10, E-16, PR at E-3, E-3; see also CR/PR at Appendix F (winning bids for individual LPTs generally show larger units have higher values).

[51] Commissioner Pinkert notes that, although it is arguable that there are structural discontinuities separating the shell form and the core form of LPTs such that there cannot be a single continuum comprised of all scope merchandise, none of the parties has made such an argument in this investigation.

manufacturing facilities in which they are produced and the production processes and employees used to make them.

The evidence respecting customer perceptions appears mixed, but most domestic producers indicated they perceive the two categories to be similar and, significantly, we find that the distinction between them as drawn by respondents lacks the support of any industry standard or publication. There is a lack of interchangeability between the categories, but there is also a lack of interchangeability within the categories, which is due to the fact that LPTs are made to order, based on a customer's individual specifications. While no LPT is interchangeable with an LPT built to different specifications, this lack of interchangeability characterizes the entire continuum of products and does not establish a clear dividing line between Category A and Category B transformers. This lack of interchangeability, therefore, does not weigh in favor of finding two like products.[52] Finally, price is not a particularly useful factor in this investigation because LPT prices vary depending on the specifications. In any event, that prices of Category B LPTs are generally *** than those of Category A LPTs is consistent with finding a continuum of products.

For all of these reasons, we reject respondents' request that we find Category A and Category B LPTs to be separate domestic like products. The similarities between these products outweigh their differences under our traditional test. We therefore find a single domestic like product coextensive with the scope of the investigation.[53]

E. Domestic Industry Analysis

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[54] In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market. Based upon our definition of the domestic like product, we define the domestic industry as all U.S. producers of LPTs.[55]

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[52] See, e.g., Certain Seamless Carbon and Alloy Steel Standard, Line and Pressure Pipe from China, Inv. Nos. 701-TA-469 and 731-TA-1168 (Final), USITC Pub. 4190 (Nov. 2010), at 8 n.45 ("[a] lack of interchangeability between products at either end of a continuum is not inconsistent with a finding of a single domestic like product when the products are all part of a continuum"); Certain Off-the-Road Tires from China, Inv. No. 701-TA-448 and 731-TA-1117 (Final), USITC Pub. 4031 (Aug. 2008), at 8 ("in an industry in which there are literally thousands of products, each is designed for a specific use. As such the lack of interchangeability does not provide strong guidance as to whether a clear dividing line exists.").

[53] Respondents have indicated that it is possible for the Commission to find a separate like product for merchandise not produced by the domestic industry. See Tr. at 185 (Mr. Connelly) (referring to domestic industry choosing "not to produce the like product [termed] Category B"). This argument is not relevant to this investigation. The record indicates that there is domestic production of Category B LPTs. Four of the six domestic producers have the ability to produce both categories of LPTs within the same facilities using the same manufacturing processes and workers. Petitioners' Posthearing Brief, Exh. 1 at 12-13. The domestic industry has actually ***. Petitioners' Posthearing Brief at 2 & Exhs. 1–2.

[54] 19 U.S.C. § 1677(4)(A).

[55] We note that there are no issues under the related parties' provision of the statute. See 19 U.S.C. § 1677(4)(B).

III. LEGAL STANDARDS

A. In General

In the final phase of antidumping and countervailing duty investigations, the Commission determines whether an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[56] In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.[57] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[58] In assessing whether the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.[59] No single factor is dispositive, and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[60]

Although the statute requires the Commission to determine whether the domestic industry is "materially injured or threatened with material injury by reason of" unfairly traded imports,[61] it does not define the phrase "by reason of," indicating that this aspect of the injury analysis is left to the Commission's reasonable exercise of its discretion.[62] In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the "by reason of" standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.[63]

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to

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[56] 19 U.S.C. §§ 1671d(b), 1673d(b).

[57] 19 U.S.C. § 1677(7)(B)(i). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each {such} factor ... and explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B).

[58] 19 U.S.C. § 1677(7)(A).

[59] 19 U.S.C. § 1677(7)(C)(iii).

[60] 19 U.S.C. § 1677(7)(C)(iii).

[61] 19 U.S.C. §§ 1671d(a), 1673d(a).

[62] Angus Chemical Co. v. United States, 140 F.3d 1478, 1484-85 (Fed. Cir. 1998) ("{T}he statute does not 'compel the commissioners' to employ {a particular methodology}."), aff'd, 944 F. Supp. 943, 951 (Ct. Int'l Trade 1996).

[63] The Federal Circuit, in addressing the causation standard of the statute, observed that "{a}s long as its effects are not merely incidental, tangential, or trivial, the foreign product sold at less than fair value meets the causation requirement." Nippon Steel Corp. v. USITC, 345 F.3d 1379, 1384 (Fed. Cir. 2003). This was further ratified in Mittal Steel Point Lisas Ltd. v. United States, 542 F.3d 867, 873 (Fed. Cir. 2008), where the Federal Circuit, quoting Gerald Metals, Inc. v. United States, 132 F.3d 716, 722 (Fed. Cir. 1997), stated that "this court requires evidence in the record 'to show that the harm occurred "by reason of" the LTFV imports, not by reason of a minimal or tangential contribution to material harm caused by LTFV goods.'" See also Nippon Steel Corp. v. United States, 458 F.3d 1345, 1357 (Fed. Cir. 2006); Taiwan Semiconductor Industry Ass'n v. USITC, 266 F.3d 1339, 1345 (Fed. Cir. 2001).

the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.[64] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[65] Nor does the "by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[66] It is clear that the existence of injury caused by other factors does not compel a negative determination.[67]

Assessment of whether material injury to the domestic industry is "by reason of" subject imports "does not require the Commission to address the causation issue in any particular way" as long as "the injury to the domestic industry can reasonably be attributed to the subject imports" and the Commission "ensure{s} that it is not attributing injury from other sources to the subject imports."[68] [69] Indeed, the

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[64] SAA at 851-52 ("{T}he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports."); S. Rep. 96-249 at 75 (1979) (the Commission "will consider information which indicates that harm is caused by factors other than less-than-fair-value imports."); H.R. Rep. 96-317 at 47 (1979) ("in examining the overall injury being experienced by a domestic industry, the ITC will take into account evidence presented to it which demonstrates that the harm attributed by the petitioner to the subsidized or dumped imports is attributable to such other factors;" those factors include "the volume and prices of nonsubsidized imports or imports sold at fair value, contraction in demand or changes in patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry"); accord Mittal Steel, 542 F.3d at 877.

[65] SAA at 851-52 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports."); Taiwan Semiconductor Industry Ass'n v. USITC, 266 F.3d at 1345 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports ... . Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports." (emphasis in original)); Asociacion de Productores de Salmon y Trucha de Chile AG v. United States, 180 F. Supp. 2d 1360, 1375 (Ct. Int'l Trade 2002) ("{t}he Commission is not required to isolate the effects of subject imports from other factors contributing to injury" or make "bright-line distinctions" between the effects of subject imports and other causes.); see also Softwood Lumber from Canada, Invs. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100-01 (Dec. 2003) (Commission recognized that "{i}f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, i.e., it is not an 'other causal factor,' then there is nothing to further examine regarding attribution to injury"), citing Gerald Metals, Inc. v. United States, 132 F.3d 716, 722 (Fed. Cir. 1997) (the statute "does not suggest that an importer of LTFV goods can escape countervailing duties by finding some tangential or minor cause unrelated to the LTFV goods that contributed to the harmful effects on domestic market prices.").

[66] S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

[67] See Nippon Steel Corp., 345 F.3d at 1381 ("an affirmative material-injury determination under the statute requires no more than a substantial-factor showing. That is, the 'dumping' need not be the sole or principal cause of injury.").

[68] Mittal Steel, 542 F.3d at 877-78; see also id. at 873 ("While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured 'by reason of' subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.") citing United States Steel Group v. United States, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75.

[69] Commissioner Pinkert does not join this paragraph or the following three paragraphs. He points out that the Federal Circuit, in Bratsk, 444 F.3d 1369, and Mittal Steel, held that the Commission is required, in certain circumstances when considering present material injury, to undertake a particular kind of analysis of nonsubject imports, albeit without reliance upon presumptions or rigid fomulas. Mittal Steel explains as follows:

> What Bratsk held is that "where commodity products are at issue and fairly traded, price-competitive, nonsubject imports are in the market," the Commission would not fulfill its obligation to consider an

(continued...)

Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[70]

The Federal Circuit's decisions in Gerald Metals, Bratsk, and Mittal Steel all involved cases where the relevant "other factor" was the presence in the market of significant volumes of price-competitive nonsubject imports. The Commission interpreted the Federal Circuit's guidance in Bratsk as requiring it to apply a particular additional methodology following its finding of material injury in cases involving commodity products and a significant market presence of price-competitive nonsubject imports.[71] The additional "replacement/benefit" test looked at whether nonsubject imports might have replaced subject imports without any benefit to the U.S. industry. The Commission applied that specific additional test in subsequent cases, including the Carbon and Certain Alloy Steel Wire Rod from Trinidad and Tobago determination that underlies the Mittal Steel litigation.

Mittal Steel clarifies that the Commission's interpretation of Bratsk was too rigid and makes clear that the Federal Circuit does not require the Commission to apply an additional test nor any one specific methodology; instead, the court requires the Commission to have "evidence in the record" to "show that the harm occurred 'by reason of' the LTFV imports," and requires that the Commission not attribute injury from nonsubject imports or other factors to subject imports.[72] Accordingly, we do not consider ourselves required to apply the replacement/benefit test that was included in Commission opinions subsequent to Bratsk.

The progression of Gerald Metals, Bratsk, and Mittal Steel clarifies that, in cases involving commodity products where price-competitive nonsubject imports are a significant factor in the U.S. market, the Court will require the Commission to give full consideration, with adequate explanation, to non-attribution issues when it performs its causation analysis.[73]

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence

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[69] (...continued)

> important aspect of the problem if it failed to consider whether nonsubject or non-LTFV imports would have replaced LTFV subject imports during the period of investigation without a continuing benefit to the domestic industry. 444 F.3d at 1369. Under those circumstances, Bratsk requires the Commission to consider whether replacement of the LTFV subject imports might have occurred during the period of investigation, and it requires the Commission to provide an explanation of its conclusion with respect to that factor.

542 F.3d at 878.

[70] Nucor Corp. v. United States, 414 F.3d 1331, 1336, 1341 (Fed. Cir. 2005); see also Mittal Steel, 542 F.3d at 879 ("Bratsk did not read into the antidumping statute a Procrustean formula for determining whether a domestic injury was 'by reason' of subject imports.").

[71] Mittal Steel, 542 F.3d at 875-79.

[72] Mittal Steel, 542 F.3d at 873 (quoting from Gerald Metals, 132 F.3d at 722), 875-79 & n.2 (recognizing the Commission's alternative interpretation of Bratsk as a reminder to conduct a non-attribution analysis).

[73] To that end, after the Federal Circuit issued its decision in Bratsk, the Commission began to present published information or send out information requests in final phase investigations to producers in nonsubject countries that accounted for substantial shares of U.S. imports of subject merchandise (if, in fact, there were large nonsubject import suppliers). In order to provide a more complete record for the Commission's causation analysis, these requests typically seek information on capacity, production, and shipments of the product under investigation in the major source countries that export to the United States. The Commission plans to continue utilizing published or requested information in final phase investigations in which there are substantial levels of nonsubject imports.

standard.[74] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[75]

IV. CONDITIONS OF COMPETITION AND THE BUSINESS CYCLE

The following conditions of competition inform our analysis of whether there is material injury by reason of subject imports.

A. Demand Considerations

LPTs are purchased by investor-owned utilities, public utilities, electrical cooperative power plants, contractors (e.g., engineering and construction companies and project developers), and industrial users.[76] Overall U.S. demand for LPTs depends on the demand for electric power and other variables generally, including industrial construction and housing starts.[77] It varies with the general economic cycle of the United States.[78] The demand for LPTs is driven by the need to replace aging infrastructure, as well as by the construction of new generation facilities and transmission lines. From 2009 to 2011, the largest increase in newly installed electricity generation came from new natural gas generation capacity. Federal incentives have helped play a role in increasing the amount of electricity generated via wind farms and other renewable energy sources, although the scheduled expiration of these incentives at the end of 2012 may decrease the number of new wind power facilities that would demand LPTs.[79] Other than frequent month-to-month fluctuations due to seasonal factors, no clear trend in demand was generally evident during the period of investigation.[80]

Apparent consumption increased irregularly from 2009 to 2011, but was lower in interim 2012 than in interim 2011.[81] It decreased from 112,219 MVA in 2009 to 111,383 MVA in 2010, but increased to 137,243 MVA in 2011. It was 29,009 MVA in interim 2011 and 26,245 MVA in interim 2012.[82]

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[74] We provide in our respective discussions of volume, price effects, and impact a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

[75] Mittal Steel, 542 F.3d at 873; Nippon Steel Corp., 458 F.3d at 1350, citing U.S. Steel Group, 96 F.3d at 1357; S. Rep. 96-249 at 75 ("The determination of the ITC with respect to causation is ... complex and difficult, and is a matter for the judgment of the ITC.").

[76] CR/PR at II-1.

[77] CR at II-6-9, PR at II-4-7.

[78] CR at II-9 - II-10, PR at II-7.

[79] CR at II-6 - II-7, PR at II-4 - II-5.

[80] CR at II-8, PR at II-6.

[81] The interim periods encompass January-March.

[82] CR/PR at Table IV-2. Because transformer size is determined on the basis of MVA ratings, and the sizes of LPTs range widely, we have determined to use MVA in our analysis, rather than units. CR/PR at III-1. We have also elected not to focus on the values of LPTs, because value-based measures may be distorted by changes in product mix and because subject import unit values are sold at less than fair value. See Certain Lined Paper School Supplies from China, India and Indonesia, Inv. No. 701-TA-442-443, 731-TA-1095-97, USITC Pub. 3884 (Final) (Sept. 2006), at 19 n.144.

B. Supply Considerations

The U.S. market is supplied by domestic producers, subject imports and nonsubject imports.[83] No producer or importer has reported that it had been unable to supply the U.S. market since 2009.[84] During the period examined in the preliminary phase of this investigation, six domestic producers reported production of LPTs. In November 2011, HYPO, a wholly-owned subsidiary of HHI, a Korean producer, opened a $108 million LPT production facility in Montgomery, Alabama.[85]

Korea is the largest global exporter of LPTs[86] and the largest individual source of imports to the United States.[87] Throughout the period of investigation, U.S. producers were the smallest source of LPTs.[88] Subject imports were the largest source of LPTs in 2010 and interim 2011,[89] while in 2009, 2011 and interim 2012, nonsubject producers were the largest source.[90] Sources of nonsubject imports include Mexico, Canada, Austria, and the Netherlands.[91]

C. Substitutability and Other Conditions

We find that domestic and subject LPTs of the same specifications are highly substitutable. Each LPT is built to order for the specific application and situation dictated by the purchaser and can vary in physical characteristics, power ratings, line voltages, and other characteristics.[92] The degree of substitutability depends upon such factors as relative prices, quality (e.g., grade standards, reliability of supply and defect rates) and conditions of sale (such as price discounts/rebates, lead times between order and delivery dates, payment terms, and product services).[93] Most U.S. producers, importers, and purchasers agreed that U.S. and Korean LPTs were interchangeable, provided they met the same specifications.[94]

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[83] CR/PR at II-2. ***. CR at III-7 n.16, PR at III-5 n.16.

[84] CR/PR at II-2.

[85] CR/PR at III-1 & n.2. Since the opening of the plant, HYPO has participated in nearly 70 bids to supply more than 100 LPTs with capacities ranging from 60 to 450 MVA and has won 6 contracts to supply 12 LPTs in 2013. HYPO intends to focus on producing transformers up to 230 kV for the U.S. market, and its Korean affiliate intends to focus on producing transformers rated 345kV and higher for the U.S. market. CR at III-3 - III-4, PR at III-3. Because HYPO did not produce any subject LPTs during the period examined, its data are not included in the Commission's database. CR/PR at III-1 n.3.

[86] CR at VII-7 - VII-8, PR at VII-4.

[87] Petitioners' Prehearing Brief at 46.

[88] U.S. producers' market share was 17.6 percent in 2009, 17.0 percent in 2010 and 16.1 percent in 2011. It was 15.3 percent in interim 2011 and 17.9 percent in interim 2012. CR/PR at Table IV-2.

[89] Subject imports' market share was *** percent in 2009, *** percent in 2010 and *** percent in 2011. It was *** percent in interim 2011 and *** percent in interim 2012. CR/PR at Table IV-2.

[90] Nonsubject imports' market share was *** percent in 2009, *** percent in 2010 and *** percent in 2011. It was *** percent in interim 2011 and *** percent in interim 2012. CR/PR at Table IV-2.

[91] CR at VII-9, PR at VII-5.

[92] CR/PR at II-1.

[93] CR at II-16, PR at II-11.

[94] CR /PR at Table II-9, CR at II-28, PR at II-20. We note that there is no indication from the record that Buy America(n) policies substantially impede imports. Petitioners' Prehearing Brief at 43; Petitioners' Posthearing Brief, Exh. 1 at 43-45. Such policies are, however, an important factor to some purchasers. See CR/PR at Table II-5 n.6.

Respondents claim that petitioners do not compete in the wind energy or shell form segments of the market.

(continued...)

LPTs are sold pursuant to bids. Purchasers request quotes from suppliers incorporating precise specifications. These quotes are highly detailed documents, and producers invest a significant amount of time reviewing the specifications, costing out the elements of design, and putting together a formal bid. All producers and responding importers reported that bids for LPTs also include other services such as warranties, transportation, and installation. In most cases, suppliers only have one opportunity to bid on a particular contract.[95] Bidding is typically open to all producers that are able to meet specifications, although sometimes bidding is open only to a few suppliers or even just one.[96]

Most responding purchasers require that their suppliers be prequalified or certified. Requirements for qualification include quality, meeting specifications, experience, cleanliness, and facility inspections. Some purchasers also require ISO certification. The time required for certification ranges from one day to over four years; most responding firms require 90 days or less.[97]

In assessing the bids, purchasers consider both the initial cost and the total evaluated cost of the LPT, which includes the initial cost plus losses, with a plurality of purchasers considering them to be equally important.[98] Although price is an important factor in purchasing decisions, 56 responding purchasers reported that they have purchased LPTs from one source even though a comparable product was available at a lower price from another source.[99] Important non-price considerations include meeting specifications, quality, producer (including factors such as quality of manufacturing facility or personnel, experience, and quality control), delivery, and energy losses.[100]

As LPTs are purchased on a made-to-order basis, considerable time is needed to engineer and then produce them. Producers indicated that the minimum lead time between a customer's order and the date of delivery on sales ranged between six and nine months, and that the average lead time is between eight and 11 months. Importers also indicated that the minimum lead time ranged from six to nine months, with an average lead time of nine to 14 months.[101]

In view of the fact that LPTs are custom-made products and lead times are lengthy, inventories are actually finished units in transit – and not an indication of available volume for future sales. To address certain firms' reporting of inventories, import quantities, rather than shipments of imports, from

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[94] (...continued)
Hyosung's Prehearing Brief at 42-43; Hyosung's Posthearing Brief at 5-6. However, the domestic industry produces LPTs for both segments and actively bids on business in both segments as well. See, e.g., Petitioners' Posthearing Brief, Exh. 1 at 1-4, 103-06. Evidence on the record indicates that domestic producers presented bids to *** of the *** wind energy customers that ultimately accepted HICO's bids during the period of investigation. Petitioners' Posthearing Brief at 4. Record evidence also shows that the portion of the U.S. market requiring shell form units is quite small – ABB identified only *** instances over the period of investigation. Moreover, Efacec's plant has the capacity to manufacture *** MVA in shell form technology annually. Petitioners' Posthearing Brief at 4 n.4.

[95] CR/PR at II-1, CR at V-7, PR at V-3. The evidence on the record is conflicting as to the cost of preparing a bid. According to petitioners, it costs between $50,000 and $80,000. Respondents claim the cost ranges from $*** to $***. CR at V-7 - V-8.

[96] CR at V-8, PR at V-4.

[97] CR at II-26, PR at II-18.

[98] CR at V-10, PR at V-5; Tr. at 98, 100 (Mr. Blake), 100-01 (Mr. Luberda).

[99] CR at II-21, PR at II-15.

[100] CR/PR at Table II-5 & n.5. Evidence on the record indicates that although many non-price factors cannot be monetized, some purchasers assign specific weights to evaluation criteria, making it possible to quantify the importance of price versus non-price factors. See HHI's Posthearing Brief at Q-11 - Q12; Hyosung's Posthearing Brief at A-81 - A-82.

[101] CR at II-27, PR at II-19.

subject and nonsubject sources have been used in this investigation to calculate apparent U.S. consumption.[102]

Some large investor-owned utilities use what are called blanket agreements, alliance agreements, framework agreements, or memoranda of understanding, which establish long-term alliances with specific suppliers. These alliances are generally for periods of two to five years, provide advantages to both the producers and the utilities,[103] and can help give the supplier awarded the agreement an increased chance of successful bidding over that period of time, but do not guarantee sales for a producer. U.S. producers, and suppliers of LPTs from Korea and nonsubject countries, participate in such agreements. The benefit for the utility is that once it buys one transformer from a supplier, with a specific design, additional LPTs can be produced and shipped more rapidly, reducing the engineering time and cost. Sales under these alliances reportedly account for a "significant" percentage of LPT sales.[104] Purchasers may have alliance agreements with more than one supplier, which may cover different specifications.[105]

V. MATERIAL INJURY BY REASON OF SUBJECT IMPORTS

Based on the record in the final phase of this investigation, we find that an industry in the United States is materially injured by reason of imports of LPTs from Korea that Commerce has found to be sold in the United States at less than fair value.

A. Volume of Subject Imports

In evaluating the volume of subject imports, section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[106]

We find the volume and the increase in volume of subject imports to be significant, both in absolute terms and relative to consumption and production in the United States. The volume of subject imports was substantial throughout the period of investigation. In fact, the subject imports' market share was more than double that of the domestic industry between 2009 and 2011. Subject import quantity increased *** percent between 2009 and 2011, from *** MVA in 2009 to *** MVA in 2010, and *** MVA in 2011. It was *** MVA in interim 2011 and *** MVA in interim 2012.[107] Subject import market share increased from *** percent in 2009 to *** percent in 2010, then fell to *** percent in 2011, which still represented a gain of *** percentage points over the three-year period. It was *** percent in interim 2011 and *** percent in interim 2012.[108]

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[102] CR at IV-4 n.10, PR at IV-3 n.10.

[103] Purchasers noted advantages such as ***. HHI's Prehearing Brief at 16 & Exh 2.

[104] CR at II-1 - II-2, PR at II-1. Petitioners estimate that alliance agreements held by the Korean producers account for *** percent of all imports from Korea. Petitioners' Posthearing Brief at 6.

[105] CR at II-20, PR at II-15; see HHI's Posthearing Brief at Q-26 - Q-27; Tr. at 156, 242 (Mr. Neal).

[106] 19 U.S.C. § 1677(7)(C)(i).

[107] CR/PR at Table IV-2.

[108] CR/PR at Table IV-2. As explained above, import quantities from subject and nonsubject sources have been used to calculate apparent U.S. consumption. All parties agree on this methodology for the full calendar years and interim 2011. However, petitioners contend that the use of import volume alone understates the actual presence and effects of subject imports in interim 2012 and prepared an alternative analysis including both imports and end-of-period inventories. CR at IV-4 n.10, PR at IV-4 n.10. We have not made this requested adjustment in order not to capture full-year inventories in a single quarter.

The ratio of subject imports to U.S. production was also significant and increased overall from 2009 to 2011. It rose from *** percent in 2009 to *** percent in 2010, then declined to *** percent in 2011. It was *** percent in interim 2011 and *** percent in interim 2012.[109]

The increase in subject import market penetration from 2009 to 2011 occurred while apparent U.S. consumption was rising.[110] The increase in subject import market share during the period came at the expense of both the domestic industry, whose market share fell 1.5 percentage points,[111] and nonsubject imports, whose market share declined by *** percentage points.[112]

Subject imports' increase in market share at the domestic industry's expense was not due to the domestic producers' inability to satisfy demand. Domestic producers had available capacity to supply the additional demand during the period, as their average capacity increased *** percent from 2009 to 2011 and their capacity utilization never exceeded *** percent.[113] Indeed, notwithstanding the domestic industry's loss of market share over the period, its sales and shipments increased between 2009 and 2011, but only by *** percent and *** percent, respectively[114] – considerably less than the *** percent increase in apparent U.S. consumption. Moreover, increases in subject import market penetration occurred with respect to product types for which competition between the subject imports and the domestic like product was most intense.[115]

For the foregoing reasons, we find that the volume and increase in volume of subject imports are significant, both in absolute terms and relative to consumption and production in the United States.[116]

B. Price Effects of the Subject Imports

In evaluating the price effects of the subject imports, section 771(7)(C)(ii) of the Tariff Act provides that the Commission shall consider whether –

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[109] CR/PR at Table IV-3.

[110] These data were discussed in section IV.A. above.

[111] U.S. producers' market share fell from *** percent in 2009 to *** percent in 2010, then fell further to *** percent in 2011. It was *** percent in interim 2011 and *** percent in interim 2012. CR/PR at Table IV-2.

[112] Nonsubject import market share decreased from *** percent in 2009 to *** percent in 2010, then increased to *** percent in 2011. It was *** percent in interim 2011 and *** percent in interim 2012. CR/PR at Table IV-2.

[113] Capacity increased from *** MVA in 2009 to *** MVA in 2010, and *** MVA in 2011. It was *** MVA in interim 2011 and *** MVA in interim 2012. CR/PR at Table III-2.

[114] Total net sales increased from *** MVA in 2009 to *** MVA in 2011. CR/PR at Table VI-1. Total U.S. shipments increased from *** MVA in 2009 to *** MVA in 2011. CR/PR at Table III-4.

[115] Indeed, subject imports had a large share of the market during the period of investigation with respect to what respondents termed Category A LPTs. Their market share was higher than the domestic industry's market share in every year between 2009 and 2011 and in interim 2012. Subject import market share was *** percent in 2009, *** percent in 2010 and *** percent in 2011, while U.S. producers' market share was *** percent in 2009, *** percent in 2010 and *** percent in 2011. See CR/PR at Table C-3. With respect to what respondents designated Category B LPTs, subject imports' market share was *** percent in 2009, *** percent in 2010 and *** percent in 2011, while U.S. producers' market share was *** percent in 2009, *** percent in 2010 and *** percent in 2011. CR/PR at Table C-4. U.S. producers began directing investments toward the production of Category B LPTs during the period of investigation. See CR/PR at Table D-2; Petitioners' Posthearing Brief at 3-4 & Exh. 1, 2 and 4.

[116] We do not discount post-petition effects in our analysis. However, to the extent they exist, because of the long lead times between order and delivery for LPTs, it appears that they are primarily reflected in the domestic industry's obtaining new opportunities for bids and requests for re-bids for existing projects after the petition was filed and after the conclusion of the preliminary phase of the investigation. See Tr. at 134 (Ms. Cusack), 135 (Mr. Blake), 136 (Mr. Bauer); Petitioners' Posthearing Brief, Exh. 1 at 91-93.

(I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and

(II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[117]

Raw materials account for a substantial share of the cost of LPTs. Between 2009 to 2011, the cost of raw materials as a share of the cost of goods sold ("COGS") decreased from 66.5 percent in 2009 to 57.3 percent in 2010 before increasing to 64.0 percent in 2011. In interim 2012, raw materials accounted for 62.0 percent of COGS. The most important raw materials used to produce LPTs include copper wire (used to produce windings) and GOES. Other important inputs are steel plate, controls and accessories, and dielectric mineral oil. Because raw materials make up a substantial portion of the cost of LPTs, producers and importers indicated that raw material costs can have a "substantial" effect on the price of the LPT. All producers and importers noted that they anticipate changes in the prices of these raw materials, although they are unable to predict how they will change.[118]

As we explained above, notwithstanding the custom nature of the product, subject imports and domestically produced LPTs of the same specifications are highly substitutable. Twenty-five of 54 responding purchasers reported that domestic LPTs and subject imports are "always" interchangeable, and 21 purchasers reported that they are "frequently" interchangeable.[119] Price is one of the top three most important factors in purchasing decisions.[120] Twelve responding purchasers ranked price the most important factor, 17 ranked it second, and 13 ranked it third.[121]

The Commission collected extensive bid data through its questionnaires, asking U.S. purchasers to provide bid data for their 10 largest purchases. It obtained data for the bidding event in general, as well as data specific to individual firms' bids. The general event information requested from purchasers included the customer name, the bid end date, the number of transformers, the project location, the base and top MVA per unit, the high line kV of the unit, the services included, the load loss and no load loss valuation (in dollars per kilowatt), and any other descriptors that would help the Commission identify the bidding event. The firm-specific data requested included the bidding firm's name, the country of origin of the LPT, the base price bid, the evaluated loss price (also called the evaluated cost or total ownership cost), the length of the warranty provided, the delivery date, other differences between the bids, who won the bidding event (including whether the offer was split between firms), and the reasons why the firms' bids were either accepted or rejected.[122]

For a plurality of bidding events (153 of 315), purchasers noted that a lower overall cost was at least one reason for selecting the winning bidder. For a majority of those 153 replies, purchasers noted the evaluated or total ownership cost was more important than the base price. Initial cost was the deciding factor with respect to only three bidding events, compared with 77 for evaluated cost or total ownership cost.[123] The firm with the lowest base price did not always win, nor did the firm with the

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[117] 19 U.S.C. § 1677(7)(C)(ii).

[118] CR/PR at V-1.

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

[120] CR/PR at Table II-5. In ABB's 2011 annual report, it ascribed lower operating margins to "continued pricing pressure in an extremely competitive market." CR at VI-9 n.5, PR at VI-2 n.5.

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

[122] CR at V-11, PR at V-5 - V-6.

[123] INV-KK-083 at V-12 - V-13, Table V-6.

lowest evaluated cost.[124] There is some transparency with respect to the bidding prices and the nature of the competitors, as bids by utilities are public in nature, and purchasers may provide some feedback to bidders as well.[125] The transmission of bid price information contributes to the pressure on domestic prices in the LPT market.

An evaluation of bidding events in which LPT producers from the United States, Korea and nonsubject countries participated shows that suppliers of subject imports from Korea won a substantial number of bids when the lowest bid was cited as the reason for the winning bid, as well as when the lowest evaluated cost/low total cost of ownership was the reason for the winning bid.[126] Average margins of underbidding compared to domestic industry bids ranged from 9.7 to 40.3 percent for the base price and 3.9 to 19.7 percent for the evaluated cost.[127]

HICO underbid domestic producers in 84 of 114 comparisons based on initial bid prices and 79 of 109 comparisons based on evaluated cost, with average margins of underbidding of 9.7 and 3.9 percent, respectively. Hyundai underbid domestic producers in 101 of 125 comparisons based on initial bid price and 85 of 101 comparisons based on evaluated cost, with average margins of underbidding of 11.1 and 9.7 percent, respectively. Korean producer Iljin Electric Co., Ltd. underbid domestic producers in all 11 comparisons based on initial bid price (by an average margin of 34.8 percent) and in 9 of 10 comparisons based on evaluated cost (by an average margin of 19.7 percent).[128]

In bidding events that it won, HICO underbid U.S. producers 36 of 42 times based on initial bid price (by an average margin of 14.2 percent across all comparisons) and 37 of 41 times based on evaluated cost (by an average margin of 11.2 percent across all comparisons). In bidding events that it won, Hyundai underbid U.S. producers all 41 times based on initial bid price (by an average margin of 17.5 percent across all comparisons) and all 34 times based on evaluated cost (by an average margin of 15.8 percent across all comparisons).[129]

In view of the foregoing, we find underselling by subject imports to be significant.[130]

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[124] CR at V-18, PR at V-8; CR/PR at Figure F-1.

[125] See, e.g., Petitioners' Prehearing Brief, Exh. 13; Petitioners' Posthearing Brief, Exh. 1 at 61-66 & Exhs. 4, 5, and 10; Tr. at 25-26 (Ms. Cusack), 161-63 (Mr. Egan); CR/PR at Table V-1; CR at V-6, PR at V-2.

[126] When price/cost/low bid was the reason for the winning bid, imports from Korea won 45 of 97 relevant bidding events; U.S. producers won 15, and nonsubject imports won 36. When evaluated cost/low total cost of ownership was the reason for the winning bid, imports from Korea won 39 of 77 bidding events; U.S. producers won 5, and nonsubject imports won 29. Seven bidding events were listed under both price/cost/low bid and evaluated cost/low total cost of ownership, and one was counted in both tabulations. Among these, subject producers won three, nonsubject producers won three, and U.S. producers won one. INV-KK-083 at Table V-6.

[127] CR/PR at Table V-8.

[128] CR/PR at Appendix F.

[129] CR at V-18, PR at V-8.

[130] We have also examined the analysis of bidding events that respondents Hyosung and HHI submitted. See HHI's Prehearing Brief, Exh. 1; HHI's Posthearing Brief, Exh. 5. Most, but not all, of the underlying data in this analysis comport with the Commission's data. Nonetheless, some of the data submitted by respondents are not useful for the Commission's pricing analysis. For example, *** did not supply the sizes of the transformers for which it reported data. See *** Purchaser Questionnaire Response. The Commission's analysis therefore excluded it, but it was included in respondents' data. In addition, we find some of respondents' assumptions to be speculative, especially with respect to nonsubject imports. For instance, we view respondents' supplementing the purchasers' data with data from producers and importers to be permissible for a comprehensive analysis, but their omitting data when nonsubject producers were the second-lowest price bidders renders the data set incomplete. Additionally, producers and importers may have included different non-price factors in their prices, so comparisons with purchasers' data may be flawed. Also, because we have found one domestic like product, we cannot discard data pertaining to Category B LPTs. Thus, we decline to rely on respondents' analysis in evaluating the price effects of

(continued...)

The Commission was unable to obtain extensive responses regarding lost sales and revenue allegations, and the responses it did obtain were mixed. However, at least $26.1 million of the alleged $198.9 million in lost sales, involving 128 units, were confirmed, providing further evidence of underselling by Korean product in the U.S. market at the direct expense of domestic LPTs.[131]

The data in the record indicate that subject imports suppressed domestic like product prices, as the ratio of the domestic industry's cost of goods sold to its net sales increased steadily over the entire period. This ratio rose from *** percent in 2009 to *** percent in 2010 and *** percent in 2011. It was *** percent in interim 2011 and *** percent in interim 2012.[132] Thus, despite the increase in apparent consumption, the domestic industry could not increase its prices to cover increases in its costs.[133] Accordingly, we find that the significant and increasing volume of subject imports, which were bid at levels below the domestic like product, had significant price suppressing effects.[134] [135]

Respondents argued that there has been limited competition between Korean and domestic LPTs over 300 MVA and with high line voltage ratings of 345 kV and above.[136] The domestic industry argued that the domestic industry can produce these products and has a strong interest in selling them.[137] Respondents' argument is unsupported by the record, because domestic producers have submitted bids for LPTs in this range.[138] In addition, in many instances including for Category B sales, domestic producers submitted bids when Korean producers were involved in the bidding event.[139] When numerous bidding events occur in the marketplace in an industry, such as this one,[140] it is not expected that a producer would bid on every one. No firm, including the Korean producers, was involved in every bid.[141]

The significant underselling during the period allowed subject imports to increase their market share at the expense of the domestic industry and significantly suppressed prices for the domestically produced product. The relatively high degree of substitutability between the subject imports and domestically produced LPTs and the importance of price to purchasers in the U.S. market if a producer can meet the requisite specifications further indicate the significance of the underselling. Confirmed lost sales allegations also indicate that the domestic industry lost some sales to lower-priced subject imports. For the foregoing reasons, we find that the subject imports had significant adverse effects on prices in the United States for the domestic like product.

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[130] (...continued)
nonsubject imports..

[131] CR at V-19, PR at V-8. There were two allegations of lost revenues, involving $1.6 million for 7 units, that could not be confirmed. CR at V-19, PR at V-8.

[132] CR/PR at Table VI-1.

[133] CR/PR at Table VI-1.

[134] See also Petitioners' Posthearing Brief, Exh. 4 (bid prices ***).

[135] Chairman Williamson finds that the increasing volume of subject imports at bid prices below those of domestic producers depressed prices for domestically produced LPTs. Although LPTs are custom-built products, there was no reported change in the product mix of domestically produced LPTs 2009-11, during which time the average unit value of domestic producers' U.S. shipments declined *** percent.

[136] See HHI's Prehearing Brief at 9-10.

[137] See, e.g., Petitioners' Posthearing Brief at 3.

[138] See CR/PR at Appendix F.

[139] In 16 bidding events, the competitors were producers from the United States and Korea. In 88 bidding events, the competitors were producers from the United States, Korea and nonsubject countries. INV-KK-083 at Table V-5. See also Petitioners' Posthearing Brief, Exh. 1 at 54-61.

[140] The Commission obtained data on more than 300 bidding events. See INV-KK-083 at Tables V-5, V-6.

[141] See CR/PR at Appendix F.

C. Impact of the Subject Imports[142]

In examining the impact of subject imports, section 771(7)(C)(iii) of the Tariff Act provides that the Commission "shall evaluate all relevant economic factors which have a bearing on the state of the industry."[143] These factors include output, sales, inventories, ability to raise capital, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[144]

As apparent U.S. consumption increased from 2009 to 2011, some, but not all, indicators of the condition of the domestic industry improved as well.[145] The domestic industry's capacity,[146] production[147] and shipments[148] increased, although capacity utilization[149] decreased. The quantity of net sales increased as well.[150] Although apparent U.S. consumption increased over the full-year period,[151] the domestic industry lost market share[152] due to subject imports. Productivity decreased over the full-year period,

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[142] The statute instructs the Commission to consider the "magnitude of the dumping margin" in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final determination of sales at less than fair value, Commerce found the following weighted-average dumping margins: 14.95 percent for HHI, 29.04 percent for Hyosung and 22.00 percent for all others. 77 Fed. Reg. at 40858.

[143] 19 U.S.C. § 1677(7)(C)(iii); see also SAA at 851 and 885 ("In material injury determinations, 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 also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports.").

[144] 19 U.S.C. § 1677(7)(C)(iii); see also SAA at 851, 885; Live Cattle from Canada and Mexico, Inv. Nos. 701-TA-386, 731-TA-812-813 (Preliminary), USITC Pub. 3155 (Feb. 1999), at 25 n.148 at 25 n.148.

[145] Respondents argue that the Commission should remove *** financial data from the aggregate domestic industry data when performing its impact analysis. See HHI's Prehearing Brief at 26-28. Although ***. CR/PR at VI-1 n.1. Its costs included ***. CR/PR at Table VI-1 Note. We note that we must analyze the domestic industry as a whole to determine injury. See, e.g., Cleo Inc. v. United States, 30 CIT 1380, 1400 (2006), aff'd, 501 F.3d 1291 (Fed. Cir. 2007). In addition, even if we removed *** from the domestic industry, the industry's financial data would still exhibit downward trends. CR/PR at Table VI-1 Note.

[146] Capacity increased from 43,346 MVA in 2009 to 50,200 MVA in 2010 and 59,439 MVA in 2011. It was 14,632 MVA in interim 2011 and 19,168 MVA in interim 2012. CR/PR at Table III-2.

[147] Production fell from 20,469 MVA in 2009 to 19,426 MVA in 2010, then rose to 24,049 MVA in 2011. It was 4,706 MVA in interim 2011 and 6,448 MVA in interim 2012. CR/PR at Table III-2.

[148] U.S. shipments declined from 19,754 MVA in 2009 to 18,898 MVA in 2010, then increased to 22,066 MVA in 2011. They totaled 4,427 MVA in interim 2011 and 4,691 MVA in interim 2012. CR/PR at Table III-4.

[149] Capacity utilization fell from 47.2 percent in 2009 to 38.7 percent in 2010, then climbed to 40.5 percent in 2011. It was 32.2 percent in interim 2011 and 33.6 percent in interim 2012. CR/PR at Table III-2.

[150] Total net sales decreased from *** MVA in 2009 to *** MVA in 2010, then increased to *** MVA in 2011. They totaled *** MVA in interim 2011 and *** in interim 2012. CR/PR at Table VI-1.

[151] Apparent U.S. consumption declined from 112,219 MVA in 2009 to 111,383 MVA in 2010, then increased to 137,243 MVA in 2011. It was 29,009 MVA in interim 2011 and 26,245 MVA in interim 2012. CR/PR at Table IV-2.

[152] The domestic industry's market share fell from 17.6 percent in 2009 to 17.0 percent in 2010 and 16.1 percent in 2011. It was 15.3 percent in interim 2011 and 17.9 percent in interim 2012. CR/PR at Table IV-2.

although it was higher in interim 2012 than in interim 2011.[153] The number of production and related workers,[154] hours worked[155] and wages paid[156] increased over the period.

The domestic industry's financial indicators, by contrast, deteriorated. The domestic industry showed operating income only during 2009; after which it experienced operating losses.[157] When subject import market share rose from 2009 to 2010,[158] what had been a significant (healthy) domestic industry operating income became an operating loss. Losses were most severe in 2011, when subject imports were at their peak quantity.[159] Return on investment fell steadily over the period.[160] Capital expenditures declined significantly,[161] although research and development expenses rose.[162]

Although the domestic industry was able to increase output and employment over the period of investigation, it lost market share and did not operate profitably after 2009. We find that these negative indicators are a function of the significant volume of the subject imports, which significantly underbid and suppressed prices for the domestic like product. We accordingly find a causal link between the subject imports and the condition of the domestic industry.

We have considered the role of other factors that may have affected the domestic industry's performance in order to avoid attributing harm from other factors to subject imports. We have specifically examined the role of nonsubject imports, which had a substantial presence in the U.S. market throughout the period of investigation. The market share of nonsubject imports was highest in 2009, the sole year the domestic industry operated profitably.[163] Additionally, subject imports won more bids on

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[153] Productivity declined from *** MVA/1,000 hours in 2009 to *** MVA/1,000 hours in 2010, then rose to *** MVA/1,000 hours in 2011. It was *** MVA/1,000 hours in interim 2011 and *** MVA/1,000 hours in interim 2012. CR/PR at Table III-6.

[154] The number of production and related workers rose from *** in 2009 to 774 in 2010, then to *** in 2011. It was *** in interim 2011 and *** in interim 2012. CR/PR at Table III-6.

[155] Hours worked climbed from *** in 2009 to *** in 2010 and *** in 2011. They totaled *** in interim 2011 and *** in interim 2012. CR/PR at Table III-6.

[156] Wages paid rose from $*** in 2009 to $*** in 2010 and $*** in 2011. They totaled $*** in interim 2011 and $*** in interim 2012. CR/PR at Table III-6.

[157] Operating income fell from $*** in 2009 to an operating loss of $*** in 2010, then fell further to an operating loss of $*** in 2011. There was an operating loss of $*** in interim 2011 and an operating loss of $*** in interim 2012. CR/PR at Table VI-1.

[158] Subject import market share rose from *** percent in 2009 to *** percent in 2010, then declined to *** percent in 2011. It was *** percent in interim 2011 and *** percent in interim 2012. CR/PR at Tale IV-2.

[159] Subject imports rose from *** MVA in 2009 to *** in 2010, then to *** in 2011. They totaled *** MVA in interim 2011 and *** MVA in interim 2012. CR/PR at Table IV-2.

[160] Return on investment decreased from *** percent in 2009 to *** percent in 2010 and *** percent in 2011. CR/PR at Table VI-5.

[161] Capital expenditures fell from $*** in 2009 to $*** in 2010, then rose to $*** in 2011. They totaled $*** in interim 2011 and $*** in interim 2012. CR/PR at Table VI-4.

[162] Research and development expenses increased from $*** in 2009 to $*** in 2010 and $*** in 2011. They totaled $*** in interim 2011 and $*** in interim 2012. CR/PR at Table VI-4.

[163] Nonsubject imports decreased from *** MVA in 2009 to *** MVA in 2010, then increased to *** MVA in 2011. They totaled *** MVA in interim 2011 and *** MVA in interim 2012. CR/PR at Table IV-2. Nonsubject import market share fell from *** percent in 2009 to *** percent in 2010, then rose to *** percent in 2011. It was *** percent in interim 2011 and *** percent in interim 2012. CR/PR at Table IV-2.

the basis of lower prices than nonsubject imports.[164] Thus, we do not find that nonsubject imports explain the domestic industry's deteriorating condition during the period of investigation.[165]

Based on the record in the final phase of this investigation, we conclude that the domestic industry has been materially injured by reason of subject imports from Korea. In particular, we find that the volume of subject imports increased significantly over the period of investigation, both absolutely and relatively to domestic production and consumption. We also find that subject imports have significantly undersold the domestic like product, gained significant market share at the expense of the domestic industry and adversely affected the performance of the domestic industry. The increasing volumes of subject imports also resulted in declines in the financial condition of the domestic industry, despite an increase in demand over the period. The domestic industry also experienced decreased capacity utilization and declining market share.

VI. CONCLUSION

For the reasons stated above, we determine that an industry in the United States is materially injured by reason of subject imports of LPTs from Korea that are sold in the United States at less than fair value.

[164] INV-KK-083 at Table V-6.

[165] Based on the record evidence in this investigation, Commissioner Pinkert finds that price competitive, nonsubject LPT imports were a significant factor in the U.S. market during the period examined. He also finds, however, that LPTs are not commodity products. As all parties agree, LPTs are made to the purchaser's specifications and are not interchangeable unless made to the exact same specifications. See, e.g., Petitioners' Prehearing Brief, Exh. 1 at 12; Hyosung's Posthearing Brief, App. at A-39. Commissioner Pinkert therefore finds it unnecessary to determine whether nonsubject imports would have replaced subject imports without benefit to the domestic industry had the subject imports exited the market during the period examined.

PART I: INTRODUCTION

BACKGROUND

This investigation results from a petition filed on June 14, 2011, by ABB Inc., ("ABB"), Cary, NC; Delta Star Inc., ("Delta Star"), Lynchburg, VA; and Pennsylvania Transformer Technology Inc., ("PTTI"), Canonsburg, PA (collectively "petitioners") alleging that an industry in the United States is materially injured and threatened with material injury by reason of less-than-fair-value ("LTFV") imports of large power transformers ("LPTs") from Korea. The following tabulation provides information relating to the background of this investigation:[1]

Effective date	Action
July 14, 2011	Petition filed with Commerce and the Commission; institution of Commission investigation.
August 10, 2011	Commerce's notice of initiation.
August 29, 2011	Commission's preliminary determination.
February 16, 2012	Commerce's preliminary determination; Commission's scheduling of its final phase investigation (77 FR 16559).
July 11, 2012	Commerce's final determination (77 FR 40857).
July 12, 2012	Commission's revised scheduling of its final investigation (77 FR 42332, July 18, 2012).
July 10, 2012	Commission's hearing.
August 9, 2012	Commission's vote.
August 24, 2012	Commission's determination transmitted to Commerce.
A list of witnesses that appeared at the hearing is presented in App. B.	

STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

Statutory Criteria

Section 771(7)(B) of the Tariff Act of 1930 (the "Act") (19 U.S.C. § 1677(7)(B)) provides that in making its determinations of injury to an industry in the United States, the Commission—

> *shall consider (I) the volume of imports of the subject merchandise, (II) the effect of imports of that merchandise on prices in the United States for domestic like products, and (III) the impact of imports of such merchandise on domestic producers of domestic like products, but only in the context of production operations within the United States; and. . . may consider such other economic factors as are relevant to the determination regarding whether there is material injury by reason of imports.*

Section 771(7)(C) of the Act (19 U.S.C. § 1677(7)(C)) further provides that--

[1] *Federal Register* notices cited in this tabulation are presented in app. A of this report.

In evaluating the volume of imports of merchandise, the Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States is significant.

. . .

In evaluating the effect of imports of such merchandise on prices, the Commission shall consider whether. . .(I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.

. . .

In examining the impact required to be considered under subparagraph (B)(i)(III), the Commission shall evaluate (within the context of the business cycle and conditions of competition that are distinctive to the affected industry) all relevant economic factors which have a bearing on the state of the industry in the United States, including, but not limited to . . . (I) actual and potential decline in output, sales, market share, profits, productivity, return on investments, and utilization of capacity, (II) factors affecting domestic prices, (III) actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, (IV) actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and (V) in {an antidumping investigation}, the magnitude of the margin of dumping.

Organization of Report

Information on the subject merchandise, margins of dumping, and domestic like product is presented in *Part I*. Information on conditions of competition and other relevant economic factors is presented in *Part II*. *Part III* presents information on the condition of the U.S. industry, including data on capacity, production, shipments, inventories, and employment. *Parts IV* and *V* present the volume of subject imports and pricing of domestic and imported products, respectively. *Part VI* presents information on the financial experience of U.S. producers. The statutory requirements and information obtained for use in the Commission's consideration of the question of threat of material injury are presented in *Part VII*.

MARKET SUMMARY

LPTs are used in high voltage electrical power transmission systems to transfer power by electromagnetic induction between circuits at the same frequency, usually with changed values voltage and current.[2] Over the period examined, five firms accounted for virtually all of the LPTs manufactured in the United States.[3] Leading producers of LPTs outside the United States include Hyosung Corporation

[2] Hearing transcript, p. 16 (Blake).

[3] The Commission received questionnaire responses from six firms: ABB, Delta Star, Efacec USA Inc. ("Efacec"), Hyundai Power Transformers, USA ("HYPO"); PTTI, and SPX Transformer Solutions, Inc. ("SPX Waukesha"). Virginia Transformer provided a questionnaire response in the preliminary phase of this investigation and accounted for *** percent of reported U.S. production in 2010. Despite multiple attempts by staff, Virginia

("Hyosung") and Hyundai Heavy Industries ("HHI") of Korea. The leading U.S. importers of LPTs from Korea include HICO America Sales & Technology, Inc. ("HICO"), a wholly-owned subsidiary of Hyosung Corporation, a foreign producer/exporter of LPTs in Korea and Hyundai Corporation, USA ("Hyundai Corp."), a wholly-owned subsidiary of HHI, a foreign producer/exporter of LPTs in Korea. The largest U.S. importers of LPTs from nonsubject sources include ***.[4]

Apparent U.S. consumption of LPTs totaled 137,253 megavolt-amperes ("MVA") in 2011, with U.S.-produced LPTs accounting for *** percent, by quantity. In 2011, U.S. imports from Korea accounted for *** percent of the U.S. market, by quantity, while U.S. imports from nonsubject sources accounted for *** percent of the U.S. market.[5]

SUMMARY DATA

Appendix C presents a summary of data collected in this investigation.[6] U.S. industry data are based on questionnaire responses from five U.S. producers (see Part III of this report).[7] U.S. import data are based on questionnaire responses from nine U.S. importers (see Part IV of this report).[8] Information on the industries that produce LPTs in Korea is based on questionnaire responses from two foreign producers and exporters and publicly available data (see Part VII of this report).[9] Data from other sources are referenced and footnoted where appropriate.

Transformer did not provide a response the Commission's questionnaire in the final phase investigation. During the period examined, HYPO did not produce a transformer subject to this investigation; therefore, its trade and financial data are not included in the staff report.

[4] ***. ***. ***. Email from ***, June 13, 2012.

[5] Petitioners and Respondent Hyosung agree that volume expressed in MVA (rather than value) is the most reasonable basis for measuring apparent U.S. consumption and market share. Petitioners' posthearing brief, Answers to Commission questions, p. 82; Respondent Hyosung's posthearing brief, p. 4. Therefore, tables in part IV and appendix C of this report present apparent U.S. consumption and market share on the basis of quantity only.

[6] Petitioners and Respondent Hyosung agree that volume expressed in MVA (rather than value) is the most reasonable basis for measuring apparent U.S. consumption and market share. Petitioners' posthearing brief, Answers to Commission questions, p. 82; Respondent Hyosung's posthearing brief, p. 4. Therefore, tables in appendix C present apparent U.S. consumption and market share on the basis of quantity only. Table C-1 presents the U.S. market for all LPTs, using top-rated MVAs as a measure of quantity, while table C-2 uses units of LPTs as a measure of quantity. Tables C-3 and C-4 present the U.S. market for LPTs based on categories according to MVA and kV as proposed by respondents in their comments to the Commission's draft questionnaire. To address certain firms' reporting of inventories, which were actually finished units in transit, imports (rather than shipments of imports) from subject and non-subject sources have been used to calculate apparent U.S. consumption. Both petitioners and respondents agree on this methodology for full calendar years and interim 2011; however, petitioners contend that import volumes alone will understate the actual presence and effects of subject imports in interim 2012 and prepared an alternative analysis, which includes both imports and end-of-period inventories for the purposes of calculating apparent U.S. consumption and market share ***. Petitioners' posthearing brief, Responses to Commission questions, pp. 82-85, exh. 9; Respondent Hyosung's posthearing brief, pp. 1-2, exh. 1.

[7] These firms include: ABB, Delta Star, Efacec, PTTI, and SPX Waukesha.

[8] Official Commerce statistics for a portion of HTS statistical reporting number 8504.23.0040 include non-subject merchandise (transformers ranging between 10 MVA and 60 MVA); therefore, questionnaire data was deemed to be more reliable. Petitioners' postconference brief, p. 23. Respondent HHI's postconference brief, p. 12. Respondent Hyosung's postconference brief, p. 18.

[9] In their questionnaire responses, Hyosung and HHI estimated that they accounted for a combined *** of total U.S. exports of LPTs from Korea in 2011. According to testimony provided at the hearing, Iljin and LSIS are two other LPT producers that possess production capacity in Korea. Hearing transcript, p. 47 (Luberda), p. 57 (Cannon). ***.

PREVIOUS INVESTIGATIONS

On June 14, 1972, the U.S. Department of Treasury issued antidumping duty findings on large power transformers from France, Italy, and Japan.[10] These findings were revoked by Commerce as of January 1, 2000.[11]

NATURE AND EXTENT OF SALES AT LTFV

Sales at LTFV

On July 11, 2012, Commerce published a notice in the *Federal Register* of its final determination of its antidumping duty investigation on LPTs from Korea. The weighted-average dumping margins for Korean firms selling LPTs in the U.S. market ranged from 14.95 percent to 29.04 percent.[12] The weighted-average dumping margins (in percent *ad valorem*), as reported by Commerce, are presented in the following tabulation:

Entity	Preliminary antidumping margin (*percent*)
Hyundai Heavy Industries Co., Ltd.	14.95
Hyosung Corporation	29.04
All Others	22.00

Source: *Large Power Transformers From the Republic of Korea: Final Determination of Sales at Less Than Fair Value*, 77 FR 40857, July 11, 2012.

THE SUBJECT MERCHANDISE

Commerce's Scope

Commerce has defined the scope of this investigation as follows:

> *The scope of this investigation covers large liquid dielectric power transformers (LPTs) having a top power handling capacity greater than or equal to 60,000 kilovolt amperes (60 megavolt amperes), whether assembled or unassembled, complete or incomplete.*
>
> *Incomplete LPTs are subassemblies consisting of the active part and any other parts attached to, imported with or invoiced with the active parts of LPTs. The ''active part'' of the transformer consists of one or more of the following when attached to or otherwise assembled with one another: The steel core or shell, the*

[10] 37 FR 11772 (June 14, 1972). The scope of the 1972 findings included "all transformers rated 10 MVA or above, by whatever name designated, used in the generation, transmission, distribution, and utilization of electrical power, including but not limited to shunt reactors, autotransformers, rectifier transformers, and power rectifier transformers." *Large Power Transformers from France, Italy, Japan, Switzerland, and the United Kingdom,* United States Tariff Commission Publication 476, April 1972.

[11] *Final Results of Sunset Review and Revocation of Antidumping Findings: Large Power Transformers from Italy, et al.*, 63 FR 54441 (January 1, 2000).

[12] *Large Power Transformers From the Republic of Korea: Final Determination of Sales at Less Than Fair Value*, 77 FR 40857, July 11, 2012.

windings, electrical insulation between the windings, the mechanical frame for an LPT.

The product definition encompasses all such LPTs regardless of name designation, including but not limited to step-up transformers, step-down transformers, autotransformers, interconnection transformers, voltage regulator transformers, rectifier transformers, and power rectifier transformers.

The LPTs subject to this investigation are currently classifiable under subheadings 8504.23.0040, 8504.23.0080 and 8504.90.9540 of the Harmonized Tariff Schedule of the United States (HTSUS). Although the HTSUS subheadings are provided for convenience and customs purposes, the written description of the scope of this investigation is dispositive.[13]

Tariff Treatment

The LPTs subject to this investigation are currently classifiable in subheadings 8504.23.00 and 8504.90.95 (statistical reporting numbers 8504.23.0040, 8504.23.0080 and 8504.90.9540) of the Harmonized Tariff Schedule of the United States (HTSUS). The general duty rate for subheading 8504.23.00 is 1.6 percent *ad valorem* and the general duty rate for subheading 8504.90.95 is 2.4 percent *ad valorem*. Although the HTSUS subheadings are provided for convenience and customs purposes, the written description of the scope of this investigation is dispositive.

THE PRODUCT

Physical Characteristics and Uses

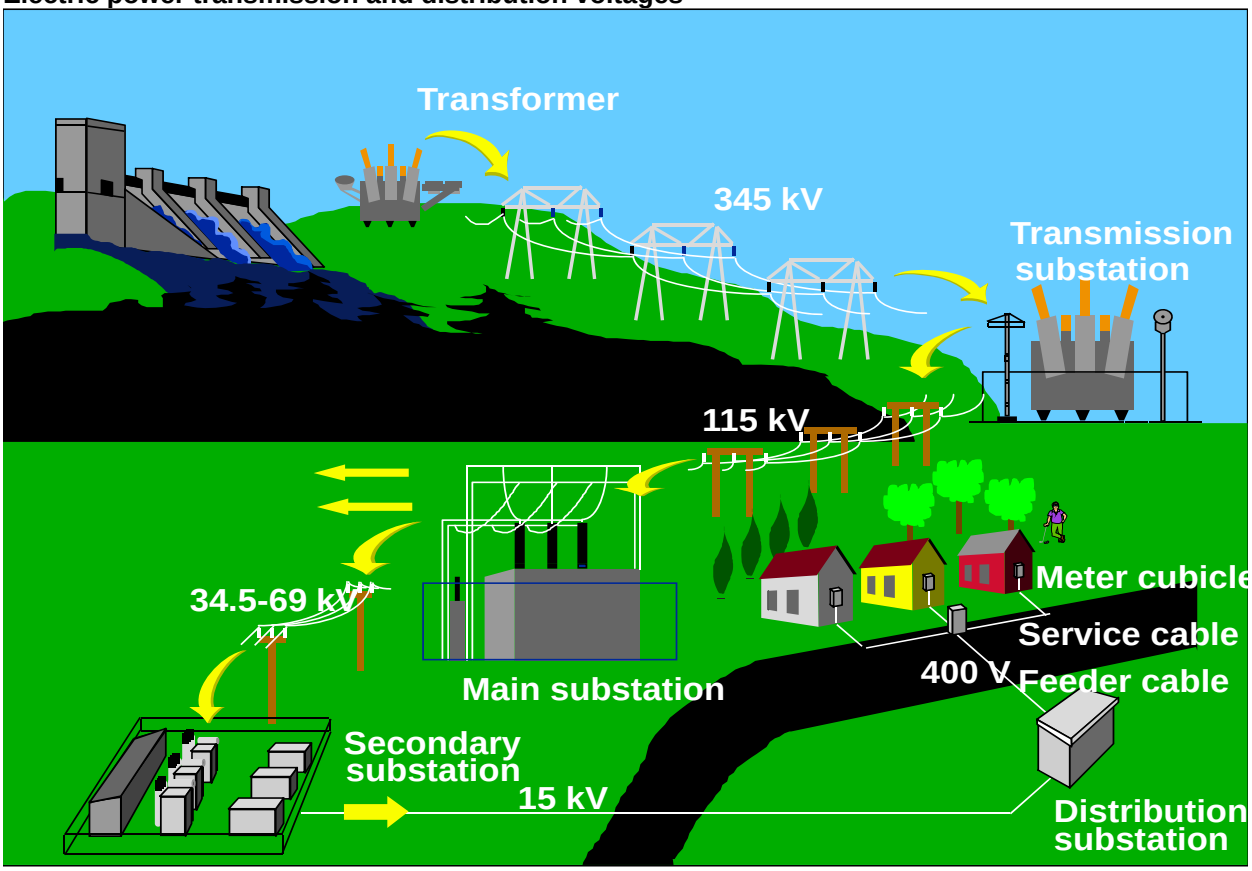
Uses

LPTs are used to increase or decrease voltage in the electric transmission system. Power, as measured in volt-amperes, is typically transmitted at a high voltage and low current (amperage) because transmission at higher amperages requires more cable, resulting in greater power losses, and is more expensive. Power is typically generated at less than 35 kV, increased for transmission to 69 to 765 kV (and the amps reduced), then decreased for distribution to 15 to 34.5 kV (and the amps increased) (figure I-1). LPTs are the equipment in the electric power grid that increase or decrease these voltages.[14]

[13] *Large Power Transformers From the Republic of Korea: Final Determination of Sales at Less Than Fair Value*, 77 FR 40857, July 11, 2012.

[14] Petitioners posthearing brief, exhibit 1, p. 16; petition, pp. 5, 7–8 and exhibit 4, p. 4; petitioners' postconference brief, pp. 4-5.

Figure I-1
Electric power transmission and distribution voltages



Source: Conference transcript, petitioners' exhibit 1, slide 1.

Three common types of LPTs are step-up transformers, step-down transformers, and autotransformers. Generator step-up transformers increase voltage from electric power generation plants to high voltages for transmission through the electric grid. Step-down transformers are used at transmission substations to step down (decrease) voltages prior to distribution to consumers such as businesses and residences. Autotransformers connect transmission lines of different voltages.[15]

The users of LPTs include independent firms that generate electricity (independent power producers ("IPPs")), electric utilities, and industrial customers. The users in the electric power industry, IPPs and utilities, are defined below:

- **Independent power producer (IPP)**: An IPP is an entity that primarily produces electricity for sale on the wholesale market. It is not a utility, does not own electricity transmission, and does not have a designated service area. IPPs may sign power purchase agreements (PPAs) with utilities. A PPA is a long-term agreement between a utility and an IPP to purchase electricity.
- **Investor-owned utility ("IOU")**: An IOU is a for-profit utility.
- **Publicly owned utility ("POU")**: A POU is a nonprofit state or local government entity.
- **Cooperative electric utilities**: Utilities that are owned by their members.
- **Federally owned utilities**: Utilities that are owned by the U.S. government, such as the Tennessee Valley Authority ("TVA").[16]

[15] Petition, p. 8; hearing transcript, p. 71 (Blake), and pp. 71–72 (Luberda).

[16] Petition, p. 20; EIA Web site, http://eia.gov/cneaf/electricity/page/prim2/toc2.html and http://www.eia.gov/cneaf/electricity/page/glossary.html#uv (accessed June 1, 2012).

Physical Characteristics

LPTs are large, heavy pieces of capital equipment. Their life spans range from 15 to 40 years, though their targeted life span is around 30 years (figure I-2).[17] LPTs use electromagnetic induction between circuits to increase, decrease, or regulate power.[18] Electromagnetic induction takes advantage of the fact that electricity moving through a conductor creates a magnetic field. Induction occurs when that electromagnetic field crosses a second electrical conductor and thereby generates a voltage in the second conductor although the two conductors are not directly connected. This requires a fluctuating magnetic field typically generated by alternating current (AC) entering into an input conductor.[19]

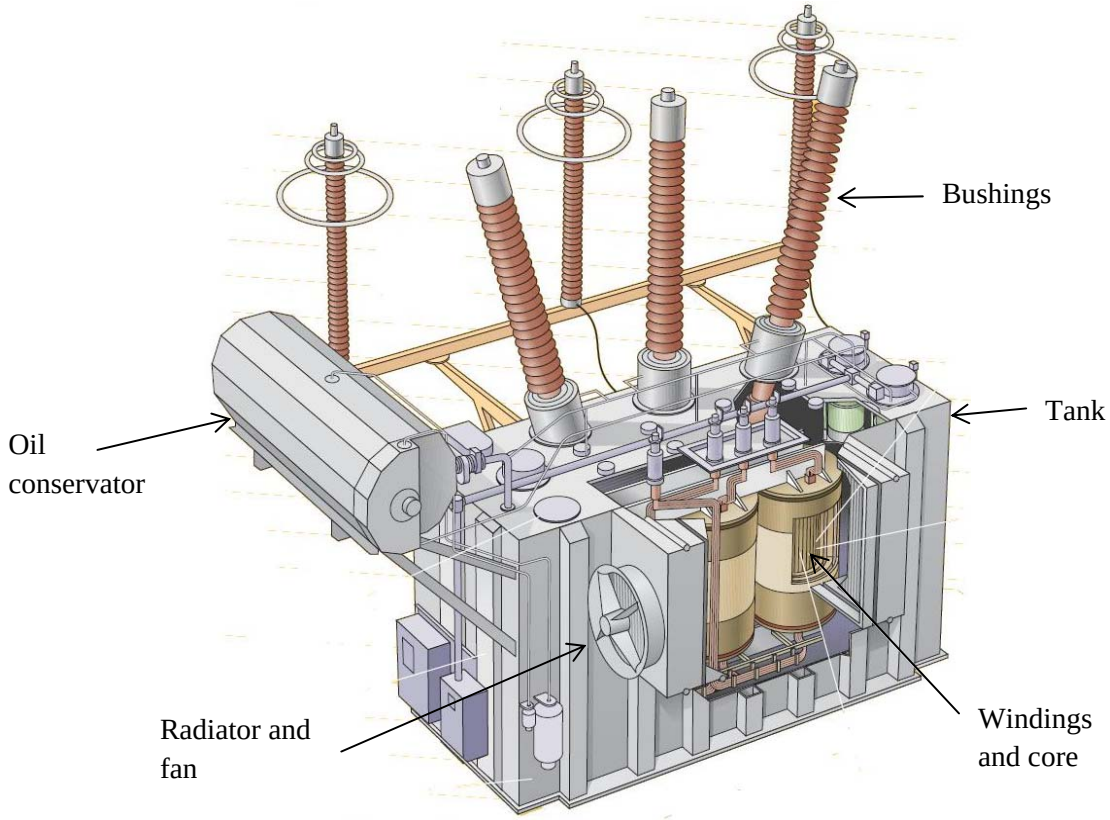
Figure I-2
LPTs: Installed large power transformer

* * * * * * *

LPTs have an "active part" where the electromagnetic induction occurs that consists of the core, the windings, and electrical insulation between the windings (figure I-3). The core is made of high permeability, grain-oriented, silicon electrical steel ("GOES") around which are wound with primary (electrical power input) and secondary (output) conductors. The core is made of very thin GOES that is laser scribed and coated with a glass film known as carlite. The core contains the magnetic flux generated by the AC moving through the primary conductor. The size of the core is minimized to reduce electrical losses and to reduce the size of the LPT for transport through tunnels and under bridges.[20]

[17] Conference transcript, p. 63 (Cusak) and p. 91 (Stiegemeier).
[18] Petition, p. 17.
[19] Conference transcript, p. 23 (Stiegemeier).
[20] Hearing transcript, p. 17 (Blake); Petition, p. 9; conference transcript, p. 23-25 (Stiegemeier).

Figure I-3
LPTs: Large power transformer showing major internal components



Source: ABB, "Liquid-Filled Power Transformers," p. 6, http://www05.abb.com/global/scot/scot252.nsf/veritydisplay/299a52373c3fd0e6c12578be003a476f/$file/pptr_mpt_brochure_2406pl170-w1-en.pdf (accessed June 1, 2012).

Windings are the primary and secondary conductors that are wound around the core. The windings are usually comprised of thin strands of copper wire insulated with paper. Between the windings are paper insulation and spacers of pressboard. Typically the low voltage winding is placed closest to the core and the high voltage winding is placed outside the low voltage winding, which minimizes the amount of insulation required. The pattern of the windings varies depending on the size, type, and design of the transformer and the voltage and the current (figure I-4). The ratio of turns between the primary and secondary windings is what determines the output voltage. The winding with more turns is the high voltage winding and the one with fewer turns is the low voltage winding. Inserting taps into the winding can change the ratio of the turns and, therefore, the output voltage. These taps can be changed either manually or automatically by a motor.[21]

Figure I-4
LPTs: Examples of windings

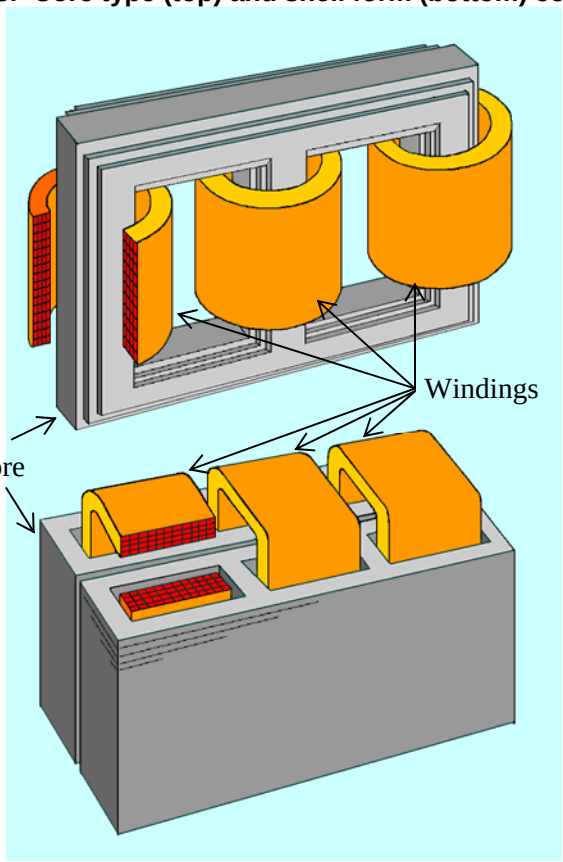
* * * * * * *

[21] Petition, pp. 9-10; conference transcript, p. 25 (Stiegemeier).

LPTs are produced as "single phase" or "three phase" models. A single phase LPT has one primary and secondary set of windings, while a three phase LPT has three primary and secondary windings around three core limbs. With alternating current, the voltage and current rise and fall along a sine wave, thus the current periodically stops. With three phase transformers, when the current stops in one phase it is flowing in the other two so the output does not stop. ***.[22]

There are two typical configurations of the core and windings, the core form and the shell form (see figure I-5). In the shell form, the windings are of the primary and secondary inputs are wrapped around center leg of the magnetic core, in rectangular shaped or "pancake" windings, and more of the windings are enclosed by the core. Shell form LPTs use more GOES than core types. In performance, shell form LPTs are more resilient to short circuits in the transmission system and are frequently used in industrial applications, such as steel mills where short circuits frequently occur.[23]

Figure I-5
LPTs: Core type (top) and shell form (bottom) configurations of core and windings



Core type—circular shaped windings (cylinders)

Shell type—rectangular shaped windings (pancakes)

Source: Conference transcript, petitioners' exhibit 1, slide 6.

The active part of the transformer is placed inside of a metal tank. This tank is filled with oil, generally mineral oil, which dissipates heat generated by the transformer. As the oil heats up it circulates to a radiator where it is cooled as the heat dissipates. Fans are generally attached to aid in cooling and heat exchangers may also be used. As the oil expands it may travel to a separate tank attached to a frame called an oil conservator.[24]

[22] Petition, pp. 11-12; ***.
[23] Conference transcript, pp. 58-59 (Stiegemeier) and petitioners' exhibit 1, slide 6; petition, pp. 9–10; respondent Hyosung's postconference brief , p. 22.
[24] Hearing transcript, p. 17 (Blake); conference transcript, p. 27 (Stiegemeier); petition, pp. 10-11.

Bushings are used to connect transmission lines to the LPT ***. A single phase transformer has four bushings and a three phase has six bushings. Other parts include tap changers, power cable connectors, gas-operated relays (to detect certain types of problems and minimize subsequent damage within the transformers), thermometers, pressure relief devices, dehydrating breathers, oil level indicators, and other controls." A transformer may also have controls to allow remote monitoring of the transformer, ***.[25]

Ratings

The size of an LPT is determined by the load measured by megavolt-amperes (MVA), the secondary output voltage, and the primary input voltage.[26] However, for this investigation, the MVA capacity is used in defining LPTs. The MVA rating system is based on the cooling system and is an industry standard.[27] ***.[28] Typically, customer requests for bids will specify the MVA for the transformer at 55 degrees Celsius and then one or two stages of forced cooling. These ratings are displayed as three numbers, for example, 115/153/192 MVA.[29] The higher ratings reflect the capacity of the transformer with more cooling (more fans and pumps running). The first rating is "oil natural, air natural" meaning that the fans are not aiding the cooling, and the second and third are with progressively more cooling added. In some generation plants where transformers may be running at full capacity all of the time, they may only have a single rating.[30]

Losses

LPTs are more than 99 percent efficient.[31] There are, however, several types of power losses in LPTs, including no-load losses, load losses, and auxiliary losses. "No-load losses are caused by the magnetizing current needed to energize the core of the transformer, and do not vary according to the loading on the transformer. They are constant and occur 24 hours a day, 365 days a year, regardless of the load…"[32] Load losses are primarily due to the resistance of the copper conductor and eddy currents induced in the core by the magnetic field.[33] Auxiliary losses are the power required for fans and other electrical equipment.[34]

Manufacturing Processes[35]

LPTs are large, made-to-order products that are manufactured to the individual specifications of the customer.[36] Once a producer receives an order, the first step is designing the transformer. The design of LPTs is complex, with optimum transformer design balancing the costs of materials (e.g., steel, copper,

[25] Hearing transcript, p. 17 (Blake); petition, p. 11; Conference transcript, pp. 27-28 (Stiegemeier); ***.
[26] Conference transcript, p. 28 (Stiegemeier).
[27] See ANSI/IEEE Standard C57.12.00 that defines the cooling attributes of the transformer.
[28] ***
[29] Conference transcript, p. 57 (Luberda).
[30] Conference transcript, pp. 56-57 (Stiegemeier) and p. 57 (Luberda); petition, exhibit 4, p. 33.
[31] Hearing transcript, p. 98 (Blake).
[32] Copper Development Association Web site, http://www.copper.org/applications/electrical/energy/trans_losses.html (accessed July 16, 2012).
[33] Copper Development Association Web site, http://www.copper.org/applications/electrical/energy/trans_losses.html (accessed July 16, 2012); conference transcript, petitioners' exhibit 1, slide 3.
[34] U.S. Department of Agriculture, *Guide to the Evaluation of Large Power Transformer Losses*, RUS Bulletin 1724E-301, December 1997, p. 6.
[35] The discussion in this section focuses on core type transformers.
[36] Hearing transcript, p. 19 (Blake), and p. 39 (Newman).

and cooling oil), electrical losses, manufacturing labor hours, plant capability constraints, and shipping constraints, such as tunnel and bridge dimensions.[37]

***. LPT manufacturers work with customers starting with the design phase through the shipment and installation phases. Customers will *** come to the plant to inspect the transformers.[38] LPTs take "months to design and many months to build."[39] ***.[40]

***.[41]

Figure I-6
LPTs: Production process for core type transformers

* * * * * * *

Tank fabrication

The tank is a rectangular box shaped fabrication made from hot-rolled, low carbon steel plates that are typically arc welded together. The tank has wall stiffeners, jack pads and lifting hooks, guides to fit the windings and core assembly inside, and a variety of access openings for maintenance. The interior is usually coated with epoxy and the exterior is painted.[42]

The active part of the transformer: core cutting and assembly, winding, assembly of the active part, and vapor phase

The core is made of laminations of GOES shaped into the legs and yokes of the core. GOES is cut to shapes for the vertical sections of the core called limbs or legs, and the horizontal sections called the yoke. GOES parts are cut to shape by computerized shearing machines and these thin strips are called laminations. These laminations are carefully stacked either by hand or machine so as to not damage the electrical properties of the laminations. Bundles of like shaped laminations are then bound together with epoxy polyester shrink tape to form either legs or yokes. The legs are then attached to the bottom yoke.[43]

The windings are formed by winding conductor of insulated copper wire over a cylindrical framework, typically by hand. Spacers between various turns of conductors *** are inserted. Depending on the type of LPT being produced, different *** patterns of winding will be used. For certain transformers, this winding process can take weeks to complete.[44]

The active part is then assembled by placing the windings over the legs. It is then cleaned, inspected, and put through a pressing operation. At this stage, the top yoke is added.[45]

The windings and the core then undergo drying operations in a vapor phase drying chamber to remove moisture from the paper, pressboard, and spaces between the windings. In the chamber, solvent vapors condense on the windings and core, resulting in heating the article, and thus evaporating moisture

[37] Waukesha Web site, http://www.spxtransformersolutions.com/transformers/engineering.html (accessed June 1, 2012).

[38] Hearing transcript, pp. 19–20 (Blake); conference transcript, pp. 36-37; ***.

[39] Hearing transcript, p. 20 (Blake).

[40] ***.

[41] ***; WEG, *Transmission & Distribution: Product Line and Solutions*, http://catalogo.weg.com.br/files/wegnet/WEG-power-transformers-50032789-07.11-brochure-english.pdf (accessed June 7, 2012).

[42] Waukesha Web site, http://www.spxtransformersolutions.com/transformers/manufacturing.html (accessed June 1, 2012).

[43] Petition, p 9; Waukesha Web site, http://www.spxtransformersolutions.com/transformers/manufacturing.html (accessed June 1, 2012).

[44] Conference transcript, pp. 25-26 (Stiegemeier) and conference transcript, petitioners' exhibit 1, slide 5; Waukesha Web site, http://www.spxtransformersolutions.com/transformers/manufacturing.html (accessed June 1, 2012); ***.

[45] Waukesha Web site, http://www.spxtransformersolutions.com/transformers/manufacturing.html (accessed June 7, 2012).

out of the insulation. The vapor chamber is then flooded with transformer oil to impregnate the insulation materials; once this is complete, the chamber is drained of oil and the assembly is removed.[46]

LPT assembly

Once the active part is drained of oil, it is inspected and then immediately moved to the tank (known as tanking), covered with oil, and the cover welded on. This oil is then drained, a vacuum is used to remove surface moisture, and the transformer is filled with degasified mineral oil for final impregnation.[47] Other components such as the bushings are also added.

Testing

Testing is performed to ensure the accuracy of voltage ratios, verify power ratings, and determine electrical impedances.[48] Testing is also performed to simulate certain events that may affect the LPT, including lightning strikes, short circuits, overvoltages (voltages in the circuit that are above the design limits), and accessories such as the cooling systems, indicators, and tap changers.

Shipping

For the shipment of LPTs, bushings, fans, the control cabinet, and other components are disassembled, the oil is removed, and the tank is filled with dry air.[49] ***.[50]

Manufacturing environment and production processes

The manufacturing environment and capability may significantly affect the LPT manufacturer's product reliability. LPT plants, particularly for the high voltage products, necessitate almost clean room environments, especially in both windings and assembly areas; for example, dust particles will ruin an 800 kV LPT.[51]

The operation and physical characteristics of an LPT manufacturing plant can result in the LPT manufacturer being either not qualified by the customer to bid on a proposal or not being recommended during the bid process. As part of the process of qualifying potential bidders, customers will visit LPT manufacturers, audit their production and quality processes, and verify their certifications and adherence to International Standards Organization standard 9001.[52] Reportedly, having an advanced facility that shows well to potential customers or their consultant—reflecting efficient production, shorter lead times, and better delivery to customers—is important.[53]

DOMESTIC LIKE PRODUCT ISSUES

In the preliminary phase of this investigation, the Commission found a single domestic like product coextensive with the scope of the investigation. In its Views, the Commission extended the opportunity to parties to advocate a different definition of the domestic like product in a final phase investigation in their written comments to the draft questionnaires.[54]

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[46] Waukesha Web site, http://www.spxtransformersolutions.com/transformers/manufacturing.html (accessed June 1, 2012); conference transcript, p. 26 (Stiegemeier).

[47] Waukesha Web site, http://www.spxtransformersolutions.com/transformers/manufacturing.html (accessed June 1, 2012).

[48] Conference transcript, p. 28 (Stiegemeier) and p. 133 (H. Lee).

[49] Petition, exhibit 4, p. 40.

[50] ***.

[51] Conference transcript, p. 104 (Stiegemeier).

[52] Conference transcript, pp. 103-104 (Stiegemeier).

[53] Conference transcript, pp. 122-123 (Neal).

[54] *Large Power Transformers from Korea, Investigation 731-TA-1189 (Preliminary)*, USITC Publication 4256, September 2011, p. 7. In their comments to the draft questionnaires, respondents Hyosung and HHI proposed

The petitioners contend all LPTs top rated at 60 MVA or more constitute a single like product consisting of a continuum of individual, unique products with varying combinations of MVA ratings, high line voltages, input voltages and other characteristics depending on the user's needs.[55] Respondents Hyosung and HHI contend that the Commission should find two like products based on the categories set forth below:[56]

- ("Category A"): 60-300 MVA (top rated, standard step-up/step-down equivalent) power transformers for 345kV high line system voltage, plus 60 MVA and above (top rated, standard step-up/step-down equivalent) power transformers for less than 345 kV high line system voltages; and

- ("Category B"): 60 MVA and above (top rated, standard step-up/step-down equivalent) power transformers for 500 kV and above high line system voltages, plus above 300 MVA (top rated, standard step-up/step-down equivalent) power transformers for 345kV high line system voltage

The Commission's decision regarding the appropriate domestic product(s) that are "like" the subject imported product is based on a number of factors including: (1) physical characteristics and uses; (2) common manufacturing facilities and production employees; (3) interchangeability; (4) customer and producer perceptions; (5) channels of distribution; and (6) price. Information regarding these factors is discussed below.

Physical Characteristics and Uses

Petitioners contend that all LPTs regardless of MVA rating or high line voltage are used in high voltage electrical power generation and transmission systems to increase, transfer, or decrease the output voltages in the system. According to petitioners, all LPTs: (1) contain the same basic materials in the active part, including insulated copper windings around a core of laminates of high permeability, silicon, grain-oriented electrical steel, (2) are housed in a steel plate tank, (3) are filled with dielectric mineral oil, and (4) have a cooling system. Petitioners contend that there is a wide range of sizes and types of LPTs, with a variety of other characteristics used by the same end-users for the same general purposes, each uniquely designed and built to precise requirements specified by the customer.[57] With regard to uses, petitioners contend that regardless of whether the transformer is used at a coal, natural gas, wind, hydro, thermal, or nuclear generation plant, it will operate exactly the same way.[58]

Respondent Hyosung acknowledges that the uses of Category A and Category B LPTs are similar, but only in the most general sense that the units are used to transform electrical energy. With regard to their differences, Hyosung contends that (1) Category A units comprise generator step up units ("GSU") that are used for smaller capacity generation applications like those used for wind, solar, hydro, and natural gas stations, while Category B units are used for large scale generation applications such as nuclear power and coal; (2) Category A units include step down transformers, some distribution substation transformers, subtransmission substation transformers and that none of the transformers for these applications would fall into Category B; (3) the vast majority of Category A GSUs involve non-

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definitions for two like products consisting of two categories of LPTs based on MVA ratings and high line system voltages. In light of requests to solicit additional information concerning the two proposed categories of LPTs, the Commission requested U.S. producers, U.S. importers, and foreign producers to report relevant trade data separately. These data are included in appendix D of this report. In addition, questionnaire recipients were asked to comment on the comparability of the two categories of LPTs proposed by respondents. These comments are included in appendix E of this report.

[55] Petitioners' prehearing brief, p. 3.

[56] HHI adopts and incorporates the like product discussion from Hyosung's prehearing brief. Respondent HHI's prehearing brief, p. 4. Respondent Hyosung's prehearing brief, pp. 8-9.

[57] Petitioners' prehearing brief, p. 4. Hearing transcript, p. 17 (Blake).

[58] Petitioners' posthearing brief, Responses to Commission questions, p. 10.

critical and peaking generation projects, whereas the vast majority of Category B GSUs involve critical base load generation plants; and (4) Category B units are held to a higher quality standard and are scrutinized much more by customers.[59]

Manufacturing Facilities and Production Employees

Petitioners contend that production facilities and workers do not provide a bright line between the two categories of LPTs proposed by respondents because four producers (Efacec, SPX Waukesha, ABB, and PTTI) have the capacity to produce both categories of LPTs within the same facilities using the same manufacturing processes and workers.[60] Petitioners maintain that the domestic industry currently has the ability to quote and build every LPT listed in appendix F of the staff report.[61]

Respondents assert that there is a threshold between the two categories of LPTs beyond which additional production facilities, equipment, experience, and knowhow are required. Respondents maintain that due to the extra design and manufacturing requirements, Category B units require a more advanced type of factory with sufficient crane capacity, processing equipment, assembly platforms, testing equipment, and overhead clearance in the shop.[62]

Interchangeability

Both petitioners and respondents agree that LPTs in both categories are not interchangeable unless built to the exact same specifications.[63]

Customer and Producer Perceptions

According to petitioners, there is a consensus in the domestic industry among producers and customers that all power transformers above 60 MVA are large power transformers suited for high voltage electric transmission systems (60 to 800 kV). Petitioners maintain that there is no published industry standard differentiating LPTs in the categories proposed by respondents and that customers order each LPT based on unique specifications tailored to a specific application.[64] Petitioners cite common considerations for LPTs beyond MVA rating and high line voltages that can be included in a customers' specifications, including types of load tap changers, basic insulation levels requirements, short circuit requirements, impedances, noise levels, and the location of an LPT.[65]

Respondent Hyosung acknowledges that there is no published distinction between the two categories of LPTs.[66] However, respondent Hyosung contends that customers understand the differences between the two categories. Furthermore, they contend that units in Category B are manufactured for much more critical purposes than units in Category A.[67]

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[59] Respondent Hyosung's prehearing brief, p. 15. Respondent Hyosung's posthearing brief, Responses to Commission questions, p. A-39. Hearing transcript, p. 181 (Neal).

[60] Petitioners' posthearing brief, Responses to Commission questions, pp. 12-13.

[61] Petitioners' prehearing brief, p. 14. U.S. firms that reported production of Category B LPTs over the period include: ***. Table D-2.

[62] Hearing transcript, pp. 146-147 (Neal), 182-183 (Neal). Respondent Hyosung's posthearing brief, Responses to Commission's questions, p. A-40.

[63] Petitioners' posthearing brief, Responses to Commission questions, p. 12. Respondent Hyosung's posthearing brief, Responses to Commission questions, p. A-39.

[64] Petitioners' prehearing brief, pp. 10-12.

[65] Petitioners' posthearing brief, Responses to Commission questions, p. 11.

[66] Hearing transcript, p. 211 (Connelly).

[67] Petitioners' posthearing brief, Responses to Commission questions, p. 12. Respondent Hyosung's posthearing brief, Responses to Commission questions, p. A-41.

Channels of Distribution

Both petitioners and respondents agree that LPTs in both categories may be sold in the same channels of distribution, i.e., utilities and power transmission companies.[68]

Price

Petitioners maintain that prices do not distinguish units in the two categories from one another and contend that the amount of engineering, development, testing, delivery, and expenses varies greatly by transformer and is not tied directly to MVA and high line voltages. Petitioners cite a number of common specifications that might influence the price of an LPT, including the use of tap changers, winding specifications, basic insulation levels requirements, seismic requirements, impedances, noise levels, and the location of an LPT.[69]

Respondents contend that some customers separately bid out Category A and Category B LPTs and pay much more on average for Category B LPTs.[70] Respondent Hyosung cites the differences in the average price of HICO's Category B transformer in 2011 (***) with its average price of its Category A in 2011 (***).

[68] Petitioners' prehearing brief, p. 9. Respondent Hyosung's prehearing brief, p. 20.
[69] Petitioners' posthearing brief, Responses to Commission questions, p. 14.
[70] Hearing transcript, p. 147 (Neal).

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

INTRODUCTION

The LPTs subject to this investigation are components used in high voltage electrical power transmission system. LPTs transfer power by electromagnetic induction between circuits at the same frequency, usually by changing values of voltage and current. They are used to increase, transfer, or decrease the output voltages being transmitted. LPTs are expensive pieces of capital equipment, typically costing millions of dollars, that are expected to last 15 to 40 years.

Each LPT is built to order for the specific application and situation dictated by the purchaser, and can vary in physical characteristics, power ratings, line voltages, and other characteristics. These purchasers request quotes from suppliers incorporating precise specifications. These are highly detailed documents, and LPT producers invest a significant amount of time reviewing the specifications, costing out the elements of design and putting together a formal bid.[1] All producers and responding importers reported that bids for LPTs also include other services such as warranties, and transportation and installation. In most cases, suppliers only have one opportunity to bid on a particular contract.[2]

Purchasers include investor owned utilities, public utilities, electrical cooperative power plants, contractors (e.g., engineering and construction companies and project developers), and industrial users. Some of the large investor-owned utilities set up what are called blanket agreements, alliance agreements, framework agreements, or memoranda of understanding, which establish long-term alliances for specific suppliers. These alliances are typically for periods of two to five years, provide advantages to both parties, and may help to give a participating supplier an increased chance of successful bidding over that period of time. Both U.S. producers and suppliers of LPTs from Korea participate in such agreements. The benefit for the utility is that once it buys one transformer from a supplier, with a specific design, additional LPTs can be produced and shipped more rapidly. Sales under these alliances reportedly account for a "significant" percentage of sales of LPTs.[3]

CHANNELS OF DISTRIBUTION

During January 2009 through March 2012, *** sales by U.S. producers, and *** sales by importers from Korea went to end users. Sales of nonsubject imports from all sources *** to end users; between *** percent were sold to distributors in 2009-2011 and the first quarter of 2012.

GEOGRAPHIC DISTRIBUTION

U.S.-produced and imported LPTs from Korea and nonsubject sources are sold throughout the United States. All six U.S. producers[4] sell throughout the continental United States and five noted selling in Alaska, Hawaii, Puerto Rico, and/or the U.S. Virgin Islands. Both of the largest importers from Korea and three importers from nonsubject sources ***. Of the other three responding importers, one importer

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[1] Open bids are more common with public utilities while closed bidding is more common with private utilities, Conference transcript, (Neal), p. 118.

[2] Responses to producer and importer final phase questionnaires (see Part V) and Conference transcript, p. 40 (Newman).

[3] Conference transcript (Newman) p. 34, (Blake) p.85, (Neal) p. 118.

[4] This part generally includes the answers received from all producer, importer, and purchaser final phase questionnaires. Not all firms responded to all questions. Therefore, tabulations of responses may not be consistent throughout this report.

from nonsubject sources sells throughout the continental United States and two importers from nonsubject sources sell only in the Midwest and on the Pacific Coast.

SUPPLY AND DEMAND CONSIDERATIONS

Supply

The U.S. LPT market is supplied by domestic production, imports from subject countries, and imports from nonsubject countries. Due to the nature of suppliers entering the market only to bid, no producer or importer indicated that they had been unable to supply the U.S. market since 2009.

U.S. Supply

Based on available information, the U.S. LPT industry has the ability to respond to changes in demand with large changes in the quantity of shipments LPTs to the U.S. market. The main contributing factor to this degree of responsiveness of supply is substantial excess capacity, as inventories are not maintained, and exports are a relatively small portion of overall sales.

Industry capacity

During 2009-11, the industry's capacity increased from 43,346 MVA in 2009 to 50,200 MVA in 2010 and 59,439 MVA in 2011. Capacity was also greater in the first quarter of 2012 (19,168 MVA) than in the first quarter of 2011 (14,632 MVA). Its capacity utilization rate, decreased, however, from 47.2 percent in 2009 to 38.7 percent in 2010 before increasing to 40.5 percent in 2011. It was 33.6 percent in interim 2012, compared with 32.2 percent in interim 2011.

Producer *** reported that Efacec opened a plant in Georgia in 2009 that reportedly can produce shell and core type transformers; SPX Waukesha completed an expansion of its plant in 2010; and in late 2010/early 2011, Hyundai, Mitsubishi, and Delta Star announced new facilities or expansions of current facilities.[5] Four of six producers and seven of eight responding importers noted that the availability of domestically produced LPTs has increased since 2009.[6] Four of six producers and six of eight responding importers anticipate increases in domestic LPT supply availability in 2012 and 2013; only *** anticipated a decrease in domestic LPT supply availability.

Alternative markets

During 2009-11, exports as a share of total shipments ranged from a low of *** percent in 2010 to a high of *** percent in 2011. During January-March 2012, exports accounted for *** percent of total shipments as compared to *** percent in January-March 2011. When U.S. producers were asked how easy it would be to shift their sales to alternative country markets, all firms indicated that it would be difficult due to such factors as the lack of a sales organization and established customers, formal and informal trade barriers, transportation issues and costs, pricing from low-cost countries such as India and China, and differing technical standards.

[5] Delta Star's expansion plans are currently on hold. *See* Part III of this report.

[6] The other responding producer indicated that availability of domestic LPTs had fluctuated since 2009.

Inventory levels

U.S. producers do not maintain inventories of LPTs.[7]

Production alternatives

*** of the U.S. producers reported that they also make power transformers f less than 60 MVA (which are not subject to this investigation) using the same equipment and machinery used in the production of LPTs.

Supply of Subject Imports to the U.S. Market

Based on available information, the Korean LPT industry has the ability to respond to changes in demand with *** changes in the quantity of shipments of LPTs to the U.S. market. The main contributing factors to this degree of responsiveness of supply are ***.

Industry capacity

During 2009-11, annual Korean capacity increased from *** MVA in 2009 to a high of *** MVA in 2011. Capacity is projected to reach *** MVA for 2012 and *** MVA for 2013. During 2009-11, capacity utilization rates increased from *** percent in 2009 to a high of *** percent in 2010, before decreasing to *** percent in 2011. Capacity utilization was *** percent in the first quarter of 2012, compared with *** percent in the first quarter of 2011.[8] Capacity utilization is projected to reach *** percent in 2012, but decrease to *** percent in 2013.

Four of five responding producers and five of nine importers noted that the availability of supply of LPTs from Korea has increased since 2009.[9] Responses were the same for producers and importers with respect to Korean LPT supply availability in 2012 and 2013, except for ***, which indicated that it believes Korean LPT supply availability will decrease.

Alternative markets

During 2009-11, Korea's combined home market shipments and exports to markets other than the United States consistently accounted for between *** and *** percent of its total shipments. During January-March 2012, these combined shipments accounted for *** percent of the total, compared with *** percent in interim 2011. These combined shipments are projected to reach *** percent of total shipments in 2012 and *** percent in 2013. Korea is currently the *** market for transmission and distribution transformers.[10]

When importers were asked how easily they could shift sales of LPTs between the United States and alternative country markets, ***. Respondent Hyosung indicated that, according to one industry

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[7] Conference transcript, p. 80 (Kerwin).

[8] ***.

[9] *** was the sole producer and *** was the sole importer that indicated the availability of Korean LPTs had decreased since 2009. *** stated that Korean LPT supply availability had not changed.

[10] Petitioner's prehearing brief, exh. 29.

study, the compound annual growth rates for all power transformers in China and India in 2010-2015 are expected to be *** percent and *** percent, respectively.[11]

Inventory levels

In general, inventories were very low for LPTs in Korea. During 2009-11, the ratio of inventories to shipments held by the Korean producers increased from *** percent in 2009 to *** percent in 2011. During January-March 2012, the ratio was *** percent as compared with *** percent in January-March 2011. The ratio is projected to be *** percent at the end of 2012 and *** percent in at the end of 2013.[12]

Production alternatives

*** reported making power transformers of less than 60 MVA on the equipment and machinery used to produce LPTs.

Supply of Nonsubject Imports to the U.S. Market

LPTs are imported from a number of different countries. Based on official landed duty-paid value import statistics, nonsubject countries accounted for 67.9 percent of all imports of LPTs in 2009-2011.[13] The largest source of nonsubject imports during 2009-2011 was Mexico, which accounted for 16.2 percent of imports. The next largest sources were Canada (10.8 percent), Austria (10.3 percent), the Netherlands (6.0 percent), and Brazil (5.0 percent).

Two of four producers and five of six importers noted that the availability of supply of LPTs from nonsubject countries has increased since 2009.[14] Additionally, three of four responding producers and five of seven responding importers indicated that they believe nonsubject LPT supply availability will increase in 2012 and 2013.

Demand

U.S. Demand

Demand Characteristics

LPT demand is driven by the need to replace aging infrastructure, as well as in the construction of new generation facilities and transmission lines. Over 2009-11, the largest increase in newly-installed

[11] Respondent Hyosung's posthearing brief, p. A-73

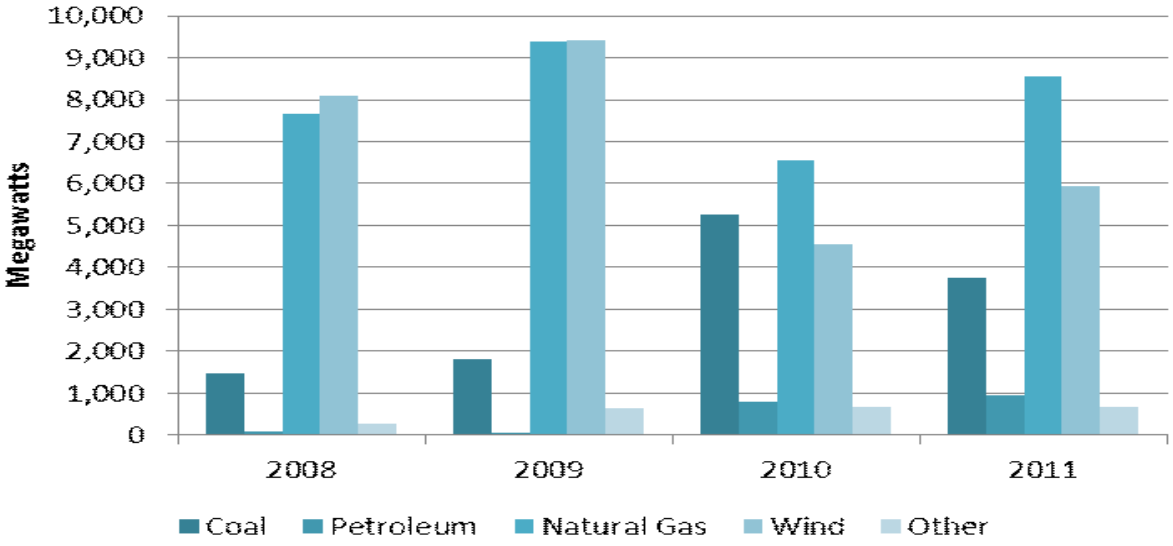
[12] Korean inventories "reflect finished units in transit to purchasers in response to previous bid awards." Respondent Hyosung's posthearing brief, p. 1.

[13] These data are based on import data contained in HTS subheadings 8504.23.0040 and 8504.23.0080, and do contain some data for transformers smaller than 60 MVA in 8504.23.0040. However, this effect may not be very large, as more than 83 percent of transformers imported under these HTS subheading in 2009-2011 were imported under 8504.23.0080.

[14] The other two responding producers indicated that there had been no change in availability of nonsubject LPTs and one importer each indicated nonsubject supply availability that had either fluctuated or did not change since 2009.

electricity generation came from new natural gas generation capacity (figure II-1). Federal incentives have helped play a role in increasing the amount of electricity generated via wind farms, though the scheduled expiration of these incentives at the end of 2012 may decrease the number of new wind power facilities that would demand LPTs.[15] Due to lags associated with project financing, land lease and permits, turbine assembly, and project construction, "typical U.S. wind projects require 18 months of policy certainty."[16]

Figure II-1
New generator additions: Net summer capacity, by fuel type, 2008-2011



Source: Energy Information Administration, "Capacity Additions, Retirements and Changes by Energy Source."

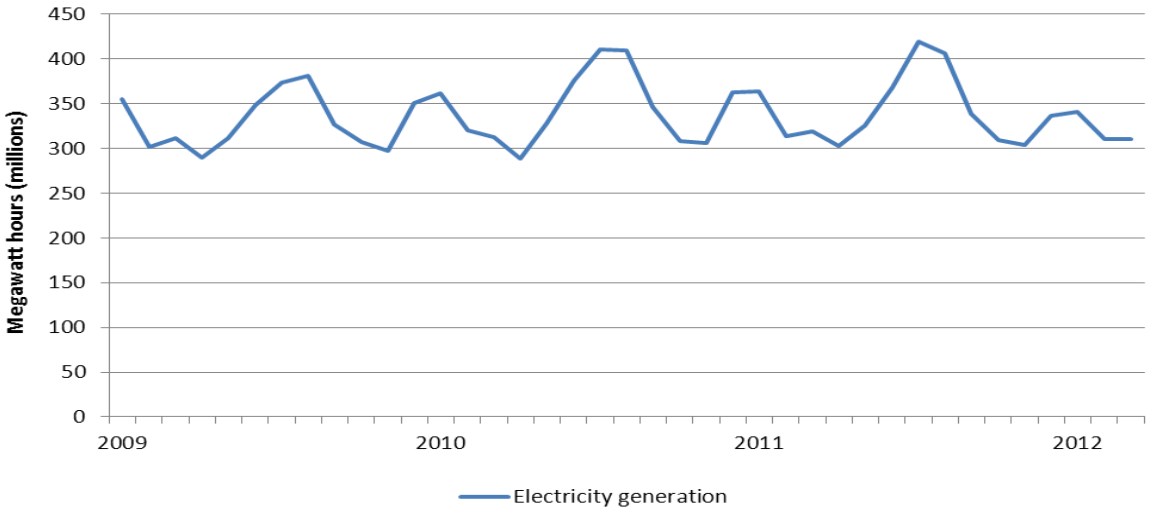
[15] Petitioner's posthearing brief, exh. 20. The Production Tax Credit for renewable energy was originally enacted in 1992, and applies for the first 10 years of electricity production. Before 2005, it had previously had been extended only for one- or two-year terms, making a long-term investment a more risky proposition. It has been allowed to expire, however, but not since 2004. During that year, less than 500 megawatts of wind power generating capacity was installed. In 2005 and 2006, this increased to just over 2,000 megawatts of new wind power capacity. In October 2005, the expiration date for the Production Tax Credit was extended to the end of 2007. As a result, new wind power generation installations more than doubled in 2007, to over 5,000 megawatts. New wind power generation continued to expand in 2008 and 2009. The American Recovery and Reinvestment Act was signed into law in February 2009, and extended the tax credit until the end of 2012. Despite the extension, newly installed generation capacity dropped in 2010 (despite an increase in coal-powered newly installed capacity). *See* http://www.newwindagenda.org/ptc.html, retrieved July 19, 2012, and http://dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F, retrieved July 19, 2012.

[16] American Wind Energy Association press release, April 25, 2012, submitted in Petitioner's posthearing brief, exh. 20.

New generator additions serve to increase the U.S. generation and transmission capacity.[17] Accordingly, as a more general proxy for downstream demand, the overall U.S. demand for LPTs is reported to generally depend on the demand for electric power and other variables, including industrial construction and housing starts.[18] In general, these indicators reflect fluctuating demand with no strong trend.

Monthly levels of total electricity generation from all sources for the period January 2009 through March 2012 are shown in figure II-2. Other than frequent month-to-month fluctuations due to seasonal factors, no clear trend is evident. Data from the U.S. Energy Information Administration indicate that net electricity generation decreased between 2010 and 2011, from 4.125 billion megawatt-hours to 4.105 billion megawatt-hours in 2011. For the period January-March 2012, net electricity generation was 961 million megawatt-hours, compared with 996 million megawatt-hours in the same period of 2011.

Figure II-2
Electric power generation in the United States: Monthly, January 2009-March 2012



Source: Energy Information Administration, "Net Generation by Energy Source."

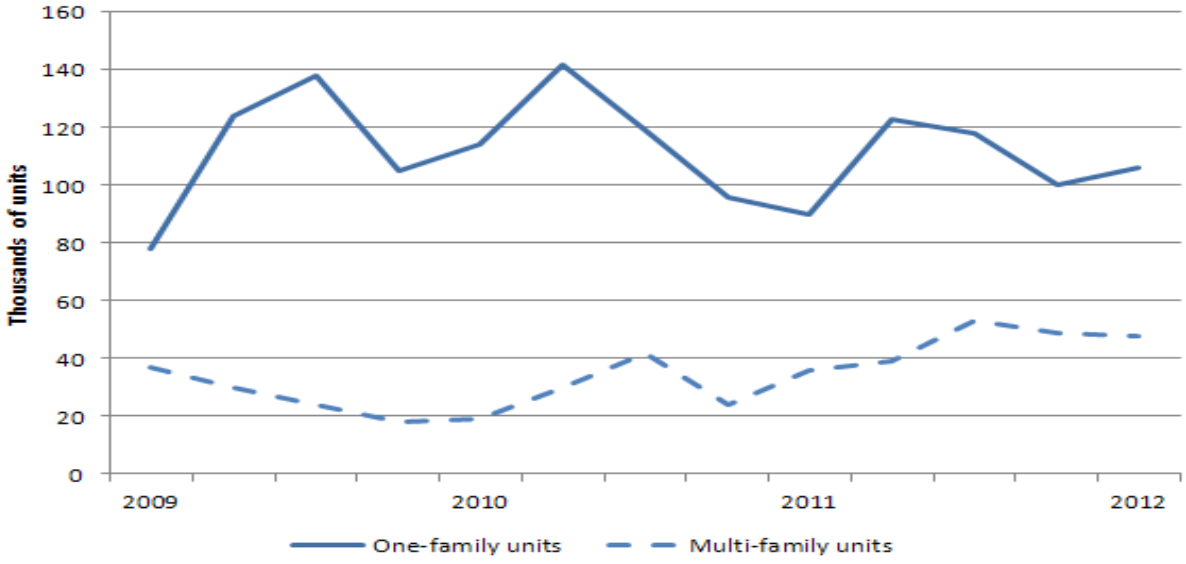
Monthly new housing starts for single-family units declined irregularly between the second quarter of 2009 and the first quarter of 2012, while multiple family units, in particular those of 20 or more units per building, increased during that time (figure II-3). Each unit in a multi-unit building may use less electricity per unit as it has less square footage and the total number of multi-family units is smaller,[19] which means that demand for electricity (and therefore LPTs) will be more influenced by the number of single-family housing starts than the number of multi-family housing starts.

[17] LPTs are generally used for electricity generation and transmission. Smaller transformers are generally used for electricity distribution. Hearing transcript, pp. 16-17 (Blake).

[18] Conference transcript, p. 88 (Mucha)

[19] The median square footage for a single-family unit was approximately twice as much as for a multi-family unit, and would, therefore, need more electricity to cool the unit in the peak summer period.

Figure II-3
Housing starts: Quarterly housing starts, by residential unit type, January 2009-March 2012



Source: U.S. Census Bureau, "New Privately Owned Housing Units Started in the United States by Purpose and Design."

Business Cycles

Three of 6 producers, 6 of 9 importers, and 57 of 74 responding purchasers noted that demand for LPTs varies with the general economic cycle of the United States. When asked whether the LPT market is subject to business cycles (including seasonal business) distinctive to LPTs, two producers answered "yes" and three answered "no." Among the nine responding importers, six answered "yes" and three answered "no." About half (36 of 72) of the responding purchasers replied that the LPT market is subject to cycles that differ from the general U.S. economic cycle.

When asked to explain the nature and duration of business cycles and conditions of competition, responses were varied. One producer reported that the replacement market is influenced by the aging installed base of transformers. One importer reported that the market is subject to the construction cycle in the spring and summer. Producer *** stated that the LPT cycle may lag the general business cycle a bit, and that there are long-term trends affecting LPT demand: significant investment in the U.S. electricity grid was made in the 1950s through 1970s, then was very low in the 1990s until deregulation caused an expansion in electricity generation. Furthermore, though demand from new generation facilities has weakened since Enron collapsed, replacement of aging LPTs has been increasing and are leveling off at about *** LPTs per year. Producer *** stated that new nuclear generation plant openings have decreased, and that renewable power tax credits will end at the end of 2012, both of which impact the LPT demand cycle.

Among purchasers, 13 noted that grid-specific conditions such as transformer wear out/failure and future energy demand are industry-specific factors that influence demand for LPTs and three reported that the planned replacement of LPTs is a factor. Nine purchasers stated that the LPT demand cycle is driven by the cost of raw materials: copper, grain-oriented electrical steel, and oil. Five reported that government initiatives such as incentives, regulations, and environmental compliance affect the demand cycle for LPTs. Four purchasers stated that the demand cycle for LPTs is project-driven, and three noted a seasonal component - e.g., increased demand in the spring and summer.

Industry participants were also asked if there are conditions of competition specific to the LPT industry. Fifty-seven purchasers responded that there are not any, but 13 reported some. Whereas some responses mirrored those noted above regarding demand cycles, some purchasers noted the long lead times necessary for LPTs, decisions made based on the producer's technical and physical ability to make the product,[20] and competition "as required by Texas state law."[21]

When asked whether the business cycle or conditions of competition in the LPT industry have changed since 2009, the majority of both producers and importers answered "yes." Changes frequently cited by producers and importers were the expansion of imports from Korea and China into the U.S. market and the construction of new facilities by U.S. producers and foreign firms in the United States. About half of purchasers (34 of 71 which responded) indicated that the business cycle or conditions of competition in the LPT industry have changed since 2009.[22] A number of purchasers also indicated the same and other changes: the entrance of new participants in the market; U.S. plant openings, expansions, and closures; increased demand due to a greater number of renewable energy and other large transmission and infrastructure projects; the general economic downturn; the competitiveness of transformer manufacturers in China and Taiwan; a surplus of global LPT manufacturing availability; and volatility in the raw material markets.

Contracts for Multiple Shipments

U.S. producers estimated that between 1 and 40 percent of the LPTs that they sell are pursuant to contracts for multiple units. Typically, these contracts are for two or three units, though *** estimated that its multiple-shipment contracts are for between two and five units. Three producers noted that prices could be re-negotiated during the contract period absent a change in specifications, while the other three producers stated that prices cannot be renegotiated. One producer noted that it "sometimes" occurs, three noted that it "rarely" occurs, and two stated that renegotiations "never" occur.[23]

Two U.S. importers did not sell via contracts for multiple shipments, whereas six importers noted selling between 1 and 40 percent of the LPTs they import pursuant to contracts for multiple units. All responding importers noted that these contracts are for two or three units. Four importers noted that prices could be renegotiated during the contract period absent a change in specifications, while the other three importers noted that prices cannot be renegotiated. Similar to producers, one importer indicated it "sometimes" occurs, four noted that it "rarely" occurs, and two stated that renegotiations "never" occur.

Foreign producer *** stated that *** percent of its shipments are due to contracts for multiple shipments, while foreign producer *** reported that *** percent of its production is pursuant to contracts for multiple shipments. *** stated that on average, a multiple-shipment contract is for *** units. ***

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[20] One purchaser, ***, noted in its questionnaire response that "The LPT foreign market has had a monopoly on 500KV class transformers sized at 60 MVA and larger because no US factories were producing this voltage class (500KV) and larger until 2010. New US factories can now produce this type of transformer, 500KV or even higher such as 765KV."

[21] *** purchaser questionnaire response.

[22] Purchaser *** started its description in 2008: "Pricing and lead times reached their highest point in our procurement history in 2008. Beginning in Fall 2008, both pricing and lead times dropped precipitously to less than half of the 2008 peak. Based on recent bid activity, *** has noticed that the market appears to be slowly recovering, with pricing and lead time starting to increase, albeit nowhere near the 2008 highs." Purchaser *** stated that it had not seen any changes since 2009, but it "did see an increase in Korean supplied LPTs due to price competitiveness starting late 2005 but slowing by 2009. Since 2009, however no real changes in the LPT marketplace or competition that we can see. It may be due however to the slower activity that we've seen as a company."

[23] Though producer *** stated that prices are not renegotiable in a contract, it indicated that these renegotiations occur "rarely."

noted that prices could be renegotiated during the contract period and, when asked how often it occurs, *** indicated that it happens "sometimes."

Apparent Consumption

Apparent U.S. consumption of LPTs decreased from *** MVA in 2009 to *** MVA in 2010, but increased to *** MVA in 2011. During January-March 2012, apparent consumption was lower, however, at *** MVA as compared with *** MVA in January-March 2011. On a unit basis, the trend is similar for 2009-2011 (*** units in 2009 decreasing to *** units in 2010 before increasing to *** units in 2011). More units were purchased in the first quarter of 2011 than in the first quarter of 2012, however (*** units, compared with *** units). The average MVA per unit increased from 197.6 MVA/unit in 2009 to 217.1 MVA/unit in 2010 and 220.6 MVA/unit in 2011, demonstrating the increased demand for larger transformers noted by respondents.[24] The average MVA per unit was the same in interim 2011 and 2012 (230.2 MVA/unit).

Demand Perceptions

When producers, importers, and purchasers were asked how U.S. demand within the United States for LPTs had changed since January 2009, responses were varied (table II-1). Trends in the U.S. economy, the residential and nonresidential construction industry, as well as lower capital budgets, access to credit, and increased conservation measures were all cited as factors negatively affecting demand for LPTs. Increased renewable energy projects, increases in population, an aging infrastructure, and federal tax incentives were all noted as factors leading to increased demand for LPTs.

Table II-1
LPTs: Firms' perceptions of U.S. LPT demand, by respondent type

Firm type	Increase	No change	Decrease	Fluctuate
	(Number of firms responding)			
How demand has changed in the United States since January 2009:				
Producer	1	1	3	1
Importer	2	2	3	2
Purchaser	17	13	13	12
How demand for purchasers' energy changed:				
Purchaser	26	19	9	17
How you anticipate demand changing in the United States in 2012 and 2013:				
Producer	2	3	0	1
Importer	2	6	0	1
Purchaser	28	19	5	5

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

[24] Hearing transcript, p. 185 (Connelly).

Purchasers were also asked how demand for energy had changed since 2009 (table II-1) and if the change in the demand for energy had affected the firms' demand for LPTs. Purchasers reporting increased energy demand typically reported it was the result of load growth or green energy growth. Purchasers reporting "no change" typically reported it was the result of a slowing economy. Decreases were typically reported to be the result of the recession and fluctuations were typically reported as due to the economy, market cycles, and weather. Most purchasers (42 of 71 responding) reported changes in energy demand had not their affected demand for LPTs. For the 29 firms that responded that demand for energy had affected their demand for LPTs, the growth of wind farms or increased load demand were typically cited as the reason for their increased demand for LPTs, while a slowing U.S. economy was typically cited as the reason for reducing the purchaser's demand for LPTs. Sixteen of 71 responding purchasers reported that their demand had changed since 2009 as a result of changes in the replacement rate of aging transformers. Other changes were also reported by 15 of 46 remaining responding purchasers; these responses noted an increasing system reliability, different projects, and the economy as other factors affecting demand since 2009.

With respect to anticipated LPT demand in 2012 and 2013, responses were less mixed. Most producers, importers, and purchasers expect LPT demand in the United States to either increase or not change in 2012 and 2013. A recovering U.S. economy, needed construction of generation capacity and substations, replacement of aging infrastructure, and the continued construction of renewable energy projects were all noted as reasons for an expected increase. Producer SPX Waukesha noted in its first quarter 2012 earnings conference call that it is "basically sold out for 2012 and {is} now taking orders for delivery in 2013.[25]

Both petitioners and respondents have pointed to Edison Electric Institute's ("EEI") demand statistics and projections. EEI stated that "Coupled with the recent completion and/or delay of major transmission projects, EEI currently projects a flattening or possible decrease in transmission investment through 2014, as compared to the projected 2012 level. Nevertheless, these projected 2011-2014 figures are significantly higher than the actual 2010 transmission level, and are a sign of a continuing increase in transmission investment by EEI's members."[26]

Substitute Products

When asked whether other products can be substituted for LPTs, all U.S. producers and importers answered no. Only one of 78 responding purchasers noted the existence of a substitute for LPTs: "multiple smaller transformers."[27]

Cost Share

LPTs can account for a substantial share of the final cost of the end-use products in which they are used, though purchaser estimates ranged widely.[28] This wide range may be due to the fact that each LPT is unique and costs from project to project and from supplier to supplier depend upon product specifications and many other factors. Replies ranged from 1 to 62 percent for a distribution substation, 0.1 to 90 percent for a generator substation, 3.6 to 53 percent for a transmission line substation, and 0.4 to 40 percent for a wind farm. The median cost shares for these types of LPT usage were 24 percent for a

[25] Presented as Respondent Hyosung's posthearing brief, exh. 2.

[26] "Transmission Projects: At a Glance," Edison Electric Institute, March 2012, p. iii, included as HICO prehearing brief, exh. 7.

[27] *** purchaser questionnaire response.

[28] Producer and importer estimates are available, but are not presented, as purchasers have more direct knowledge of the cost share estimates than producers or importers do.

distribution substation, 15 percent for a generator substation, 25 percent for a transmission line substation, and 2 percent for a wind farm.[29]

No producers or importers indicated that there have been any changes in end uses for LPTs since 2009, nor do any anticipate any changes in 2012 or 2013.[30]

Demand Outside the United States

Producers, importers, and purchasers were asked to describe how demand has changed since 2009 outside of the United States and how they anticipate it will change in 2012 and 2013. Responses were mixed with respect to how demand has changed (table II-2). All producers and importers, and a large majority of purchasers, expect demand outside the United States to either increase or not change in 2012 and 2013. Anticipated increases were most frequently noted as occurring in emerging and key markets such as China. Replacement of aging infrastructure, continued construction of renewable energy projects, and a recovering world economy were noted as reasons for an expected increase.

Table II-2
LPTs: Firms' perceptions of demand outside the United States, by respondent type

Firm type	Increase	No change	Decrease	Fluctuate
	(Number of firms responding)			
How demand has changed outside the United States since January 2009:				
Producer	2	0	1	0
Importer	2	0	3	1
Purchaser	10	10	5	8
How you anticipate demand changing outside the United States in 2012 and 2013:				
Producer	2	1	0	0
Importer	3	4	0	0
Purchaser	16	14	1	3

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

SUBSTITUTABILITY ISSUES

The degree of substitution between domestic and imported LPTs depends upon such factors as relative prices, quality (e.g., grade standards, reliability of supply, defect rates, etc.), and conditions of sale (e.g., price discounts/rebates, lead times between order and delivery dates, payment terms, product services, etc.).

[29] These data exclude responses which included a cost share of 0 percent or 100 percent.

[30] Importer *** stated that legislation would reduce LPT demand in wind farm applications, but did not indicate any changes in end uses.

Purchaser Characteristics

Questionnaires were sent to 130 purchasers of LPTs. Questionnaire responses were received from 87 purchasers, with 82 reporting that they had purchased LPTs since January 1, 2009.[31] Twenty-one purchasers reported that they were public utilities, 36 were investor utilities, 2 were industrial users, 10 were engineering/construction companies/power project developers, and 15 were others including independent power producers, cooperatives, privately held utilities, wind farm owners, and a government marketing administration.[32] Responses from these purchasers account for roughly one billion dollars (89.3 percent) of commercial shipments of LPTs in each year of 2009-11.

On average, purchasers noted contacting three to six suppliers before making a purchase, although some purchasers may contact as few as 1 and as many as 25 suppliers. Most purchasers (71 of 80) reported that they did not purchase LPTs on a regular schedule, with most reporting purchases as needed or based on projects. Some larger utilities purchased more than 10 units in January 2009-March 2012, while other purchasers made only one purchase. Sixteen purchasers reported changes in purchase patterns since 2009. A number of purchasers stated at least one reason for their change. These reasons include: growing demand because of ***, updating equipment, and similar changes, as well as decreased purchases because firms are building fewer power plants.[33]

Knowledge of Country Sources and Suppliers

Sixty-seven purchasers noted familiarity with LPTs from the United States, whereas 57 stated they are familiar with LPTs from Korea. In addition, 52 purchasers are familiar with LPTs from a variety of nonsubject countries: 44 are familiar with LPTs from Mexico; 29 from Canada; 21 from Brazil; 13 from Japan; 12 from the Netherlands; 11 from Austria; 10 from China; 9 from Germany; 8 from Portugal; 7 from Spain; 5 from Taiwan; 4 each from Colombia, Israel, the UK, and Sweden; 2 from India; and 1 each from Italy and Thailand.

A majority of (48 of 81) responding purchasers reported that they were aware of new suppliers that had entered the market since January 2009. Most of these listed at least one new U.S. supplier, while a few became aware of firms in other countries including Brazil, Canada, China, Korea, and Portugal.

Most purchasers (70 of 81) typically maintain more than one qualified supplier of LPTs at any time. Multiple suppliers were most frequently reported to be maintained in order to provide price competition. However, other reasons cited by purchasers include: reduced supply risk; flexibility/choice; scheduling/delivery; factory loading; competition in terms of quality; availability if main supplier is not able to provide; multiple suppliers provide more information on technologies available; and different suppliers are needed for the different types of LPTs required.

Maintaining a number of qualified suppliers can lead to an increased ability to change suppliers. Twenty-six of 79 purchasers indicated that they had changed suppliers since 2009. Some purchasers reporting adding suppliers because the firms had provided competitive bids (reported for producers in Taiwan and Colombia) and an increased desire to maintain a greater number of suppliers (for suppliers from the United States, Korea, Austria, and Portugal). Purchasers reported that they had dropped producers from the United States, France, Mexico, Japan, and Brazil because of technical and other problems.

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[31] Not all purchasers responded to all questions. Responses are compiled and presented only for those that provided an answer to a given question.

[32] Three purchasers reported they were in two categories, one was both a power plant developer and "other," one was both a public utility and an investor utility, and one was both an investor utility and "other."

[33] In addition, a number of firms reported that their purchase patterns had changed: due to the small number of LPTs they purchased, purchasing one would even be a change.

The value of LPTs that purchasers reported buying in 2009-11 accounted for up to 89.3 percent of apparent consumption (table II-3).[34] The majority of purchases reported were of LPTs imported from Korea. Purchasers were asked about their general purchase patterns since January 2009 (table II-4).

Table II-3
LPTs: Purchasers' reported purchase values, by country, 2009-11

	2009	2010	2011
	Values in $1,000		
United States	84,498	103,378	120,187
Korea	287,930	372,556	436,725
Mexico	113,240	120,861	50,252
All other sources	476,522	459,349	390,777
Total	962,191	1,056,144	997,941

Note.–These data may include a small amount of LPTs that are smaller than 60 MVA; as such, these data should be interpreted as a maximum value.

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

Table II-4
LPTs: Reported purchase pattern changes since January 2009, by country

	Decrease	Increase	No change	Fluctuate	No purchases
Purchase source:	(Number of purchasers)				
United States	6	16	15	11	32
Korea	9	21	10	11	28
Mexico	7	7	10	8	46
Other countries	13	14	11	10	29

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

Since many purchasers only purchased a limited number of LPTs since 2009, the majority of purchasers had no purchases from at least one country. A plurality of purchasers noted increasing their purchases from the United States, Korea, and nonsubject countries other than Mexico. Among those that had indicated a change in their purchasing patterns, 16 of 33 purchasers increased their domestic purchases of LPTs, 21 of 41 increased their purchases of LPTs bought from Korea, 7 of 22 increased their purchases of LPTs imported from Mexico, and 14 of 37 increased their purchases of LPTs imported from other nonsubject countries. Though purchasers noted that their purchases had generally increased or decreased due to changes in markets/the economy, a large number of them noted that their LPT purchases are based on fluctuations in the need for LPT replacements and the flow of new projects.

[34] Universal shipment and import data were not received by the Commission, and some purchases may have come from suppliers unaccounted for in importer and producer questionnaire data.

Among the 23 purchasers that reported reasons for purchasing from only one country, six reported having purchased only one LPT in January 2009-March 2012. Other reasons noted by purchasers included: receiving the best offer for a number of LPTs from a single producer; that the product was available only from import sources; a relationship with a producer; and the desire to purchase units identical to existing LPTs.

Long-term Supply Agreements

Twenty-nine of 80 purchasers noted that they maintain blanket agreements, alliance agreements, master contracts, or any other type of long-term supply agreement.[35] Twenty-seven of these purchasers reported at least one reason for maintaining blanket agreements. The reasons they stated include: for the provision of duplicate units; collaboration leading to robust designs for transformers; reducing lead times; to ensure quality and supply; service level assurance; volume discounts; and to reserve slots. These agreements typically do not require the purchaser to buy from the supplier within the relevant time frame. Three of forty responding purchasers with alliance agreements noted that their agreements require a purchase.[36] Purchasers can maintain more than one alliance partner at a time, sometimes splitting agreements based on transformer size.[37]

Petitioners stressed the importance of alliance agreements, noting that they each can account for a large amount of revenue gained or lost.[38] At the hearing, petitioners referenced Hyundai's 2010 annual report, which stated that its alliance agreement with Southern California Edison is worth $600 million over 10 years.[39] Respondent Hyosung noted, however, that alliance agreements do not require a purchase, and that purchasers buy from non-alliance suppliers even when in an alliance agreement with another supplier.[40] Eight of 41 responding purchasers with alliance agreements noted that the agreements are exclusive.[41] In addition, 56 of 79 responding purchasers identified the "availability of blanket agreements" as "not important" in their purchasing decisions (compared with 15 identifying it as "somewhat important**"** and 5 as "very important.")

Factors Affecting Purchasing Decisions

Purchasers were asked a variety of questions to determine what factors influence their decisions when buying LPTs. Information obtained from their responses indicates that several factors are considered important by purchasers, particularly meeting specifications, price (including total evaluated cost), quality, producer, services, and on-time delivery.

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[35] For the remainder of this report, "alliance agreements" will be a general term used to describe all such long-term supply agreements.

[36] These purchasers are: ***.

[37] *See, e.g.,* ***.

[38] Hearing transcript, p. 74 (Cusack).

[39] Petitioner's hearing submission, Chart 3.

[40] Respondent Hyosung's posthearing brief, pp. A-50-A-55 and A-57-A-59.

[41] These firms are: ***.

Major Factors in Purchasing

Purchasers were asked to identify the major factors considered by their firm in deciding from which firm to buy LPTs (table II-5). Twenty-eight of 78 responding purchasers reported that meeting specifications was the most important factor. Twenty-nine purchasers reported that either price or evaluated cost was the second most important factor, and 25 reported that delivery was the most important third factor. A large number of purchasers reported additional factors, but the most commonly reported factors overall were price (when combined with total evaluated cost), delivery, and the producer.

Table II-5
LPT: Ranking factors used in purchasing decisions, as reported by U.S. purchasers

Factor[1]	Number of firms reporting				
	First[2]	Second[3]	Third	Additional[4]	Total
Meets specifications	28	4	4	1	37
Price	12	17	13	3	45
Quality	14	14	6	2	36
Total evaluated cost	10	12	7	0	29
Producer[5]	9	12	11	19	51
Delivery	6	17	25	10	58
Energy losses	0	4	7	7	18
Other[6]	1	0	3	7	11

[1] Price includes price and pricing. Total evaluated cost includes total cost of ownership, best value overall and similar responses. Quality included product quality, overall quality and similar responses. Meets specifications includes technical compliance, meet engineering specifications, meets commercial terms and specifications and similar responses. Producer includes many factors relating to the producer and their services including: existing relationship; ability to manufacture required LPT; full range of MVA, voltage ratings; builds most parts in house; service; warranty; quality of manufacturing facility; design expertise; references; compliance with contract terms; and similar responses. Delivery includes schedule, lead time, delivery, on time delivery, availability, and similar responses. Energy losses include losses, energy losses, and value of energy losses.

[2] One firm ranked both quality and meeting specification as the most important factor.

[3] One firm ranked both delivery, quality, as second most important factor.

[4] Many firms reported a number of additional factors.

[5] Producer includes factors related to the producer such as quality of manufacturing facility or personnel, experience, quality control, etc.

[6] Other includes safety ranked as the first most important factor; "Buy American", payment terms, and extension of credit ranked as third most important factor. Other factors rated as additional factors include "Owner/GC requirements"; evaluation of all technical and commercial factors; acceptance of contract terms and conditions; payment terms; country of manufacturer; design to fit existing locations; and low sound output.

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

Fifty-six responding purchasers reported that they have purchased LPTs from one source though a comparable product was available at a lower price from another source. Reasons provided include: delivery time (27), quality (17), lifetime cost (16), meeting specifications (15), experience with the producer (8), technical support (7), approved manufacturer (6), warranty (5), credit/terms (4), dimensions (2), engineering/production capability of the producer (2), bid not responsive (1), low failure rate (1), "to develop a domestic supplier and to spread purchases for risk management" (1), and "do not purchase Korean product because of the distances involved" (1). A number of firms provided multiple reasons.

In addition to identifying the three most important factors influencing their purchasing decisions, purchasers were asked to assess the importance of 29 factors related to the terms of sale of the LPTs they purchase. As indicated in table II-6, complying with specifications was considered a "very important"

Table II-6
LPTs: Importance of factors used in purchasing decisions as reported by U.S. purchasers

Factor	Number of firms reporting[1]		
	Very important	Somewhat important	Not important
Availability	72	6	1
Availability of blanket agreements	8	15	56
Availability of shell transformers	5	16	58
Avail. of 345kV standard transformer > 300MVA	17	22	40
Avail. of 345kV auto transformer > 400MVA	21	19	39
Avail. of 500 or 765kV standard or auto transf. >60MVA	15	15	49
Comply with specifications	79	0	0
Delivery terms	69	9	1
Discounts offered	23	44	12
Energy loss	52	27	1
Experience with supplier	48	28	3
Expertise w/ special application engineering , e.g., core or shell design	45	27	7
Extension of credit	14	20	45
Facility capabilities	59	18	2
Length of time to fill orders	65	13	1
Lowest price	71	7	1
Operational performance records	66	10	3
Packaging	32	37	10
Product consistency	63	12	4
Product range	23	45	11
Quality meets industry standards	71	9	0
Quality exceeds industry standards	47	29	3
References	38	38	3
Reliability of supply	69	8	2
Safety policies	57	17	5
Technical support/service	64	14	1
U.S. transportation costs	40	29	10
Warranty	69	10	0
Other factor	24	1	0

[1] Not all purchasers responded for all factors.

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

factor by all responding purchasers (79 out of 79). Other factors considered very important by a majority of purchasers include: availability (72); quality meets industry standards (71); lowest price (71); delivery

terms (69); reliability of supply (69); warranty (69); operational performance records (66); length of time to fill orders (65); technical support (64); product consistency (63); facility capabilities (59); safety policies (57); energy loss (52); experience with supplier (48); quality exceeds industry standards (47); expertise with special applications engineering, e.g., core or shell design (45); and U.S. transportation costs (40). A number of factors were reported as not being important by many purchasers including: availability of shell transformer (58), availability of blanket agreements (56), availability of 500 or 765 kV standard or auto transformers above 60MVA (49); extension of credit (45); availability of 345kV standard step-up/step-down transformer above 300 MVA (40); and availability of 345kV auto transformer above 400MVA (39).

Quality

Factors that purchasers identify as determining quality include factors related to the manufacturing and engineering capabilities of the producer, factors related to the equipment itself, factors related to the total cost of ownership, and factors related to producer experience and testing.

Manufacturing and engineering capabilities include: quality of the plant staff (design and engineering capabilities; experience in plant management; craftsmanship/workmanship; design skill; employee retention rate); facilities (clean facilities, lean manufacturing process, type of drying equipment, manufacturing equipment, manufacturing capabilities, and site inspections); quality of management (quality management practices, i.e., assurance, control and improvement, from the design through the installation processes, and inspection points); service (installation, warranty, warranty repair work, on-time delivery, service track record, sales support, and responsiveness); and design (design margins, consistent design, design of active part, dielectric design, drawing accuracy and completeness, and tank design).

Factors related to the equipment itself include: meeting specifications (industry standards, all IEEE standards and testing, purchaser engineering specifications, ANSI and NEMA standards, ISO-9001 certification, and adherence to specifications); material quality (quality of components, solid connections and welds, construction quality, quality of materials, origin of raw materials, material suppliers, quality of material components, quality of materials in gauges and monitors, component manufacturers, and subcontractors used); special products (phase shifter, phase angle regulator, high impedance units, finish, mechanical features, and accessories); size (diameter, weight, fit, and small footprint); and others (dust containment, insulation, moisture containment and elimination, cooling system, and winding characteristics).

Factors related to cost of ownership include: reliability (unit reliability, expected life cycle, life expectancy, good performance, and no problems in service); losses (load and no-load losses, loss evaluation, energy loss, measure of impedance, and electrical characteristics); ease of maintenance (time to repair, maintenance training, low maintenance cost, and time between repairs); ease of installation; and constructability.

Factors relating to producer experience and testing include: testing (testing capability, test reports, testing equipment, meet performance test requirements, performance on IEEE standard tests, meet IEEE, NEMA, and ANSI standards, thoroughness of the testing, condition of testing facility, exceed all factory acceptance tests, and core form assessment); and experience (failure rates/history, reliability, references/recommendations, track record, reputation, early failures, failure rates in test floor and field, production history, history with similar transformers, delivery experience, energization experience, reasons for field failures, mean time before failures, and long-term customer supplier).

Purchasers were further asked how often LPTs from different country sources meet minimum quality standards (table II-7). Most purchasers reported that product from all countries “always” met their minimum quality standards.

Table II-7
LPTs: Number of purchasers reporting frequency of product from country sources meeting their minimum quality standards

	Always	Usually	Sometimes	Rarely	Never
United States	37	23	2	0	1
Korea	32	18	1	0	0
Mexico	25	13	3	2	2
Other	35	24	4	0	0

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

Certification/pre-qualification

Sixty-one of 81 responding purchasers reported that they required prequalification or certification for all their purchases, whereas 20 required no certification or qualification.[42] Requirements for qualification mentioned by purchasers include quality, meeting specifications, experience, cleanliness, and facility inspections. A number also reported requiring ISO certification. The time required for certification ranged from less than one day to over 4 years, with 36 of the 58 firms providing times requiring 90 days or less.

Fifty-four purchasers reported they had qualified or were qualifying producers of standard step-up/step-down transformers and 44 reported firms reported that they had qualified or were qualifying for auto transformers. Thirty-six of 77 responding purchasers reported producers had been disqualified including Hico, Hyundai, GE Prolec of Mexico, ABB of the United States, Waukesha Electric, TBEA, Areva, Crompton Greaves, Hitachi, Mitsubishi, SGB, Toshiba, Wilson Transformers, Pennsylvania Transformers, and Siemens of Brazil.

Country of origin or producer

Purchasers were asked how frequently they made purchasing decisions based on the country of origin or the producer of LPTs (table II-8). Purchasers indicated that the producer is a more important factor than the country of origin. Forty-three of 81[43] responding purchasers reported that the producer was "always" or "usually" a basis for purchasing decisions; however, 27 firms reported that the producer was "rarely" or "never" a factor. In contrast, 56 of 81[44] responding purchasers reported that they rarely or never make purchase decisions based on country of origin.

[42] Only one of the purchasers reporting that it did not require prequalification explained its response. It reported that its "only" bid requirements were "the bidder shall have been engaged in the business of constructing substation transformers for at least 10 years. He shall have successfully proved all equipment in actual central station or substation service. The auto transformer furnished in response to this bid request shall be manufactured by the Bidder at his own plant(s)."

[43] Some firms provided multiple answers.

[44] Some firms provided multiple answers.

Table II-8
LPT: Purchaser responses to questions regarding the origin of their purchases

Purchaser/customer decision	Always	Usually	Sometimes	Rarely	Never
Purchaser makes purchase decision based on country of origin	9	3	13	27	29
Purchaser makes purchase decision based on the manufacturer	26	17	11	15	12

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

In a separate question, purchasers were asked about the importance of purchasing domestically produced LPTs. Fifty-nine purchasers reported that made in the United States was not an important factor, seven reported it was required by law or regulation, one reported it was required by its customers, and nine reported that U.S. producers were required for other reasons. Most firms reporting domestic preferences were government contractors or agencies.

Only one purchaser reported that certain capacities/types/sizes of LPTs were only available from a domestic source. It reported that only domestic sources are covered by Buy American requirements. In contrast, 25 purchasers reported that certain capacities/types/sizes of LPTs were only available from import sources. Sixteen purchasers reported that large size LPTs were only available from imports. Purchasers also noted some types of LPTs that are available only from an import source, including shell transformers, phase shifting transformers, auto transformers, struts, and specific units. Seven purchasers noted that new U.S. factories had increased the range of U.S. LPTs available.

Lead times

LPTs are purchased on a made-to-order basis and must include time to engineer and then time to produce it. Producers indicated that the minimum lead time between a customer's order and the date of delivery on sales of LPTs ranged between 6 and 9 months, and that the average lead time is between 8 and 11 months. Importers also indicated that the minimum lead time range from 6 to 9 months, and an average lead time of 9 to 14 months. Importers *** stated that lead times are longer for larger LPTs, with *** reporting a minimum lead time of *** months and an average lead time of *** months for these units.

Comparisons of Domestic Products, Subject Imports, and Nonsubject Imports

Comparisons of Domestic Products and Subject Imports

Producers, importers, and purchasers were asked how frequently LPTs produced in the United States and Korea were interchangeable (table II-9). Five of six responding U.S. producers, 1 of 6 importers ***, and 25 of 54 responding purchasers reported that the domestic and Korean LPTs are "always" interchangeable (table II-9). In addition, 21 purchasers noted that domestic and Korean LPTs are "frequently" interchangeable. Among those that reported that domestic and imported Korean LPTs are "sometimes" or "never" interchangeable, importers and purchasers frequently cited that since LPTs are custom-built, that it is rare for one transformer to be interchangeable with another. Importer *** noted that there are certain types of transformers that not all countries can build, e.g., shell transformers, or some 500 kV and 765 kV transformers. In addition, purchasers indicated that interchangeability was lower because the U.S. producers were less experienced and since their plants are relatively new. Also,

Table II-9
LPTs: Perceived degree of interchangeability of product produced in the United States and in other countries

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of U.S. purchasers			
	A	F	S	N	A	F	S	N	A	F	S	N
U.S. vs. Korea	5	0	1	0	3	1	3	1	25	21	8	0
U.S. vs. Mexico	5	0	1	0	2	1	4	1	25	18	9	0
U.S. vs. other countries	4	0	1	0	2	2	4	0	23	19	14	0
Korea vs. Mexico	4	1	1	0	2	1	4	1	19	12	8	0
Korea vs. other countries	4	1	1	0	2	2	4	0	15	15	10	0
Mexico vs. other countries	4	1	1	0	2	2	4	0	14	12	10	0

Note.–A=always; F=frequently; S=sometimes; N=never.

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

in general, designs may not fit at the location(s) specified, and since they are custom designed, they are not interchangeable.[45]

Non-price factors

A majority of producers reported that differences in factors other than price are "never" a factor in sales of LPTs, and a majority of importers reported that they are "always" a factor (table II-10). One producer, ***, reported that the U.S. market for LPTs is much more open to free trade than many foreign markets. It said that in many foreign markets there are significant formal and informal impediments that can include language requirements, plant qualification requirements and differences in understanding or explaining technical requirements. One importer, ***, reported in its preliminary phase questionnaire that technical support is a large contributing factor that differentiates manufacturers.

In contrast to both producers and importers, when comparing product from country pairs, purchasers noted that most often there are "sometimes" differences other than price. The next most common response was there are "always" differences other than price for all country pairs (except U.S. vs. nonsubject countries). "Always" and "frequently" combined were more common answers than "sometimes" for U.S. vs Korea (28 always and frequently, 22 sometimes) and for Korea vs Mexico (20 always and frequently, 14 sometimes). Differences other than price between U.S. and Korean product included differences in logistics, quality, credit, limited output of very large power transformers for new U.S. factories, and that product imported from Korea has longer lead times.

[45] A number of purchasers reported products from different sources were interchangeable because they were custom designed or because they must meet specifications.

Table II-10
LPTs: Perceived significance of differences other than price between product produced in the United States and in other countries

Country pair	Number of U.S. producers reporting				Number of U.S. importers reporting				Number of U.S. purchasers			
	A	F	S	N	A	F	S	N	A	F	S	N
U.S. vs. Korea	2	0	0	4	4	2	0	2	16	12	22	6
U.S. vs. Mexico	2	0	0	4	2	2	1	3	14	8	23	7
U.S. vs. other countries	2	0	1	3	3	2	1	2	11	11	28	6
Korea vs. Mexico	0	1	0	4	4	2	0	2	11	9	14	5
Korea vs. other countries	1	1	0	3	4	2	0	2	9	7	22	4
Mexico vs. other countries	0	1	0	3	3	2	1	2	9	7	18	5

Note.–A=always; F=frequently; S=sometimes; N=never.

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

As seen in table II-11, a majority of responding purchasers reported that U.S.-produced LPTs and Korean imports of LPTs are comparable across most specified factors. The only factors for which a clear majority did not report that U.S. and Korean LPTs were comparable were lowest price (for which 23 purchasers reported that U.S. product was inferior, 21 indicated that U.S. and Korean were comparable and 3 indicated that the U.S. was superior) and availability of 500 or 765kV standard or auto transformer above 60MVA (for which only 20 reported that U.S. and Korean product were comparable, 17 reported that the U.S. was inferior, and 2 reported that the U.S. was superior). Ten or more purchasers reported that Korean product was superior on the availability of shell transformers, the availability of 345kV standard step-up/step-down transformer above 300 MVA, the availability of 345kV auto transformer above 400MVA, facility capabilities, and product range. Ten purchasers reported that U.S. was superior on U.S. transportation cost.

Table II-11
LPTs: Comparisons between U.S., Korean, Mexican, and other nonsubject LPTs, as reported by U.S. purchasers

Factor	U.S. vs Korea			U.S. vs Mexico			Korea vs Mexico			U.S. vs nonsubject[1]			Korea vs nonsubject		
	S	C	I	S	C	I	S	C	I	S	C	I	S	C	I
Availability	5	35	8	3	41	3	6	32	1	1	23	6	4	21	2
Availability of blanket agreements	0	34	2	0	34	1	1	29	0	0	24	1	2	20	0
Availability of shell transformers	3	20	10	3	27	3	7	18	3	2	20	4	7	12	2
Availability of 345kV standard step-up/ step-down transformer above 300 MVA	2	24	11	0	28	7	4	23	2	0	15	10	3	18	0
Availability of 345kV auto transformer above 400MVA	2	21	15	2	25	9	5	23	3	0	14	11	4	18	0
Availability of 500 or 765kV standard or auto transformer above 60MVA	2	20	17	2	29	8	11	20	2	0	15	10	5	17	0
Comply with specifications	2	43	1	6	38	0	6	31	0	0	25	4	1	19	5
Delivery terms	4	37	5	3	41	1	6	32	0	2	26	2	2	21	3
Discounts offered	2	33	5	2	36	3	5	30	0	0	24	1	1	18	3
Energy loss	1	37	6	3	41	0	5	31	1	1	23	5	4	19	3
Experience with supplier	6	32	6	8	33	2	8	23	5	1	21	5	5	15	6
Expertise w/ special application engineering, e.g., core or shell design	2	33	8	3	35	2	6	26	0	0	18	8	3	15	7
Extension of credit	1	34	1	1	35	0	1	31	0	0	23	0	2	16	0
Facility capabilities	2	32	12	1	36	7	9	25	2	1	20	9	7	17	1
Length of time to fill orders	4	35	8	2	40	2	7	29	2	4	23	3	5	20	1
Lowest price[2]	3	21	23	1	36	10	8	30	0	2	20	8	12	14	1
Operational performance records	4	35	1	9	33	0	8	27	0	1	22	5	3	19	3
Packaging	3	38	1	2	39	0	2	32	0	0	23	3	1	24	0
Product consistency	5	37	0	5	38	0	4	32	0	0	21	4	1	19	5
Product range	2	28	13	1	34	7	11	23	1	0	19	9	7	18	1
Quality meets industry standards	2	43	1	5	39	0	4	33	0	1	23	5	1	21	3
Quality exceeds industry standards	2	37	2	7	36	0	8	28	0	2	20	7	1	16	6
References	3	38	3	5	38	0	5	31	0	1	25	2	3	19	3
Reliability of supply	4	40	1	4	38	0	3	31	1	0	22	4	2	20	3
Safety policies	6	35	0	8	32	1	5	27	0	2	23	0	1	19	4
Technical support/service	8	37	1	8	35	0	5	29	1	1	23	2	1	16	8
U.S. transportation costs[2]	10	27	2	4	33	1	2	29	1	5	19	4	1	16	1
Warranty	1	43	3	1	41	1	3	33	0	1	26	1	4	20	1

[1] A number of firms compared U.S. LPTs and product from more than one nonsubject countries; all their responses are included.

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

Note: S=first listed country's product is superior; C=both countries' products are comparable; I=first listed country's product is inferior. Not all purchasers responded for each factor.

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

Comparisons of Domestic Products and Nonsubject Imports

Also as shown in table II-11, the majority of purchasers reported that U.S. and Mexican, Korean and Mexican, U.S. and nonsubject, and Korean and nonsubject product were comparable for all 28 factors. Ten or more purchasers reported that product from nonsubject countries other than Mexico were superior to U.S. product in terms of availability of 345kV standard step-up/step-down transformer above 300 MVA, availability of 345kV auto transformer above 400MVA, and availability of 500 or 765kV standard or auto transformer above 60MVA.

Comparisons of Subject Imports and Nonsubject Imports

As indicated in table II-11, comparing LPTs from Korea with those from Mexico, a majority of purchasers noted comparability on all factors. The factors for which most purchasers reported Korea as superior were product range and availability of 500 or 765kV standard or auto transformer above 60MVA. Similar results are displayed in comparing Korean LPTs with those from other nonsubject countries; however, the factor for which the most purchasers report Korea as superior was lowest price.

ELASTICITY ESTIMATES

This section discusses elasticity estimates for the steel wheel industry. Parties were encouraged to comment on these estimates, if desired, in an appendix to their prehearing briefs. No specific comments were received from parties.

U.S. Supply Elasticity

The domestic supply elasticity for LPTs measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of LPTs. The elasticity of domestic supply depends on several factors including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift to production of other products, the absence of inventories, and the possibility of alternate markets for U.S.-produced LPTs. Based on the low production capacity levels and the existence of production alternatives (smaller transformers), but mitigated by the lack of inventories and a low level of exports, the U.S. industry presently has a somewhat large ability to increase shipments to the U.S. market; an estimate in the range of 3 to 5 is suggested.

U.S. Demand Elasticity

The U.S. demand elasticity for LPTs measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of LPTs. This estimate depends on factors discussed earlier such as the existence, availability, and commercial viability of substitute products, as well as the component share of LPTs in the production of any downstream products (electricity generation and delivery). The demand for electricity is highly price inelastic in itself, based on a number of economic studies.[46] The constant need for access to electricity in the United States would make the price elasticity of demand for LPTs even smaller. Therefore, despite the varied cost share data presented earlier, the constant need for reliable electricity and the lack of any viable substitutes, based on the available information, the aggregate demand for LPTs is likely to be extremely inelastic, in a range of -0.05 to -0.25.

[46] For example, *see* "The real-time price elasticity of electricity," Lijesen, Mark G., Energy Economics, 2007, "A Dynamic Analysis of Interfuel Substitution in U.S. Industrial Energy Demand," Jones, C.T., Journal of Business and Economic Statistics, 1995, and "Dynamic Translog and Linear Logit Models: a Factor Demand Analysis of Interfuel Substitution in U.S. Industrial Energy Demand," Urga, G.,Walters, C., Energy Economics, 2003.

Substitution Elasticity

The elasticity of substitution depends upon the extent of product differentiation between domestic and imported products.[47] Product differentiation, in turn, depends upon such factors as quality, conditions of sale, and factory capability. Different manufacturing locations, whether located domestically or overseas, have different engineering and manufacturing capabilities. Facilities that are unable to build an LPT that meets the requirements of the purchaser will not be able to win the bidding event and will therefore be uncompetitive. While the two large Korean firms can manufacture LPTs with higher MVA or kV ratings, not all domestic firms can meet those requirements. Some purchasers indicated a preference for domestic LPTs based on factors such as Buy America provisions or lead times. Based on available information, the elasticity of substitution between domestic and subject LPTs is likely to be in the range of 2 to 5, with the elasticity for larger LPTs at the low end of or slightly below this range.

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

PART III: U.S. PRODUCERS' PRODUCTION, SHIPMENTS, AND EMPLOYMENT

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the margins of dumping was presented earlier in this report and information on the volume of imports is presented in *Part IV* and information on the pricing of domestic products along with imports is presented in *Part V*. Information on the other factors specified is presented in this section and/or *Part VI* and (except as noted) is based on the questionnaire responses of five firms that accounted for virtually all of U.S. production of LPTs over the period examined.[1]

U.S. PRODUCERS

The five firms that provided usable data include: ABB, Delta Star, Efacec, PTTI, and SPX Waukesha.[2] Table III-1 lists U.S. producers of LPTs, their production locations, positions on the petition, production, and shares of reported production in 2011. As described in more detail below, HYPO, a wholly owned subsidiary of HHI, a producer of LPTs in Korea, invested $108 million in a facility to produce LPTs in Montgomery, AL, which opened in November 2011. [3]

[1] Conference transcript, p. 51 (Luberda). Transformer size is determined on the basis of megavolts amperes (MVA) ratings. Conference transcript, p. 28 (Stiegemeier). Therefore, quantities in this report are presented in terms of top rated MVA, rather than units. LPTs are highly customized and encompass a diverse product mix due to differences in capacity and voltage; therefore, average unit values, whether measured in terms of dollar per top rated MVA or dollar per unit, may not be meaningful. Petition, p. 21. Conference transcript, p. 131 (Connelly) and p. 136 (H. Lee). Respondent Hyosung's postconference brief, p. 28.

[2] Virginia Transformer provided a questionnaire response in the preliminary phase of this investigation and accounted for *** percent of reported U.S. production in 2010. Despite multiple attempts by staff, Virginia Transformer did not provide a response to the Commission's questionnaire in the final phase of this investigation.

[3] Hearing transcript, p. 165 (Egan). "Hyundai Power Transformers USA Plant Brings Jobs to River Region," http://ado.alabama.gov/content/media/press/BN.aspx?ID=5857, retrieved June 4, 2012. HYPO did not produce any subject LPTs during the period for which data were gathered; therefore, its data are not included in the staff report. ***. HYPO's U.S. Producer's questionnaire, question II-4.

Table III-1
LPTs: U.S. producers of LPTs, their positions on the petition, production locations, production, and shares of reported production, 2011

Firm	Position on petition	Production location(s)	Total production (top rated MVA)	Share of production (percent)
ABB[1]	Support, petitioner	South Boston, VA St. Louis, MO	***	***
Delta Star	Support, petitioner	Lynchburg, VA San Carlos, CA	***	***
Efacec[2]	***	South Rincon, GA	***	***
PTTI	Support, petitioner	Canonsburg, PA	***	***
SPX Waukesha[3]	***	Goldsboro, NC Waukesha, WI	***	***
Total			24,049	100.0

[1] ABB is related to firms producing LPTs in Brazil, Canada, China, Germany, India, Poland, Spain, Sweden, Thailand, and Turkey.
[2] Efacec is wholly owned by Efacec Energia, Maquinas e Equipamentos Electricos, SA, a manufacturer of transformers and other electrical equipment in Portugal.
[3] SPX Waukesha is wholly owned by SPX Corporation.

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

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-2 presents U.S. producers' production, capacity, and capacity utilization. As detailed in the table, between 2009 and 2011, U.S. producers' capacity increased by 37.1 percent while U.S. production increased by 17.5 percent [4] Increases in capacity occurred at a greater pace than increases in production resulting in a decrease in capacity utilization between 2009 and 2011, of 6.8 percentage points. U.S. producers' capacity, production, and capacity utilization were all higher in interim 2012 than in interim 2011.

Table III-2
LPTs: U.S. producers' production, capacity, and capacity utilization, 2009-11, January-March 2011, and January-March 2012

Item	Calendar year			January-March	
	2009	2010	2011	2011	2012
Quantity (*MVA*)					
Capacity	43,346	50,200	59,439	14,632	19,168
Production	20,469	19,426	24,049	4,706	6,448
Capacity utilization (*percent*)					
Capacity utilization	47.2	38.7	40.5	32.2	33.6

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

[4] These increases are largely due to ***.

In their questionnaire responses, several U.S. producers indicated changes in relation to the production of LPTs since January 1, 2009. ***.[5] ***. ***. ***. ***.

Additionally, several firms announced plans to either commence production of LPTs or expand existing production of LPTs in the United States. HYPO held a grand opening ceremony in November 2011 to inaugurate an over 260,000 square foot facility, which will employ 500 workers when fully staffed.[6] According to testimony presented at the hearing, HYPO hired 90 employees in January 2011 and sent these workers to HHI's facility in Ulsan, Korea for an eight month training program. HYPO finished production on its first LPT in April 2012 and since the opening of its Montgomery plant, it has participated in nearly 70 bids to supply more than 100 LPTs with capacities ranging from 60 to 450 MVA. HYPO intends to focus on producing transformers up to 230 kV for the U.S. market and its Korean facility intends to focus on producing transformers rated 345 kV and higher for the U.S. market. Since its opening, HYPO has won 6 contracts to supply 12 LPTs in 2013.[7]

Mitsubishi Electric Power Products is currently building a 350,000 square feet facility in Memphis, TN that is scheduled to open in April 2013 and will reportedly employ 275 workers at full capacity.[8] SPX Waukesha held a grand opening ceremony to unveil its expanded transformer facility in Waukesha, WI in April 2012. The expansion reportedly increases the company's capacity by approximately 50 percent.[9] In March 2011, Delta Star announced a $10 million, 30,000 square foot expansion of its Lynchburg, VA facility; however, Delta Star has not gone forward with those plans.[10]

Over the period examined, *** firms reported constraints in equipment (cranes, ovens, testing, winding and vapor phase systems) and the availability of trained personnel that set limits on their production capacity.[11] *** reported manufacturing transformers of less than 60 MVA on the same equipment and machinery and/or using the same production and related workers employed to produce LPTs. ***.

The Commission requested that U.S. producers of LPTs report the maximum high line system voltage (kV) and maximum top-rated MVA for standard step-up/step-down transformer units that their firm produced between January 2009 and March 2012; the maximum high line system voltage (kV) and maximum top-rated MVA for autotransformer units that their firm produced between January 2009 and March 2012; and whether their firm produced a shell form LPT during the period examined. The results are presented in table III-3. *** reported producing shell form LPTs during the period examined.

Table III-3
LPTs: U.S. producers' maximum high line system voltage and maximum top-rated MVA on standard step-up/step-down transformer units and autotransformer units produced between January 2009 and March 2012

* * * * * * *

[5] ***. Email from ***, August 9, 2011.

[6] "Hyundai Power Transformers USA Plant Brings Jobs to River Region," http://ado.alabama.gov/content/media/press/BN.aspx?ID=5857, retrieved June 4, 2012.

[7] Hearing transcript, pp. 165-167 (Egan).

[8] "Memphis Mitsubishi transformer plant already has first order," http://www.commercialappeal.com/news/2012/mar/29/plant-already-has-first-order/, retrieved June 4, 2012.

[9] "SPX Unveils Newly Expanded SPX Transformer Solutions Manufacturing Facility in Waukesha, Wisconsin," http://www.prnewswire.com/news-releases/spx-unveils-newly-expanded-spx-transformer-solutions-manufacturing-facility-in-waukesha-wisconsin-147143535.html, retrieved June 4, 2012.

[10] Conference transcript, pp. 53-54 (Newman). ***. Petitioners' postconference brief, pp. 12-13.

[11] Other constraints involved in the production of LPTs include dryer equipment and a given facility's layout and size. Conference transcript, p. 138 (Morgan).

The Commission requested that firms describe how they selects the facility they will use to produce an LPT for a U.S. customer. ***. *** reported that their firm initially bid a U.S. produced LPT, but ultimately supplied the LPT from an affiliated facility outside the United States.[12]

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

Table III-4 presents U.S. producers' U.S. shipments, export shipments, and total shipments. As detailed below, U.S. commercial shipments accounted for the vast majority of total shipments, with exports accounting for no more than *** percent, by quantity, of total shipments over the period.[13] ***.[14]

Table III-4
LPTs: U.S. producers' U.S. commercial shipments, export shipments, and total shipments, 2009-11, January-March 2011, and January-March 2012

Item	Calendar year			January-March	
	2009	2010	2011	2011	2012
Quantity (*MVA*)					
U.S. commercial shipments	19,754	18,898	22,066	4,427	4,691
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
Value (*1,000 dollars*)					
U.S. commercial shipments	276,436	211,558	207,349	45,747	47,952
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
Unit value (*per MVA*)					
U.S. commercial shipments	13,994	11,195	9,397	10,334	10,222
Export shipments	***	***	***	***	***
Total shipments	***	***	***	***	***
Share of quantity (*percent*)					
U.S. commercial shipments	***	***	***	***	***
Export shipments	***	***	***	***	***
Total shipments	100.0	100.0	100.0	100.0	100.0

Note.—***.

[1] Not applicable.

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

[12] ***.
[13] ***. ***.
[14] ***. Email from ***, June 6, 2012.

U.S. PRODUCERS' INVENTORIES

No U.S. producer maintains inventories of LPTs, largely because these products are made to order and have particular application as specified by the customer.[15]

U.S. PRODUCERS' IMPORTS

*** U.S. producers of LPTs reported imports of LPTs during the period.[16] These data are presented in table III-5.

Table III-5
LPTs: Select producers' U.S. production, imports, and imports as a ratio to production, 2009-11, January-March 2011, and January-March 2012

* * * * * * *

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-6 shows U.S. producers' employment-related data during the period examined.[17] Between 2009 and 2011, the number U.S. production and related workers ("PRWs") increased by *** percent; hours worked increased by *** percent; wages paid increased by *** percent. [18]

Table III-6
LPTs: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2009-11, January-March 2011, and January-March 2012

* * * * * * *

[15] Conference transcript, p. 80 (Kerwin). ***. Email from ***, June 7, 2012.
[16] ***. ***.
[17] Delta Star is owned primarily by its employees under an Employee Stock Ownership Plan (ESOP). A representative at the hearing testified that because the firm is an ESOP, it has not laid off any workers over the period examined. Hearing transcript, p. 39 (Newman).
[18] These increases are largely attributable to reported increases in the number PRWs, hours worked, and wages paid as reported by ***.

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

Part IV of this report presents information on imports of subject merchandise and overall U.S. market composition. Reported shipments of imports are based on the questionnaire responses of nine U.S. importers.[1] The Commission received questionnaire responses from three firms that reported imports of LPTs from Korea which are believed to account for virtually all subject imports.[2] The Commission received questionnaire responses from six firms that reported importing LPTs from nonsubject sources, including Austria, Canada, and Mexico.[3]

U.S. IMPORTERS

Of the *** U.S. importers that reported imports of LPTs from Korea over the period, Hyundai Corp. and HICO accounted for all of the total reported U.S. imports from Korea in 2011.[4] As noted earlier, Hyundai Corp. is a wholly-owned subsidiary of HHI, which is engaged in exporting LPTs from Korea to the United States. HICO is a wholly-owned subsidiary of Hyosung, which is engaged in exporting LPTs from Korea to the United States.[5] Leading nonsubject sources of LPTs include Austria, Canada and Mexico.[6]

*** firms reported being related to firms, either foreign or domestic, that are engaged in the production of LPTs.[7] No importers reported entering or withdrawing LPTs from foreign trade zones or bonded warehouses. In addition, no importers reported imports of LPTs under the temporary importation under bond program.

[1] The Commission sent questionnaires to those firms identified in the petition, along with firms identified by data provided by U.S. Customs and Border Protection ("Customs") as potential importers of LPTs. Official Commerce statistics for a portion of HTS statistical reporting number 8504.23.0040 include non-subject products (transformers of top rated MVA between 10 MVA and 60 MVA); therefore, questionnaire data was deemed to be more appropriate. The following firms certified that they had not imported LPTs from any country since 2009: ***.

[2] Conference transcript, p. 52 (Luberda) and p. 154 (Connelly).

[3] Based on an analysis of official Commerce statistics for 2011, U.S. importers' questionnaires account for 80.1 percent, by value (landed duty-paid), of total U.S. imports under HTS statistical reporting numbers 8504.23.0040 and 8504.23.0080.

[4] Conference transcript, p. 52 (Luberda) and p. 154 (Connelly). ***.

[5] HICO began operations in 2001 and employs 50 workers in its Pittsburgh, PA, Greensburgh, PA, and Los Angeles, CA offices. Respondent Hyosung's postconference brief, p. 4.

[6] U.S. importers of subject merchandise from Austria include: ***. U.S. importers of subject merchandise from Canada include: ***. U.S. importers of subject merchandise from Mexico include: ***.

[7] ***. ***. ***. ***. ***. ***. ***.

U.S. IMPORTS

Table IV-1 presents information on U.S. of imports of LPTs over the period examined. As detailed below, U.S. imports of LPTs from Korea increased by *** percent, by quantity, between 2009 and 2011, and were *** percent lower in interim 2012 than interim 2011.[8] U.S. imports of LPTs from nonsubject sources increased by *** percent, by quantity, between 2009 and 2011, and were *** percent higher in interim 2012 than interim 2011.

NEGLIGIBILITY

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible. Negligible imports are generally defined in the Tariff Act of 1930, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. In this investigation, imports of LPTs from Korea are not negligible. Between July 2010 and June 2011, U.S. imports of LPTs from Korea accounted for *** percent, by value, of total imports.[9]

Table IV-1
LPTs: U.S. imports by source, 2009-11, January-March 2011, and January-March 2012

* * * * * * *

[8] Petitioners and Respondent Hyosung agree that volume expressed in MVA (rather than value) is the most reasonable basis for measuring apparent U.S. consumption and market share. Petitioners' posthearing brief, Answers to Commission questions, p. 82; Respondent Hyosung's posthearing brief, p. 4. Therefore, apparent U.S. consumption and market share are presented on the basis of quantity only. To address certain firms' reporting of inventories, which were actually finished units in transit; imports (rather than shipments of imports) from subject and non-subject sources have been used to calculate apparent U.S. consumption. Both petitioners and respondents agree on this methodology for full calendar years and interim 2011; however, petitioners contend that import volumes alone will understate the actual presence and effects of subject imports in interim 2012 and prepared an alternative analysis, which includes both imports and end-of-period inventories for the purposes of calculating apparent U.S. consumption and market share ***. Petitioners' posthearing brief, Responses to Commission questions, pp. 82-85, exh. 9; Respondent Hyosung's posthearing brief, pp. 1-2, exh. 1.

[9] Market share data for July 2010-June 2011 is based on official Commerce statistics for HTS 8504.23.0040 and 8504.23.0080.

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

Table IV-2 presents data on apparent U.S. consumption and U.S. market shares over the period examined.[10]

Table IV-2
LPTs: Apparent U.S. consumption and U.S. market shares, 2009-11, January-March 2011, and January-March 2012

* * * * * * *

RATIO OF IMPORTS TO U.S. PRODUCTION

Table IV-3 presents data on the ratio of U.S. imports of LPTs to U.S. production.

Table IV-3
LPTs: Ratio of imports to U.S. production, 2009-11, January-March 2011, and January-March 2012

* * * * * * *

[10] To address certain firms' reporting of inventories, which were actually finished units in transit, import quantities (rather than shipments of imports) from subject and non-subject sources have been used to calculate apparent U.S. consumption. Petitioners and respondents agree on this methodology for full calendar years and interim 2011; however, petitioners contend that import volumes alone will understate the actual presence and effects of subject imports in interim 2012 and prepared an alternative analysis, which includes both imports and end-of-period inventories for the purposes of calculating apparent U.S. consumption and market share ***. Petitioners' posthearing brief, Responses to Commission questions, pp. 82-85, exh. 9; Respondent Hyosung's posthearing brief, pp. 1-2, exh. 1. Additionally, Capital Trade prepared a separate analysis, which utilized bid data from purchaser, producer, and importer questionnaires, as well as a dataset that combined import data from responses to the Commission's importer questionnaires and official Commerce statistics for those sources reportedly not represented in responses to the Commission's questionnaires. Based on this database, the report provided an analysis of instances where: subject imports won bids that can be identified as not being at the expense of U.S. producers; instances where a Korean supplier won a bid, but where a U.S. producer did not compete for the bid, or where the U.S. producer was disqualified for non-price reasons; and instances where Korea won a bid, but U.S. producers did not report having bid contemporaneously with the Korean bid, or did not bid on the same LPT specification. Respondent Hyosung's posthearing brief, exh. 1.

PART V: PRICING AND RELATED INFORMATION

FACTORS AFFECTING PRICES

Raw Material Costs

Raw materials account for a substantial share of the cost of LPTs. During 2009-11, the cost of raw materials as a percentage of the cost of goods sold decreased from a period-high of 66.5 percent in 2009 to a period-low of 57.3 percent in 2010 before increasing to 64.0 percent in 2011. During January-March 2012 raw materials accounted for 62.0 percent of the cost of goods sold. The most important raw materials used to produce LPTs include windings and grain-oriented electrical steel. Other important inputs are steel plate, controls and accessories, and dielectric mineral oil. As raw materials make up a substantial portion of the cost of LPTs, producers and importers indicated that raw materials can have a "substantial" effect on the price of the LPT.[1] All producers and importers noted that they anticipate changes in the prices of these raw materials, though they are unable to predict how they will change.

U.S. Inland Transportation Costs

Estimates of the cost of U.S. inland transportation as a percentage of the total delivered cost of LPTs varied. Producers' estimates ranged from 2 percent (***) to 10 percent (***) and importers'[2] estimates ranged from 3 percent (***) to 10 percent (***). Two U.S. producers indicated that the price of transporting LPTs via rail had increased, increasing the price of LPTs.

Questionnaire respondents were also asked to estimate the share of their sales that were delivered within 100 miles, 101 to 1,000 miles, and over 1,000 miles from their production or storage facilities. All five responding producers shipped approximately 90 percent of their LPTs 101 miles or more. Producers' shipments between 101 and 1,000 miles averaged approximately 60 percent of total shipments and the share of producer shipments of distances over 1,000 miles averaged just less than 30 percent. Among eight responding importers, more than 85 percent of their shipments were for locations more than 101 miles from their storage facilities. In contrast to producers, more than 60 percent of importers' shipments were shipped inland more than 1,000 miles, with an average of approximately 25 percent shipped between 101 and 1,000 miles.[3]

PRICING PRACTICES

Pricing Methods

Transaction prices for LPTs are determined through bid competition. Producers and importers reported that bid prices are determined on the basis of current market prices as well as the costs of labor, materials, and installation. All producers and importers reported that bids for LPTs also include other services such as warranties, transportation, and installation. In most cases, suppliers only have one

[1] *See, e.g.,* *** importer questionnaire response.

[2] This excludes ***. Importer ***.

[3] *** responded with two different sets of distance numbers based on the different categories of LPTs. Larger LPTs (those in "Category B") were ***. A simple average of the the two answers was used in calculating the averages presented in the text.

opportunity to bid on a particular contract.[4] Additional bids may be allowed when there are changes to specifications or location. In most cases, purchasers do not discuss specific bids among competing suppliers. Twenty of 77 responding purchasers noted that they negotiate prices (and other major factors) with suppliers when purchasing LPTs. Twenty-three of 75 responding purchasers indicated that they quote competing factors and/or prices as part of the negotiation process with suppliers. Table V-1 lists the specific types of price and/or factor feedback purchasers give to suppliers when negotiating a purchase, as described by purchasers which described any feedback they give, along with whether or not they quote competing prices in their negotiations.

Table V-1
LPTs: Factor and/or price feedback given by purchasers during the negotiation process

* * * * * * *

Petitioners argued that price feedback from purchasers creates a mechanism by which purchasers expect comparably low prices for future projects - a so-called "lighthouse effect."[5] This feedback can come in the form of publicly available data from public utilities or via feedback from purchasers. Respondent Hyosung argued, however, that investor-owned utilities do not disclose prices of winning bids, and that purchasers have an incentive to understate the competing prices to encourage lower bids.[6]

Firms were also asked how often other firms' bid prices are discussed between supplier and purchasers. Discussions of other firms' pricing are uncommon in the LPT market, as demonstrated in table V-2. Purchaser *** answered "always," stating that it is a part of the negotiation process, though it only shares ranges and positions of bidders. Other firms also reported that they may supply some generalities to bidders, but not specific information. Purchaser *** answered "frequently," stating that it may use other firms' bids to ask for price concessions in areas where a bidder may be charging higher than their competitors (e.g., installation, freight, spare parts, etc.). Among the other two purchasers that answered "frequently," *** noted that competing bids are not discussed though it does negotiate, and *** stated that it focuses on its own target price, not other suppliers' prices.

Table V-2
LPTs: Frequency of discussing bids of other firms

Firm type	Number of firms responding:				
	Always	Frequently	Sometimes	Rarely	Never
Producer	0	0	2	4	0
Importer	0	0	0	5	3
Purchaser[1]	1	3	3	6	66

[1] Five purchasers noted more than one response. Their responses were not included in the tabulation.

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

[4] When asked how often there is more than one chance to bid on a sales agreement, five of six producers answered "rarely" and one answered "sometimes." When the same question was asked of seven responding importers, one answered "always," two answered "never," three answered "rarely," and one answered "sometimes."

[5] Petitioner's prehearing brief, pp. 64-65.

[6] Respondent Hyosung's posthearing brief, pp. A-20-A21.

Bidding Process

Bidding on large power transformers involves more than simply offering a price. At a minimum, the bidder must be able to meet the technical specifications desired by the purchaser. Bids also typically include a delivery date and can include a host of auxiliary services provided in connection with the LPT itself. Sixty-eight of 75 responding purchasers noted that they request services be included in the bid proposals. When purchasers were asked which services they typically request from their suppliers when seeking bids, the most common services were a warranty (as noted by 47 purchasers) and installation (46 purchasers). Also noted by a number of purchasers were delivery (18 purchasers), field testing (17 purchasers), filling it with oil (13 purchasers), assembly (9 purchasers), and maintenance (7 purchasers).

Petitioners and respondents differed with respect to how much it costs to prepare a bid. Petitioner ABB estimated that it costs between $50,000 and $80,000 to prepare a bid and described how it estimated that cost.[7] Given its cost, petitioners stated that, prior to deciding to prepare a bid, they take into account various factors, including who the other likely bidders are on a particular project.[8] Respondents disagree with this assessment. For example, respondent HHI calculated that it costs Hyundai Power Transformers $*** to prepare a bid, taking a total of *** hours. Furthermore, it asserted that the marginal cost of preparing a bid is zero because "such costs are fixed."[9] Respondent Hyosung estimated the cost to be $*** for a complicated bid, taking a total of *** hours.[10]

Producers, importers, and purchasers were asked how often a bidding event allows for more than one opportunity to bid (table V-3). The most common reason for a re-bid was to provide clarification or updates on technical requirements. Other reasons stated by purchasers for allowing more than one bid opportunity include: price negotiation, to allow bidders to include items that may have been excluded, if bids are close in price, changes in quantities, warranty extensions, a change in business needs, the expiration of the time to hold open a request for quote, and if it is believed there is a mistake on a bid.

Table V-3
LPTs: Opportunities to bid more than once on a contract

Firm type	Number of firms responding:				
	Always	Frequently	Sometimes	Rarely	Never
Producer	0	0	3	3	0
Importer	0	0	3	4	1
Purchaser[1]	4	2	15	21	38

[1] Five purchasers noted more than one response. Their responses were not included in the tabulation.

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

[7] Petitioner's posthearing brief, exh. 3.

[8] Ibid., exh. 3-5.

[9] Respondent HHI's posthearing brief, pp. 5, Q-4-Q-6, and questions exh. 3.

[10] Respondent Hyosung's posthearing brief, pp. A-44-A-48

Bidding is typically open to all producers able to meet the specifications. Sometimes, however, bidding may be only open to a few or only one supplier. Purchasers were asked how often they request a bid from only one supplier. Forty-one replied that they "never" request a bid from only one supplier, 23 "rarely" do, 9 "sometimes" do, and 3 "frequently" do. The most common reason given for asking for one supplier is the need for a quick turn-around time (noted by 12 purchasers). Additional reasons noted by more than one purchaser include: the existence of an alliance or other long-term agreements (stated by 8 purchasers), having a recent purchase that is identical or met the specifications (7 purchasers),[11] that only one supplier or non-U.S. suppliers exists for the desired product (3 purchasers), discounts (3 purchasers), and past performance (2 purchasers).

Four of six producers and six of eight importers reported being excluded from bidding on certain contracts. Reasons reported for being excluded from bidding includes: technical reasons, not enough sales experience in the United States or with a certain purchaser,[12] not meeting technical or commercial terms specified in a contract, not being an approved supplier or on a pre-approved supplier list (because it has high prices), not wanting a product produced overseas, and the age of the plant.

Purchasers were also asked if they had excluded any suppliers from bidding on their proposal. Fifty-nine purchasers indicated that they had not excluded any supplier since 2009, whereas 15 had excluded one or more suppliers. Of the 59 purchasers, however, four stated that they limit bidding to qualified suppliers or the vendors that it (or its client if not an end user) requests. Two of the purchasers that had excluded firms had disqualified ABB due to quality issues and one disqualified SPX Waukesha due to inflexibility of it engineering staff. One purchaser disqualified producer Delta Star because it ***. One purchaser disqualified HICO and Iljin for not meeting ISO-9001 quality audits, and another purchaser disqualified HICO due to ***. Among nonsubject producers, three purchasers indicated that they had excluded GE Prolec from Mexico, two had excluded Siemens in Brazil, one each had excluded Siemens in Mexico, TBEA and XD in China, and Mitsubishi in Japan, and one also noted excluding suppliers Areva and Howard Industries, but did not note their country of origin.

Initial cost vs. evaluated cost

Purchasers were asked to compare the importance of initial cost to evaluated costs (table V-4). Twenty-eight purchaser reported that initial and evaluated costs were equally important, 16 firms reported mostly considering initial cost,[13] 18 mainly considered evaluated costs, 14 only considered evaluated costs,[14] and only 2 considered only initial costs.[15]

Table V-4

[11] This includes one purchaser who noted that it will go with the supplier that was the low bidder on another recent purchaser.

[12] For example, Respondent Hyosung submitted a hearing exhibit from the City of Austin's minimum manufacturing experience criteria. The criteria for this purchaser include four different experiential hurdles a bidder must have overcome such as having designed, fabricated, tested, and delivered a minimum of 10 transformers of the same basic ANSI/IEEE design in the past five years. Respondent Hyosung's hearing exhibit 4.

[13] Reasons firms reporting for focusing mainly on initial costs include: specifications set efficiency requirements; purchasers installed product for users; consider evaluated cost only if directed by the owner; line losses are spread over the purchaser's customers; accept lowest and best bid; purchases governed by budget constraints; and experience indicates that LPTs tend to be efficient.

[14] Reasons firms reported only looking at evaluated costs include: initial costs are included in evaluated costs; have found this to be best practice; initial cost is only starting point of evaluation of costs; use owning cost methodology found in IEEE C57.120 and EEI publications; and only consider initial costs and evaluated losses.

[15] One firm reporting that it only considered initial costs indicated that it is because it furnished and installed but was not an end user.

LPTs: Number of purchasers reporting relative importance of initial vs evaluated costs

Only initial cost	Mostly initial cost	Initial cost equal to evaluated cost	Mostly evaluated cost	Only evaluated cost
2	16	28	18	14

Note.–One firm reported both mostly initial cost and initial cost equal to evaluated cost. Reporting that it considered initial cost mainly for system spares but it considered both equally for distribution substations.

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

When asked how frequently they purchased the lowest priced LPT, only 6 reported "always," whereas 31 reported that they do so "frequently," 29 reported "sometimes," 8 reported "rarely," and 2 reported "never."

Sales Terms and Discounts

Producers and importers quote prices on both an f.o.b. and delivered basis. Four producers reported that they quote prices on an f.o.b. basis and three reported quoting on a delivered basis. Among nine responding importers, six quote prices on a delivered basis, and three quote prices on an f.o.b. basis. Whether f.o.b. or delivered, all producers and importers noted arranging transportation for the LPT.

Discount policies on sales of LPTs are varied. The most common discount offered is for multiple units. Since every unit is usually custom-engineered, producers of LPTs can save on the engineering cost and pass some savings on to their customers. Typical sales terms are net 30 days, but *** stated that it requires payment during certain points in the production process.

PRICE DATA

Questionnaire Bid Data

In order to obtain bid data for comparisons, U.S. purchasers were asked to provide bid data for their 10 largest purchases of LPTs for delivery after January 1, 2009.[16] Two types of information were requested from the purchasers: those with respect to the event in general and those that were specific to firms' bids. The general event information requested from purchasers was the customer name, the bid end date, the number of transformers, the project location, the base and top MVA per unit, the high line kV of the unit, the services included the load loss and no load loss evaluation (in dollars per kilowatt), and any other descriptors that would help the Commission identify the bidding event. The firm-specific data requested included the bidding firm's name, the country of origin of the LPT, base price bid, the evaluated loss price, the length of the warranty provided, the delivery date, other differences between the

[16] Additionally, producers and importers were requested to give some details regarding bids for large power transformers which they made for delivery after January 1, 2009. While producers and importers gave voluminous data regarding these bids, matching data between producers and importers may not provide perfectly comparable pricing due to differences that may occur in bidding. For example, a bid for one firm may include an extended warranty, installation, training, filling the transformer with oil, or other add-ons whereas a bid from another firm may include any or none of those. The most detailed, probative data was received from purchasers, which should provide data with the most inter-bid consistency. As such, bid pricing data presented in this section are those which were received from purchasers.

bids, who won the bidding event (including whether the offer was split between firms), and the reason why the firms' bids were either accepted or rejected.[17]

Most purchasers provided substantial amounts of this data, but not all firms provided all data. In particular, a number of purchasers did not provide the evaluated loss price. Some purchasers did not keep information with regard to the country of origin of its non-winning bidders. In all, purchasers provided data on 302 bidding events. Due to the large amount of data collected, selected data for these bidding events are presented in Appendix F. Information is summarized in table V-5.[18]

Table V-5
LPTs: Competitors and winners of bidding events as reported by purchasers

Bidding countries	Number of occurrences	Winning country bid			
		U.S.	Korea	Nonsubject	Split
U.S. (1 bidder)	16	16	--	--	--
U.S. vs. U.S.	6	6	--	--	--
U.S. vs. Korea	16	2	14	--	--
U.S. vs. nonsubject	36	15	--	21	--
U.S. vs. Korea vs. nonsubject	88	15	39	29	2 (Korea/NS) 3 (NS/NS)
Korea (1 bidder)	14	--	14	--	--
Korea vs. Korea	1	--	1	--	--
Korea vs. nonsubject	71	--	46	23	2 (Korea/NS)
Nonsubject (1 bidder)	31	--	--	31	--
Nonsubject vs. nonsubject	36	--	--	35	1 (NS/NS)
Total	315	54	114	139	8

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

Purchasers noted a variety of reasons why a specific bidder won a bidding event. For a plurality of bidding events (153), a lower overall cost was at least one reason for selecting the winning bidder. Within these 153 replies, purchasers noted the evaluated or total ownership cost was more important than

[17] The base price bid, also referred to as the "initial price" or "initial bid price," is the initial monetary cost to the purchaser of the LPT. It may include a number of variables included, but not limited to, delivery charges, warranty, and filling the unit with cooling oil. The "evaluated loss price," also referred to as "evaluated price," "evaluated cost," "evaluated total cost," "total ownership cost," "TOC," or "total cost" refers to the initial bid price plus the costs over time associated with electrical losses because LPTs are around 99.4 to 99.6 percent efficient. Hearing transcript, p. 98 (Blake).

[18] Capital Trade Incorporated prepared an analysis of bidding events on behalf of Respondents Hyosung and HHI. Whereas the data presented therein do not match perfectly with data prepared by the Commission for a few reasons, the vast majority of data do comport. Some data submitted would not be useful for Commission pricing analysis. For example, *** did not supply the size of the transformers for which it reported data. It was excluded from the Commission questionnaire set, but included in the Capital Trade Incorporated set.

the base price. Initial cost was the deciding factor mentioned in only three bidding events, compared with 77 for evaluated cost or total ownership cost (table V-6).

Table V-6
LPTs: Purchasers' reasons for selecting winners of bidding events, by country

Criterion	Number of occurrences	Winning country bid			
		U.S.	Korea	Nonsubject	Split
Price/cost/low bid	97	15	45	36	1
Evaluated cost/low total cost of ownership	78	5	39	29	4
Lead time/schedule/ delivery	46	5	16	24	1
Meet specs	31	4	12	15	0
Only supplier/sole source	17	7	2	8	0
History with supplier	10	3	2	5	0
Best evaluation	7	1	2	4	0
Alliance supplier	6	5	0	1	0
Purchase against current contract	5	0	0	5	0
Warranty	5	1	3	1	0
High quality design	3	1	0	2	0
Fast track project	3	0	0	3	0
Initial cost	3	0	0	3	0
Owner's preference	2	2	0	0	0
Domestic supplier	1	1	0	0	0
Experience	1	0	0	1	0
Other	31	7	9	14	1
Total	345	57	130	151	7

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

Looking specifically at bids that were won by imported Korean LPTs in which the United States was also a bidder, Korea won the bids for a number of reasons. The reasons why each domestic firm that bid was not selected is presented in table V-7.[19]

[19] In addition to questionnaire responses, purchaser *** noted that ***.

Table V-7
LPTs: Bid events lost by U.S. producers to Korean producers: Bid margins and reasons why U.S. producers did not win

* * * * * * *

Bidding prices varied among suppliers and across bids. The firm with the lowest base price did not always win, nor did the firm with the lowest evaluated cost. On average, non-winning bids had base prices that were 19.6 percent above winning bids and an evaluated cost that was 16.7 percent higher. Table V-8 shows the average underbidding margin of Korean suppliers compared with U.S. suppliers of LPTs.[20]

Table V-8
LPTs: Average Korean supplier underbidding margin compared with U.S. suppliers, including base price and evaluated cost, by Korean supplier

Korean supplier	Base price		Evaluated cost	
	Number of comparisons	Average underbidding margin (*percent*)	Number of comparisons	Average underbidding margin (*percent*)
Hyundai	125	11.1	101	9.7
HICO	118	9.7	109	3.9
Iljin	11	34.8	10	19.7
LSIS	3	40.3	0	--

Note.– This table includes data for bids submitted, not for winning bids.

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

In bidding events which it won, HICO underbid U.S. producers 36 of 42 times on initial bid price (by an average margin of 14.2 percent across all comparisons), and 37 of 41 times based on evaluated cost (by an average margin of 11.2 percent across all comparisons). In bidding events which it won, Hyundai underbid U.S. producers all 41 times on initial bid price (by an average margin of 17.5 percent across all comparisons), and all 34 times based on evaluated cost (by an average margin of 15.8 percent across all comparisons).

LOST SALES AND LOST REVENUES

U.S. producers reported 80 instances of lost sales due to competition from Korean imports and two instance of lost revenues where it was necessary to reduce or roll back prices of LPTs. The 62 lost sales allegations involved 128 units valued at a minimum of $198.9 million, and the 2 lost revenue allegations involved 7 units with lost revenue on the sale valued at $1.6 million. Staff contacted or attempted to contact all 36 purchasers named in the allegations. Fourteen purchasers provided responses to the allegations, agreeing with at least $26.1 million of lost sales. A summary of the lost sales allegations and responses is presented in table V-9.

[20] Some bidding events included in table V-8 have not concluded yet. The prices used are the prices that were submitted when the questionnaire was completed.

Table V-9
LPTs: U.S. producers' lost sales allegations

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Staff contacted or attempted to contact both purchasers, ***, named in the two lost revenue allegations. ***. ***.

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[21] Fax from *** and staff telephone interview with ***.

PART VI: FINANCIAL EXPERIENCE OF U.S. FIRMS

BACKGROUND

Five firms provided usable financial data on their operations producing LPTs.[1] These reported data are believed to represent nearly all production of LPTs in the United States in 2011.[2]

OPERATIONS ON LPTs

Income-and-loss data for the reporting U.S. firms' LPT operations are presented in table VI-1, and are briefly summarized here.

- Sales quantity in MVA rose irregularly from 2009 to 2011 (a total increase of *** percent between the two full years) and was *** higher in January-March 2012 than in January-March 2011. Sales quantity in units of LPTs (shown in table C-2) declined irregularly from 2009 to 2011 and was *** in January-March 2012 than in January-March 2011. Sales value fell irregularly between 2009 and 2011 (down by *** percent), but was greater in January-March 2012 than in the year-earlier period (up *** percent). Differences in the relative changes of quantity and value implies that average unit value of sales whether measured on a per-MVA or per-LPT basis, declined between 2009 and 2011, but was higher in January-March 2012 than in the same period in 2011.[3]
- The absolute value of cost of goods sold ("COGS") rose from 2009 to 2011 (up by *** percent in contrast to sales value) and was higher in January-March 2012 than in January-March 2011 (up by *** percent in contrast to sales). Each of the components of COGS was greater in value in 2011 than in 2009. In percentage terms, raw materials rose by *** percent, direct labor rose by *** percent, and other factory costs rose by *** percent. Each of the components of COGS were greater in value in January-March 2012 than in the same period in 2011. These costs also rose as a ratio to sales and on a per-unit basis between those periods as well.[4]

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[1] The firms are ABB, Delta Star, Efacec, PTTI, and SPX Waukesha. Each has a fiscal year that ends on ***. ***, reported internal consumption in January-March 2012, which has been included in total net sales; *** reported transfers to related parties. Although ***. ***. Hyundai Power USA submitted a partial questionnaire response on behalf of its Montgomery, AL facility, which was completed and commenced production of *** in November 2011; reportedly the firm ***. Hyundai prehearing brief, p. 52.

[2] Each firm manufactures and sells an LPT on a project-by-project basis, i.e., to a customer's order and to a specific design. Such projects may require months to complete. Under U.S. GAAP, revenue usually is recognized as it becomes measurable, realized or realizable, and earned (which is typically as a product or service is delivered); additional considerations are that there are no continuing obligations by the seller and risk of ownership has passed to the buyer. In certain circumstances, like those involving long-term construction projects, revenue may be recognized during production even though the revenue has not been realized. This method uses percentage-of-completion to allocate revenues and costs to specific accounting periods. The Commission asked responding U.S. firms whether they recognized revenue by completed contract (as delivered) or percentage-of-completion (during production). ***.

[3] Per-unit values should be used with caution because of the nature of the product and because of changes in product mix. See petition, pp. 20-21; conference transcript, p. 136 (Lee); postconference brief of Hyosung and HICO America, p. 28.

[4] See discussion later in this section of the report of variable profit margin using dollar values only. A comparison of the average unit values per MVA shows that the difference between average unit sales and average unit COGS narrowed, from $*** in 2009 to $*** in 2010 and to a negative $*** in 2011. Between the interim

(continued...)

- Selling, general, and administrative ("SG&A") expenses rose in dollar terms as well as on a percentage-of-sales basis from 2009 to 2011. These expenses were lower in January-March 2012 compared with the same period in January-March 2011.
- Operating income fell *** from 2009 to 2010 to an operating loss in the latter year (a negative $*** percent of sales), accounted for ***, and then fell *** to a larger operating loss in 2011 of $*** percent of sales as *** of the five firms reported an operating loss. In January-March 2011 *** and, overall, the operating loss was $***, equivalent to a negative *** percent of sales. In January-March 2012 *** firms reported losses and the loss was $***, equivalent to a negative *** percent of sales.
- Except for 2009, net income before taxes and cash flow (calculated as net income plus depreciation charges) was negative.

Table VI-1
LPTs: Results of total operations of U.S. firms, fiscal years 2009-11, January-March 2011, and January-March 2012

* * * * * * *

Salient operating data on a firm-by-firm basis are shown in table VI-2.

Table VI-2
LPTs: Results of operations of U.S. firms, by firm, fiscal years 2009-11, January-March 2011, and January-March 2012

* * * * * * *

ABB has production facilities for LPTs in St. Louis, MO and South Boston, VA.[5] It was the ***[6]. ***.[7]

[4] (...continued)
periods, the difference between average unit sales and average unit COGS worsened, from a negative $*** in January-March 2011 to a negative $*** in January-March 2012.

[5] ABB is a large multinational producer of a wide range of products. ABB's annual report discusses LPTs and other products within the context of that firm's Power Products Division (PPD), which produces and sells products world-wide. In part, it stated that ABB's "total orders in 2011 increased by 13 percent (8 percent in local currencies) compared to 2010 driven by investments in power distribution and industry sectors (increased spending by industrial customers in energy-efficient automation and power solutions to increase productivity and quality). Revenues in 2011 grew overall by 7 percent (2 percent in local currencies) due to higher volumes in the short- and mid-cycle business of medium-voltage equipment and distribution transformers. Revenues from late-cycle businesses such as large power transformers were flat." Sales in the Americas continued to account for 26 to 27 percent of the geographic distribution of PPD's revenues with sales in the United States accounting for a one-percent increase in the division's sales from 2010 to 2011. Lower operating margins and EBITDA were ascribed to "continued pricing pressure in an extremely competitive market." The fiscal year 2012 outlook is described as uncertain as a result of continued macroeconomic challenges due to debt burdens, inflation, and interest rate challenges that affect industrial investment and utility spending. Excerpted from ABB's 2011 Annual Report on Form 20-F, pp. 59-60.

[6] See testimony on pricing in hearing transcript, pp. 28-30 (Cusak).

[7] Also e-mail from *** to Commission Staff, August 9, 2011. EDIS document 456822. Some of "all other additional expenses," which are ***.

Delta Star has production facilities for LPTs in Lynchburg, VA and San Carlos, CA. Delta Star is owned primarily by its employees under an Employee Stock Ownership Plan (ESOP).[8] The firm was ***[9]. ***.[10]

Efacec is the U.S. subsidiary of a Portuguese multinational that began operations in the United States in 1998; its U.S. plant, located at Rincon, GA, ***.[11] Efacec's value of sales in 2011 ***.[12] [13]

PTTI, ***, reported data for its production facility at Canonsburg, PA. Its sales of LPTs declined ***.

SPX Waukesha produces LPTs at Waukesha, WI and Goldsboro, NC.[14] By sales, it was ***.[15]

Petitioners stated that they have been subject to a cost-price squeeze and by an inability to recoup costs caused by the price-depressing effects of imports.[16] Petitioners suggested that the Commission examine changes in the industry's variable profit margin as an indicator of price depression instead of analyzing changes in unit costs. By petitioners' calculation, raw material and direct labor costs only were deducted from total revenues, resulting in a variable profit margin of $*** in 2009, $*** in 2010, and $*** in 2011.[17] Commission staff have calculated the variable profit margin based on including all costs

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[8] An ESOP is a "kind of employee benefit plan, similar to a profit-sharing plan." In an ESOP, a company sets up a trust fund into which it contributes new shares of its own stock or cash to buy existing shares (the ESOP may borrow money to buy new or existing shares with the firm making cash contributions to the plan to enable it to repay borrowing). Company contributions to the trust of stock or cash are tax-deductible, as are dividends, within certain limits. Shares in the trust are allocated to individual employee accounts. See, "How an Employee Stock Ownership Plan (ESOP) Works," The National Center for Employee Ownership, found at Internet site http://www.nceo.org, retrieved on July 18, 2011. EDIS document 456851.

[9] A witness for Delta Star testified at the Commission's hearing that the firm has reduced its "prices often to below break-even levels in an attempt to retain sales due to competition from the Korean imports." Hearing transcript, p. 39 (Newman).

[10] E-mail from *** to Commission staff, August 9, 2011. EDIS document 456822.

[11] ***.

[12] E-mail from *** to Commission staff, August 1, 2011. EDIS document 456821.

[13] Respondents Hyosung/HICO request the Commission to discount Efacec's financial results in its consideration of impact. Hyosung/HICO's prehearing brief, pp. 73-75. This is contested by petitioners. Petitioners' prehearing brief, exh. 22; hearing transcript, p. 56 (Cannon). They also claim that Efacec's ***. Hyosung/HICO's posthearing brief, p. 14. This statement is incorrect (see footnote 2 on page VI-1).

[14] SPX Waukesha is part of the Flow Technology segment of SPX Corporation. Total company revenues increased by 12 percent to nearly $5.5 billion in 2011 from 2010. The Flow Technology segment, in which LPTs are included, accounted for about 37 percent of total company revenues, $2.0 billion, in 2011 (up from $1.7 billion in revenues in 2010) and segment income of $268.4 million, up from $215.6 million in 2010. Company growth was ascribed to acquisitions and additional sales of food and beverage, power and energy, and general industrial end markets. SPX Corp. 2011 Form 10-K, pp. 25 and 29. The corporation's management further stated that it saw positive order trends in the firm's U.S.-based power transformer business, driven by robust replacement demand, which continued in the early part of 2012, and constitutes an indication that the next investment cycle is underway. To capitalize on the opportunity, SPX expanded the Waukesha facility with construction being completed by the end of 2011 and production of large high-voltage power transformers starting in early 2012. 2011 Annual report, p. 11. SPX further stated that the decline in margins was from lower pricing on power transformers during 2011 and start-up costs of $11.4 million associated with the expansion of the facility in Waukesha, WI. SPX Corp. 2011 Form 10-K, p. 29.

[15] E-mail from *** to Commission staff, August 5, 2011. EDIS document 456853.

[16] Petitioners' prehearing brief, pp. 61-67.

[17] Petitioners' prehearing brief, pp. 67-68. This calculation is mathematically correct, but it does not encompass all of the variable costs associated with the production of LPTs because it uses only the costs of direct materials and

(continued...)

that vary with output (i.e., raw materials, direct labor, and the variable cost components of other factory costs as well as SG&A expenses).[18] This calculation shows that the margin fell rapidly from $*** in 2009 to $*** in 2010 and to $*** in 2011. An alternative to this would be to only include the cost categories of COGS within the calculation (i.e., not to consider SG&A expenses): This calculation likewise shows that the margin fell rapidly from $*** in 2009 to $*** in 2010 and to $*** in 2011. Hence, irrespective of the way in which the margin is calculated, the margin narrows dramatically from 2009 to 2011.

Total raw material costs of the five reporting U.S. firms increased irregularly from $*** in 2009 to $*** in 2011, and were higher in January-March 2012 ($***) than in the same period in 2011 ($***).[19] Total raw material costs increased from *** percent of sales to *** percent of sales between 2009 and 2011 and were higher in January-March 2012 at *** percent than in the same period in 2011 when they accounted for *** percent. Raw material costs declined as a share of total COGS from 2009 to 2010, from *** percent to *** percent, because of relative increases in labor and other factory costs, but the ratio was higher in 2011 at *** percent. In both interim periods they accounted for approximately *** percent of COGS. Reportedly, domestic producers utilize escalator clauses and hedging to adjust for raw material cost changes. According to testimony at the Commission's hearing, domestic producers have been unable to increase prices to recoup increases in raw material costs.[20] The Commission's questionnaire requested U.S. firms to break out the main components of their raw material costs, including grain-oriented electrical steel, steel plate, dielectric mineral oil, controls and accessories, and windings.[21] Data on the firms' raw material costs are shown in table VI-3.

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[17] (...continued)
labor. Also, direct labor costs may have more of the cost behavior of fixed costs than variable costs. A witness for Delta Star, an ESOP, testified that the firm does not lay workers off, and other firms testified about their worker training programs, the implication was that direct labor may be more like a fixed cost and not a variable cost.

[18] Staff requested each of the five firms to provide a percentage breakdown of variable and fixed costs for direct materials, direct labor, other factory costs, and SG&A expenses. This percentage was multiplied by the dollar amount of the cost items reported by each firm to calculate a total variable cost and contribution margin (total revenues minus total variable costs) for the industry, by year. Each of the five firms classified raw materials and direct labor as *** percent variable; other factory costs and SG&A expenses had a variable component of between *** percent and between *** percent, respectively. Except for *** the mix between variable and fixed costs did not vary much or at all between the full year periods of 2009 to 2011.

[19] Similar to the variable profit margin that was described earlier, the difference between total sales revenues and total raw material costs narrowed considerably from 2009 to 2011, from $*** in 2009 to $*** in 2010, and to $*** in 2011. The difference was $*** in January-March 2011 and *** in January-March 2012 at $***.

[20] Hearing transcript, p. 56 (Cannon). The petitioners alluded that the Korean producers do not include such price escalators in their bids to U.S. purchasers, similar to the way in which their warranties differ from those of domestic producers.

[21] Windings are predominantly copper. The all other category includes bushings, insulators, etc. Reportedly, price escalation clauses in contracts have allowed U.S. firms to recover increasing raw material costs (or, conversely, to give up some price declines in raw material costs). Petitioners allege that the U.S. firms have been forced to accept the risk of raw material cost increases in a period of volatile commodity prices by contract practices of Korean producers in the U.S. market. Petitioners' postconference brief, pp. 40-41. Respondents dispute this. Postconference brief of HHI and Hyundai USA, p. 16. Postconference brief of Hyosung and HICO America, p. 4, note 5.

Table VI-3
LPTs: Raw material costs, fiscal years 2009-11, January-March 2011, and January-March 2012

* * * * * * *

The "all other" category of costs changes more with changes in product mix than does the category of GOES or windings. Differences in the tank or mechanical frame, additional cooling, the addition of other parts, and changes in insulation within the core or windings affect the category (see Part I of this report for a description of the product).

A variance analysis for the reporting U.S. firms is not presented here. A variance analysis provides an assessment of changes in profitability as related to changes in pricing, cost, and volume. This analysis is more effective when the product involved is a homogeneous product with no variation in product mix (i.e., consistent cost structure), which is not the case here where each sale is a product designed to a specific design for a specific customer. Also, as noted earlier, there are concerns about the usefulness of unit values, which are used to construct the variance calculation.

CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES

Data on capital expenditures and research and development ("R&D") expenses related to the production of LPTs are shown in table VI-4.

Table VI-4
LPTs: Capital expenditures and R&D expenses, by firms, fiscal years 2009-11, January-March 2011, and January-March 2012

* * * * * * *

Delta Star reported that its capital expenditures focus on improvements ***.[22]

Efacec's reported capital expenditures ***.[23]

SPX Waukesha reported ***.[24]

Two foreign-based producers have reported building U.S. plants to produce power transformers, but neither produced subject LPTs during the period investigated. Hyundai reported capital expenditures related to building a new production facility in Montgomery, AL. It started producing nonsubject power transformers in November 2011. It reported capital expenditures of $*** in 2009, $*** in 2010, and $*** in 2011.[25] Reportedly, Mitsubishi Electric Power Products, Inc. announced that it will construct a transformer plant near Memphis, TN. The plant is estimated to cost approximately $200 million and was scheduled to begin production after employee training in 2012;[26] this estimated date apparently has

[22] Attachment to e-mail from *** to Commission staff, August 9, 2011. EDIS document 456822 (preliminary phase).

[23] Efacec's U.S. producers' questionnaire, sections II-2 and III-12 (preliminary phase).

[24] Waukesha's U.S. producers' questionnaire, section II-2 (preliminary phase).

[25] Hyundai's prehearing brief, p. 52; also Hyundai's questionnaire response sections II-4 and III-12. Hyundai reported *** with delivery in 2013. At the Commission's hearing a witness for Hyundai stated that the Montgomery, AL plant had finished the production of one LPT in April 2012, had bid to supply more than 100 LPTs with capacities ranging from 60 to 450 MVA, and had won six contracts to supply 12 LPTs in 2013. Hearing transcript, pp. 165-166 (Egan).

[26] Announcement dated February 14, 2011, reprinted in the postconference brief of HHI and Hyundai USA, exh. 11.

slipped as the firm recently started building the plant and is not expected to begin production until 2013.[27]

ASSETS AND RETURN ON INVESTMENT

The Commission's questionnaire requested data on assets used in the production, warehousing, and sale of LPTs to compute return on investment ("ROI") for 2009 to 2011. Operating income (from table VI-1) was divided by total assets, resulting in ROI, shown in table VI-5.

Table VI-5
LPTs: Value of assets used in the production, warehousing, and sale, and return on investment, fiscal years 2009-11

* * * * * * *

Changes in the values of current assets shown in table VI-5 are due to increased values of the category of all other current assets and accounts receivable. Changes in property, plant, and equipment reflect the ***.

CAPITAL AND INVESTMENT

The Commission requested U.S. firms to describe any actual or potential negative effects of imports of LPTs from Korea on the firms' growth, investment, and ability to raise capital or development and production efforts (including efforts to develop a derivative or more advanced version of the product). Their responses are shown below.

Actual Negative Effects

ABB ***.
Delta Star ***.
PTTI ***.
Efacec ***.
SPX Waukesha ***.

Anticipated Negative Effects

ABB ***.
Delta Star ***.
PTTI ***.
Efacec ***.
SPX Waukesha ***.

[27] Hearing transcript, p. 107 (Cusak). Reportedly the plant is scheduled to open in April 2013. Petitioners' posthearing brief, exh. 1, p. 100 and exh. 21.

PART VII: THREAT CONSIDERATIONS AND INFORMATION ON NONSUBJECT COUNTRIES

Section 771(7)(F)(i) of the Act (19 U.S.C. § 1677(7)(F)(i)) provides that--

> In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors[1]--
>
> (I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,
>
> (II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,
>
> (III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,
>
> (IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices, and are likely to increase demand for further imports,
>
> (V) inventories of the subject merchandise,
>
> (VI) 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,
>
> (VII) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),

[1] Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that "The Commission shall consider {these factors} . . . as a whole in making a determination of whether further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted under this title. The presence or absence of any factor which the Commission is required to consider . . . shall not necessarily give decisive guidance with respect to the determination. Such a determination may not be made on the basis of mere conjecture or supposition."

> (VIII) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and
>
> (IX) any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).[2]

Parts IV and *V* present the volume of subject imports and pricing of domestic and imported products, respectively. Information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in *Part VI*. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries and the global market.

THE INDUSTRY IN KOREA

The petition identified two potential producers of LPTs in Korea, Hyosung and HHI.[3] Hyosung produces LPTs at its Changwon, Korea plant, which produces transformers from 10 MVA to 945 MVA and with voltage ratings up to 765 kV.[4] The Commission received questionnaire responses from two producers or exporters of LPTs in Korea, which are believed to account for virtually all, if not all, of U.S. imports in 2011.[5] According to testimony provided at the hearing, Iljin and LSIS are two other LPT producers that possess production capacity in Korea.[6]

As detailed in table VII-1, Korean LPT capacity increased by *** percent between 2009 and 2011. Hyosung increased its production capacity in February 2010 by building a new facility adjacent to its existing facility in Changwon, Korea, which is primarily dedicated to the production of LPTs of up to 2,000 MVA and 765 kV. Hyosung invested in this increased capacity to satisfy growing demand in non-

[2] Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

[3] HHI and Hyosung were the only two exporters of LPTs from Korea of any significance during the period examined. HHI began selling LPTs in the United States in approximately 1982 and Hyosung began in approximately 1994. Respondent HHI's postconference brief, p. 1.

[4] Respondent Hyosung's prehearing brief, p. 3.

[5] In their questionnaire responses, Hyosung and HHI estimated that they accounted for a combined *** of total U.S. exports of LPTs from Korea in 2011.

[6] Hearing transcript, p. 47 (Luberda), p. 57 (Canon), and p. 232 (Neal). According to Hyosung, Iljin's annual capacity is 12,000 MVA and LSIS' annual capacity is 15,000 MVA. Respondent Hyosung's posthearing brief, Responses to Commission questions, p. A-84. ***.

U.S. markets.[7] Exports accounted for the largest share of total shipments, with United States being the largest export market for LPT producers in Korea.[8]

Table VII-1
LPTs: Data for capacity, production, shipments, and inventories of producers in Korea, 2009-11, January-March 2011, January-March 2012, and projected 2012-13

* * * * * * *

Both Korean producers are related to firms that produce, have the capability to produce, or have plans to produce LPTs in the United States or other countries.[9] ***.[10]

Hyosung reported that is capable of producing shell form transformers and that HICO, its wholly-owned U.S. subsidiary, which imports LPTs produced by Hyosung in Korea, sold *** shell form units, totaling *** MVA worth $*** over the period.[11] The Commission requested that producers of LPTs in Korea report the maximum high line system voltage (kV) and maximum top-rated MVA for standard step-up/step-down transformer unit that their firm produced between January 2009 and March 2012; the maximum high line system voltage (kV) and maximum top-rated MVA for an autotransformer unit that their firm produced between January 2009 and March 2012. The results are presented in table VII-2.

Table VII-2
LPTs: Korean producers; maximum high line system voltage and maximum top-rated MVA on standard step-up/step-down transformer unit and autotransformer unit produced between January 2009 and March 2012

* * * * * * *

U.S. INVENTORIES OF IMPORTED MERCHANDISE

Table VII-3 presents data on U.S. importers' reported inventories of LPTs. Inventories of LPTs are not typically maintained because these products are made to order and have particular applications as specified by the customer.[12]

[7] Hyosung projects its exports to non-U.S. markets to grow for the foreseeable future. Conference transcript, p. 124 (Neal). Respondent Hyosong's postconference brief, Response to Staff Questions, p. 5. According to testimony from a representative from HHI, there is growing demand in Saudi Arabia and the United Arab Emirates, which are two of the firm's primary export markets. Hearing transcript, p. 169 (Lee). Respondent HHI's posthearing brief, p. 14, exh. 1.

[8] Other export markets identified by Korean producers of LPTs include: ***.

[9] Nantong Hyosung Transformer Co., Ltd. produces LPTs in Nantong, China and is a subsidiary of Hyosung. Hyundai Heavy Industries Bulgaria produces LPTs in Sofia, Bulgaria and is a subsidiary of HHI. As noted earlier, HHI's U.S. subsidiary, Hyundai Power Transformers USA, opened a facility for producing LPTs in Montgomery, AL in November 2011.

[10] ***. ***. ***.

[11] Respondent Hyosung's prehearing brief, p. 5.

[12] Conference transcript, pp. 80 (Kerwin). HICO was the only U.S. importer of LPTs from Korea to report inventories of subject merchandise; however, these inventories reflect finished goods in transit in response to previous bid awards. Respondent Hyosung's posthearing brief, p.1. ***. Email from ***, August 17, 2011.

Table VII-3
LPTs: U.S. importers' inventories, 2009-11, January-March 2011, and January-March 2012

* * * * * * *

U.S. IMPORTERS' OUTSTANDING ORDERS

U.S. importers reported approximately $*** million of outstanding orders of LPTs from Korea since March 31, 2012.[13]

ANTIDUMPING DUTY ORDERS IN THIRD-COUNTRY MARKETS

On April 23, 2012, based on a complaint filed by ABB Inc. of Varennes, Québec, and CG Power Systems Canada Inc. of Winnipeg, Manitoba, the Canada Border Services Agency initiated an investigation into the alleged dumping of liquid dielectric transformers having a top power handling capacity equal to or exceeding 60,000 kilovolt amperes (60 megavolt amperes), whether assembled or unassembled, complete or incomplete, originating in or exported from Korea. On June 22, 2012, the Canadian International Trade Tribunal determined that there was evidence that disclosed a reasonable indication that the dumping has caused injury or is threatening to cause injury. The estimated overall weighted average margin of dumping was 34.6 percent.[14]

INFORMATION ON NONSUBJECT SOURCES

In assessing whether the domestic industry is materially injured or threatened with material injury "by reason of subject imports," the legislative history states "that the Commission must examine all relevant evidence, including any known factors, other than the dumped or subsidized imports, that may be injuring the domestic industry, and that the Commission must examine those other factors (including non-subject imports) 'to ensure that it is not attributing injury from other sources to the subject imports.'"[15]

Global Industry

There is substantial production of LPTs in Europe, Asia, and the Americas. Korea was the leading global exporter of LPTs (based on global trade in HS 8504.23, which includes nonsubject products) in 2011 (figure VII-1). The leading nonsubject exporter in 2011 was China, which accounted for 12.3 percent of global exports.[16] ***.[17] While China is the second largest global exporter, a substantial portion of China's exports are to other countries in Asia. China's top five export destinations in 2011 were India, Indonesia, Vietnam, Pakistan, and Thailand.[18] ***.[19]

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[13] ***. ***.

[14] "Liquid Dielectric Transformers, Preliminary Injury Inquiry No. PI-2012-001, Canada: AD investigation of transformers from Korea," http://www.citt.gc.ca/dumping/preinq/determin/pi2m001_e.asp?aaed, retrieved, July 23, 2012.

[15] Mittal Steel Point Lisas Ltd. v. United States, Slip Op. 2007-1552 at 17 (Fed. Cir., Sept. 18, 2008), quoting from Statement of Administrative Action on Uruguay Round Agreements Act, H.R. Rep. 103-316, Vol. I at 851-52; see also Bratsk Aluminum Smelter v. United States, 444 F.3d 1369 (Fed. Cir. 2006).

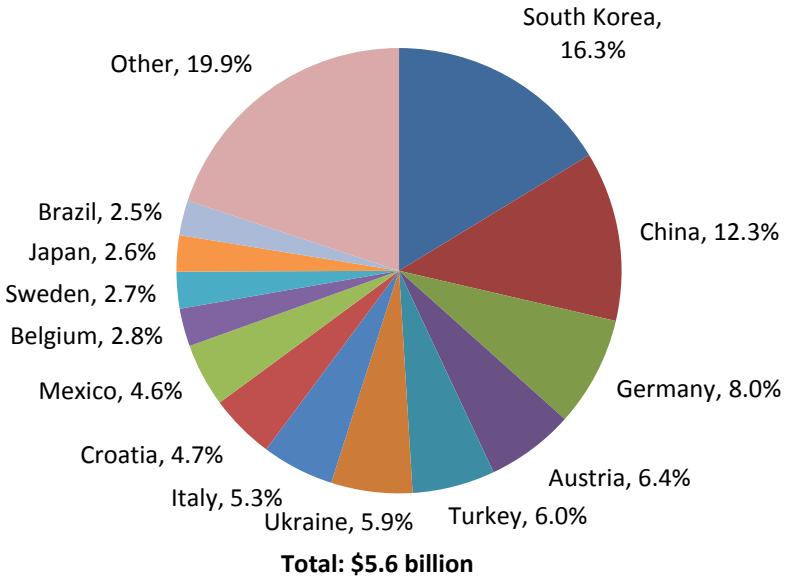
[16] U.S. and global trade data discussed in this section include liquid dielectric transformers having a power handling capacity exceeding 10,000 kVA (10 MVA), which are in HS 8504.23. These data, therefore, include nonsubject products. GTIS, Global Trade Atlas database (accessed May 29, 2012).

[17] ***.

[18] GTIS, Global Trade Atlas database (accessed May 29, 2012).

[19] ***.

Figure VII-1
LPTs: Leading global exporters of liquid dielectric transformers having a power handling capacity exceeding 10,000 kVA (10 MVA), 2011



Note.--Trade in HS 8504.23, which includes nonsubject products. Full-year India and Israel export data were not available, so data for India and Israel (which are in the "other" group) are based on global imports from these two countries.

Source: GTIS, Global Trade Atlas database (accessed May 29, 2012).

Germany was the third largest global exporter (8.0 percent of global exports) and Austria was the fourth largest exporter (6.4 percent). Germany's top five export destinations in 2011 were the United Arab Emirates, the United States, Saudi Arabia, France, and New Zealand, while Austria's were the United States, Iraq, the United Kingdom, South Africa, and Switzerland.[20]

Leading nonsubject suppliers to the U.S. market

The leading nonsubject suppliers of LPTs to the United States during 2009-11 were Mexico, Canada, Austria, and the Netherlands (table VII-4). U.S. imports from Mexico, Canada, and Austria decreased during this time period, while imports from the Netherlands increased by $40.5 million (80 percent). China was the leading global exporter in 2011, but it accounted for less than 2 percent of U.S. imports annually during 2009-11.[21] While some of the leading nonsubject suppliers are home to multiple producers, others have just a single large producer:

- **Mexico:** There are at least four producers of LPTs in Mexico, IEM Industries (up to 650 MVA), Prolec GE (up to 1,000 MVA), Siemens, and WEG (up to 350 MVA).[22] During 2009-11, 83 percent of Mexican LPT exports were to the United States.[23]

[20] GTIS, Global Trade Atlas database (accessed May 29, 2012).
[21] Trade data are based on imports in HS 8504.23, liquid dielectric transformers having a power handling capacity exceeding 10,000 kVA (10 MVA). These data include nonsubject products. USITC DataWeb/USDOC (accessed May 29, 2012).
[22] Information on the maximum size produced by Siemens in Mexico was not available. An example of an LPT produced in Mexico in a Siemens brochure was 420 MVA and 375 kV. Condumex Web site, http://www.condumexinc.com/ (accessed May 29, 2012); Prolec GE, "Generation Power Transformers," p. 1,

- **Canada:** Firms that produce LPTs in Canada include ABB (100 to 1,200 MVA) and CG Power Systems (up to 1,000 MVA).[24] At least two companies, GE and Surplec HV, do not manufacture new transformers in Canada but do have Canadian LPT remanufacturing.[25] During 2009-11, 97 percent of Canadian exports of LPTs were to the United States.[26]
- **Austria:** Siemens is the principal LPT producer in Austria and primarily exports LPTs with a capacity of greater than 100 MVA to the United States.[27]
- **The Netherlands:** SMIT Transformers, part of the SGB-SMIT Group, supplies transformers greater than 100 MVA to the United States from its plant in the Netherlands.[28] SGB-SMIT recently acquired OTC Services, a company that provides transformer maintenance and repair in Louisville, Ohio.[29] Unlike the other leading suppliers, U.S. imports from the Netherlands increased during 2009-11.[30]

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http://www.prolecge.com/interneten/upload/MR/EN/PWgeneration.pdf; WEG, "Energy Power Transformers," p. 3, http://catalogo.weg.com.br/files/wegnet/WEG-power-transformers-usa721-brochure-english.pdf; Siemens, "Transforming Pure Power into Stable Supply, Siemens Transformers," http://www.energy.siemens.com/us/pool/hq/power-transmission/Transformers/Power%20Transformers/power_transformers_above_200_MVA.pdf.

[23] GTIS, Global Trade Atlas database (accessed May 29, 2012).

[24] Chantal Gadoua, "ABB Varennes - Powerfully Transforming the Grid for 40 Years," October 25, 2011, http://www.abb.com/cawp/seitp202/f0aa6040a110b356852579350068 47f6.aspx; CG Power Systems Web site, http://www.cgglobal.com/frontend/ProductDetail.aspx?id=TFw8WXHLcaY= (accessed August 10, 2011) and http://www.cgglobal.com/frontend/ProductDetail.aspx?id=vOMoSlKUXes= (accessed August 10, 2011).

[25] GE, "Transformer Remanufacturing," pp. 1–2, http://www.geindustrial.com/publibrary/checkout/GEA-18022?TNR=Service%20and%20Maintenance|GEA-18022|generic; Surplec HV Web site, http://www.surplechv.com/en/home/news/new-high-voltage-facility.html (accessed May 29, 2012).

[26] GTIS, Global Trade Atlas database (accessed May 29, 2011).

[27] Of U.S. LPT imports from Austria during 2009-11, 98 percent had a power handling capacity greater than 100 MVA. USITC DataWeb/USDOC (accessed May 29, 2012); Siemens, "Siemens PTD Takes Over VA Tech's Transmission and Distribution Division (T&D)," News release, July 13, 2005, http://www.siemens.com/press/en/pressrelease/?press=/en/pr_cc/2005/07_jul/ptd200507378_%28va-tech%29_1282303.htm.

[28] SGB-SMIT Group Web site, http://www.sgb-smit.com/locations/smit-nijmegen/location.html and http://www.sgb-smit.com/products-solutions/large-power-transformers/product/product.html (accessed May 29, 2012); "Transforming the Industry," *Modern Utility Management*, Spring 2010, http://www.modernutilitymanagement.com/article-page.php?contentid=9935&issueid=310.

[29] SGB-SMIT Group Web site, http://www.sgb-smit.com/about-us/news/newsdetail/article/sgb-smit-gruppe-baut-geschaeft-in-den-usa-aus.html (accessed May 29, 2012).

[30] USITC DataWeb/USDOC (accessed May 29, 2012).

Table VII-4
LPTs: Leading nonsubject sources of U.S. imports of liquid dielectric transformers having a power handling capacity exceeding 10,000 kVA (10 MVA), 2009–11, and major producers in those countries

Country	Calendar year imports			LPT producers	Size range
	2009	2010	2011		
	Value ($1,000)				
Austria	137,082	112,560	117,487	Siemens	Not available
Canada	147,810	143,987	93,455	ABB	100 to 1,200 MVA, up to 765 kV
				CG Power Systems	Up to 1,000 MVA, up to 765 kV
				GE (remanufacturing)	Up to 1,000 MVA
				Surplec HV (remanufacturing)	Up to 100 MVA, less than 230 kV
Mexico	259,756	160,927	157,710	IEM Industries/Grupo Condumex	Up to 650 MVA
				Prolec GE	Up to 1,000 MVA, up to 550 kV
				Siemens	Not available
				WEG	Up to 350 MVA, up to 550 kV
Netherlands	50,953	70,692	91,502	Smit Transformers	>100 MVA to 1,200 MVA, up to 800 kV

Note.--Trade data are based on imports in HS 8504.23, liquid dielectric transformers having a power handling capacity exceeding 10,000 kVA (10 MVA). These data include nonsubject products.

Sources: USITC DataWeb/USDOC (accessed May 29, 2012); GE, "Transformer Remanufacturing," pp. 1–2, http://www.geindustrial.com/publibrary/checkout/GEA-18022?TNR=Service%20and%20Maintenance|GEA-18022|generic; Surplec HV Web site, http://www.surplechv.com/en/home/news/new-high-voltage-facility.html (accessed May 29, 2012); Chantal Gadoua, "ABB Varennes - Powerfully Transforming the Grid for 40 Years," October 25, 2011, http://www.abb.com/cawp/seitp202/f0aa6040a110b356852579350068 47f6.aspx; CG Power Systems Web site, http://www.cgglobal.com/frontend/ProductDetail.aspx?id=TFw8WXHLcaY= (accessed August 10, 2011) and http://www.cgglobal.com/frontend/ProductDetail.aspx?id=vOMoSlKUXes= (accessed August 10, 2011); SGB-SMIT Group Web site, http://www.sgb-smit.com/locations/smit-nijmegen/location.html (accessed May 29, 2012); Siemens, "Siemens PTD takes over VA Tech's Transmission and Distribution Division (T&D)," News release, July 13, 2005, http://www.siemens.com/press/en/pressrelease/?press=/en/pr_cc/2005/07_jul/ptd200507378_%28va-tech%29_1282303.htm; Condumex Web site, http://www.condumexinc.com/ (accessed May 29, 2012); Prolec GE, "Generation Power Transformers," p. 1, http://www.prolecge.com/interneten/upload/MR/EN/PWgeneration.pdf; WEG, "Energy Power Transformers," p. 3, http://catalogo.weg.com.br/files/wegnet/WEG-power-transformers-usa721-brochure-english.pdf; Siemens, "Transforming Pure Power into Stable Supply, Siemens Transformers," http://www.energy.siemens.com/us/pool/hq/power-transmission/Transformers/Power%20Transformers/power_transformers_above_200_MVA.pdf.

APPENDIX A

FEDERAL REGISTER NOTICES

INTERNATIONAL TRADE COMMISSION

[Investigation No. 731–TA–1189 (Final)]

Large Power Transformers From Korea: Scheduling of the Final Phase of an Antidumping Investigation

AGENCY: United States International Trade Commission.

ACTION: Notice.

SUMMARY: The Commission hereby gives notice of the scheduling of the final phase of antidumping investigation No. 731–TA–1189 (Final) under section 735(b) of the Tariff Act of 1930 (19 U.S.C. 1673d(b)) (the Act) to determine whether an industry in the United States is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of less-than-fair-value imports from Korea of large power transformers, provided for in subheading 8504.23.00 of the Harmonized Tariff Schedule of the United States.[1]

For further information concerning the conduct of this phase of the investigation, hearing procedures, and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A and C (19 CFR part 207).

DATES: *Effective Date:* February 16, 2012.

FOR FURTHER INFORMATION CONTACT: Stefania Pozzi Porter (202–205–3177), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202–205–1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000. General information concerning the Commission may also be obtained by accessing its Internet server (*http://www.usitc.gov*). The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *http://edis.usitc.gov.*

SUPPLEMENTARY INFORMATION:

Background.—The final phase of this investigation is being scheduled as a result of an affirmative preliminary determination by the Department of Commerce that imports of large power transformers from Korea are being sold in the United States at less than fair value within the meaning of section 733 of the Act (19 U.S.C. 1673b). The investigation was requested in a petition filed on July 14, 2011, by ABB Inc., Cary, NC; Delta Star Inc., Lynchburg, VA; and Pennsylvania Transformer Technology Inc., Cannonsburg, PA.

Participation in the investigation 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 final phase of this investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in section 201.11 of the Commission's rules, no later than 21 days prior to the hearing date specified in this notice. A party that filed a notice of appearance during the preliminary phase of the investigation need not file an additional notice of appearance during this final phase. The Secretary will maintain a public service list containing the names and addresses of all persons, or their representatives, who are parties to the investigation.

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 the final phase of this investigation available to authorized applicants under the APO issued in the investigation, provided that the application is made no later than 21 days prior to the hearing date specified in this notice. Authorized applicants must represent interested parties, as defined by 19 U.S.C. § 1677(9), who are parties to the investigation. A party granted access to BPI in the preliminary phase of the investigation 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 final phase of this investigation will be placed in the nonpublic record on June 20, 2012, and a public version will be issued thereafter, pursuant to section 207.22 of the Commission's rules.

Hearing.—The Commission will hold a hearing in connection with the final phase of this investigation beginning at 9:30 a.m. on July 10, 2012, 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 July 3, 2012. 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 July 6, 2012, at the U.S. International Trade Commission Building. Oral testimony and written materials to be submitted at the public hearing are governed by sections 201.6(b)(2), 201.13(f), and 207.24 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 who is an interested party shall submit a prehearing brief to the Commission. Prehearing briefs must conform with the provisions of section 207.23 of the Commission's rules; the deadline for filing is June 27, 2012. 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 207.25 of the Commission's rules. The deadline for filing posthearing briefs is July 17, 2012; witness testimony must be filed no later than three days before the hearing. In addition, any person who has not entered an appearance as a party to the investigation may submit a written statement of information pertinent to the subject of the investigation, including statements of support or opposition to the petition, on or before July 17, 2012. On July 30, 2012, 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 August 1, 2012, but such final comments must not contain new factual information and must otherwise comply with section 207.30 of the Commission's

[1] For purposes of this investigation, the Department of Commerce has defined the subject merchandise as ''large liquid dielectric power transformers (LPTs) having a top power handling capacity greater than or equal to 60,000 kilovolt amperes 60 megavolt amperes), whether assembled or unassembled, complete or incomplete. Incomplete LPTs are subassemblies consisting of the active part and any other parts attached to, imported with or invoiced with the active parts of LPTs. The ''active part'' of the transformer consists of one or more of the following when attached to or otherwise assembled with one another: The steel core or shell, the windings, electrical insulation between the windings, the mechanical frame for an LPT. The product definition encompasses all such LPTs regardless of name designation, including but not limited to step-up transformers, step-down transformers, autotransformers, interconnection transformers, voltage regulator transformers, rectifier transformers, and power rectifier transformers.''

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. Please be aware that the Commission's rules with respect to electronic filing have been amended. The amendments took effect on November 7, 2011. See 76 Fed. Reg. 61937 (Oct. 6, 2011) and the newly revised Commission's Handbook on E-Filing, available on the Commission's web site at *http://edis.usitc.gov.*

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 investigation must be served on all other parties to the investigation (as identified by either the public or BPI service list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

Authority: This investigation is being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.21 of the Commission's rules.

Issued: March 15, 2012.

By order of the Commission.

James R. Holbein,

Secretary to the Commission.

[FR Doc. 2012–6815 Filed 3–20–12; 8:45 am]

BILLING CODE 7020–02–P

DEPARTMENT OF COMMERCE

International Trade Administration

[A–580–867]

Large Power Transformers From the Republic of Korea: Final Determination of Sales at Less Than Fair Value

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

SUMMARY: The Department of Commerce (the Department) has determined that imports of large power transformers from the Republic of Korea (Korea) are being, or are likely to be, sold in the United States at less than fair value (LTFV), as provided in section 735 of the Tariff Act of 1930, as amended (the Act). The estimated margins of sales at LTFV are listed in the ''Continuation of Suspension of Liquidation'' section of this notice.

DATES: *Effective Date:* July 11, 2012.

FOR FURTHER INFORMATION CONTACT: David Cordell and Brian Davis, AD/CVD Operations, Office 7, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, DC 20230; telephone: (202) 482–0408 or (202) 482–7924, respectively.

SUPPLEMENTARY INFORMATION:

Background

On February 16, 2012, the Department published in the **Federal Register** its preliminary determination in the antidumping duty investigation of large power transformers from Korea. *See Large Power Transformers From the Republic of Korea: Preliminary Determination of Sales at Less Than Fair Value and Postponement of Final Determination,* 77 FR 9204 (February 16, 2012) (*Preliminary Determination*).

As provided in section 782(i) of the Act, we conducted sales and cost verifications of the questionnaire responses submitted by the mandatory respondents, Hyundai Heavy Industries Co., Ltd. (Hyundai) and Hyosung Corporation (Hyosung). We used standard verification procedures, including examination of relevant accounting and production records, as well as original source documents provided by both companies.[1]

We received case briefs from ABB Inc., Delta Star, Inc., and Pennsylvania Transformer Technology Inc. (collectively, Petitioners), Hyundai, and Hyosung on May 25, 2012. These parties submitted rebuttal comments on June 1, 2012. No hearing was requested.

On June 4, 2012 and June 6, 2012, the Department solicited revised sales and cost databases from Hyosung and Hyundai, respectively, to address minor corrections and findings from verification. Accordingly, Hyundai and Hyosung submitted revised sales and cost databases on June 12, 2012. We met with counsel for Petitioners, Hyundai, and Hyosung on June 13, June 18, and June 19, 2012, respectively.[2]

[1] *See* Memoranda to the File entitled ''Home Market Verification of the Sales Response of Hyosung Corporation in the Antidumping Duty Investigation of Large Power Transformers from the Republic of Korea,'' dated May 4, 2012; ''Home Market Verification of the Sales Response of Hyundai Heavy Industries Co., Ltd. (''HHI'') and Hyundai Corporation, U.S.A. (collectively Hyundai) in the Antidumping Duty Investigation of Large Power Transformers from the Republic of Korea,'' dated May 10, 2012; ''Constructed Export Price Verification of the Sales Response of Hyosung Corporation in the Antidumping Duty Investigation of Large Power Transformers from the Republic of Korea,'' dated May 15, 2012; ''Constructed Export Price Verification of the Sales Response of Hyundai Heavy Industries (HHI) and Hyundai Corporation, U.S.A. (collectively Hyundai) in the Antidumping Duty Investigation of Large Power Transformers from the Republic of Korea,'' dated May 16, 2012; ''Verification of the Cost Response of Hyosung Corporation in the Antidumping Investigation of Large Power Transformers from South Korea,'' dated May 4, 2012; and ''Verification of the Cost of Production and Constructed Value Data Submitted by Hyundai Heavy Industries Co., Ltd. in the Antidumping Duty Investigation of Large Power Transformers from the Republic of Korea,'' dated May 2, 2012.

[2] *See* Memoranda to the File entitled, ''Antidumping Duty Investigation concerning Large Power Transformers from the Republic of Korea: Department Meeting with Petitioners' Counsel,'' dated June 15, 2012, ''Antidumping Duty Investigation concerning Large Power Transformers from the Republic of Korea: Department Meeting with Respondent's Counsel (Hyundai),'' dated June 20, 2012, and ''Antidumping Duty Investigation concerning Large Power Transformers from the Republic of Korea: Department Meeting with Respondent's Counsel (Hyosung Corporation),'' dated June 19, 2012.

Period of Investigation

The period of investigation is July 1, 2010, through June 30, 2011.

Scope of Investigation

The scope of this investigation covers large liquid dielectric power transformers (LPTs) having a top power handling capacity greater than or equal to 60,000 kilovolt amperes (60 megavolt amperes), whether assembled or unassembled, complete or incomplete.

Incomplete LPTs are subassemblies consisting of the active part and any other parts attached to, imported with or invoiced with the active parts of LPTs. The ''active part'' of the transformer consists of one or more of the following when attached to or otherwise assembled with one another: The steel core or shell, the windings, electrical insulation between the windings, the mechanical frame for an LPT.

The product definition encompasses all such LPTs regardless of name designation, including but not limited to step-up transformers, step-down transformers, autotransformers, interconnection transformers, voltage regulator transformers, rectifier transformers, and power rectifier transformers.

The LPTs subject to this investigation are currently classifiable under subheadings 8504.23.0040, 8504.23.0080 and 8504.90.9540 of the Harmonized Tariff Schedule of the United States (HTSUS). Although the HTSUS subheadings are provided for convenience and customs purposes, the written description of the scope of this investigation is dispositive.

Analysis of Comments Received

All issues raised in the case and rebuttal briefs by parties to this antidumping investigation are addressed in the Issues and Decision Memorandum from Gary Taverman, Senior Advisor for Antidumping and Countervailing Duty Operations, to Paul Piquado, Assistant Secretary for Import Administration (Issues and Decision Memorandum), which is dated concurrently with and hereby adopted by this notice. A list of the issues raised is attached to this notice as Appendix I. The Issues and Decision Memorandum is a public document and is on file electronically via Import Administration's Antidumping and Countervailing Duty Centralized Electronic Service System (IA ACCESS).

Access to IA ACCESS is available in the Central Records Unit (CRU), room 7046 of the main Department of Commerce building. In addition, a complete version of the Issues and Decision Memorandum can be accessed directly on the Internet at *http://www.trade.gov/ia/*. The signed Issues and Decision Memorandum and the electronic versions of the Issues and Decision Memorandum are identical in content.

Changes Since the Preliminary Determination

Based on our analysis of the comments received and our findings at verifications, we have made certain changes to the margin calculations for Hyundai and Hyosung. For a discussion of these changes, *see* Memoranda to the file, through Angelica Mendoza, Program Manager, from David Cordell and Brian Davis, International Trade Analysts, entitled ''Analysis of Data Submitted by Hyundai Heavy Industries (HHI) and Hyundai Corporation, U.S.A. (collectively Hyundai) in the Final Determination of the Antidumping Duty Investigation of Large Power Transformers from the Republic of Korea'' and, ''Analysis of Data Submitted by Hyosung Corporation in the Final Determination of the Antidumping Duty Investigation of Large Power Transformers from the Republic of Korea,'' dated July 2, 2012; *see also* Memoranda to Neal M. Halper, Director, Office of Accounting, through Michael P. Martin, Lead Accountant, entitled, ''Cost of Production and Constructed Value Calculation Adjustments for the Final Determination—Hyundai Heavy Industries Co., Ltd. and Hyundai Corporation, USA'' and ''Cost of Production and Constructed Value Calculation Adjustments for the Final Determination—Hyosung Corporation,'' both dated July 2, 2012.

Continuation of Suspension of Liquidation

Pursuant to section 735(c)(1)(B) of the Act, we will instruct U.S. Customs and Border Protection (CBP) to continue to suspend liquidation of all entries of large power transformers from Korea which were entered, or withdrawn from warehouse, for consumption on or after February 16, 2012, the date of publication of the *Preliminary Determination.* We will instruct CBP to require a cash deposit or the posting of a bond equal to the weighted-average margins, as indicated below, as follows: (1) The rates for Hyundai and Hyosung will be the rates we have determined in this final determination; (2) if the exporter is not a firm identified in this investigation but the producer is, the rate will be the rate established for the producer of the subject merchandise; (3) the rate for all other producers or exporters will be 22.00 percent, as discussed in the ''All Others Rate'' section, below. These suspension-of-liquidation instructions will remain in effect until further notice.

Manufacturer/exporter	Weighted-average margin (percent)
Hyundai Heavy Industries Co., Ltd	14.95
Hyosung Corporation	29.04
All Others	22.00

All Others Rate

Section 735(c)(5)(A) of the Act provides that the estimated all others rate shall be an amount equal to the weighted average of the estimated weighted-average dumping margins established for exporters and producers individually investigated excluding any zero or *de minimis* margins and any margins determined entirely under section 776 of the Act. Hyundai and Hyosung are the only respondents in this investigation for which we calculated company-specific rates that are not zero or *de minimis* or determined entirely under section 776 of the Act. Therefore, because there are only two relevant weighted-average dumping margins for this final determination and because using a weighted-average calculation risks disclosure of business proprietary information of Hyundai and Hyosung, the ''all others'' rate is a simple-average of these two values, which is 22.00 percent. *See Seamless Refined Copper Pipe and Tube From Mexico: Final Determination of Sales at Less Than Fair Value,* 75 FR 60723, 60724 (October 1, 2010) (using a simple average to determine the ''All Others'' rate when there are only two relevant weighted-average dumping margins because use of a weighted average risks disclosure of business proprietary information).[3]

[3] In the public version of its December 13, 2011, supplemental questionnaire responses at page SA–1, Hyosung provided ranged quantity and value of U.S. sales data, whereas in its January 13, 2012, supplemental questionnaire response at page SBC1, Hyundai provided indexed quantity and value U.S. sales data. Therefore, we were unable to perform the analysis articulated in *Ball Bearings and Parts Thereof From France, et al.: Final Results of Antidumping Duty Administrative Reviews, Final Results of Changed-Circumstances Review, and Revocation of an Order in Part,* 75 FR 53661, 53662–3 (September 1, 2010) in this investigation in determining the ''all others rate.''

Disclosure

We intend to disclose to parties in this proceeding the calculations performed within five days of the date of publication of this notice in accordance with 19 CFR 351.224(b).

International Trade Commission Notification

In accordance with section 735(d) of the Act, we have notified the International Trade Commission (ITC) of our final determination. As our final determination is affirmative and in accordance with section 735(b)(2) of the Act, the ITC will determine, within 45 days, whether the domestic industry in the United States is materially injured, or threatened with material injury, by reason of imports or sales (or the likelihood of sales) for importation of the subject merchandise. If the ITC determines that such injury does exist, the Department will issue an antidumping duty order directing CBP to assess antidumping duties on all imports of the subject merchandise entered, or withdrawn from warehouse, for consumption on or after the effective date of the suspension of liquidation.

Notification Regarding Administrative Protective Order

This notice also serves as a final reminder to parties subject to administrative protective order (APO) of their responsibility concerning the disposition of proprietary information disclosed under APO in accordance with 19 CPR 351.305. Timely notification of the destruction of APO materials or conversion to judicial protective order is hereby requested. Failure to comply with the regulations and the terms of an APO is a sanctionable violation.

This determination is issued and published pursuant to sections 735(d) and 777(i)(l) of the Act.

Dated: July 2, 2012.

Paul Piquado,

Assistant Secretary for Import Administration.

Appendix I

Issues and Decision Memorandum

General

Comment 1: Date of Sale
Comment 2: Facts Available

Hyundai Heavy Industries Co., Ltd.—Specific Comments

Comment 3: Home Market Gross Unit Price
Comment 4: U.S. Gross Unit Price
Comment 5: U.S. Selling Expenses: Commissions and U.S. Duty
Comment 6: CEP Offset
Comment 7: Inconsistent Allocation of Certain Selling Expenses

[FR Doc. 2012–16935 Filed 7–10–12; 8:45 am]

BILLING CODE 3510–DS–P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 731–TA–1189 (Final)]

Large Power Transformers From Korea; Revised Schedule for the Subject Investigation

AGENCY: United States International Trade Commission.

ACTION: Notice.

DATES: *Effective Date:* July 12, 2012.

FOR FURTHER INFORMATION CONTACT: Edward Petronzio (202–205–3176), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202–205–1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000. General information concerning the Commission may also be obtained by accessing its internet server (*http://www.usitc.gov*). The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at *http://edis.usitc.gov.*

SUPPLEMENTARY INFORMATION: On February 16, 2012, the Commission established a schedule for the conduct of the final phase of the subject investigation (77 FR 16559, March 21, 2012). The Commission is revising its schedule as follows: the Commission will make its final release of information on August 3, 2012; and final party comments are due on August 7, 2012.

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

Authority: This investigation is 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.

By order of the Commission.
Issued: July 12, 2012.

Lisa R. Barton,

Acting Secretary to the Commission.

[FR Doc. 2012–17416 Filed 7–17–12; 8:45 am]

BILLING CODE 7020–02–P

APPENDIX B

LIST OF HEARING WITNESSES

CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject:	Large Power Transformers from Korea
Inv. No.:	731-TA-1189 (Final)
Date and Time:	July 10, 2012 - 9:30 a.m.

Sessions were held in connection with this investigation in the Main Hearing Room (room 101), 500 E Street, S.W., Washington, D.C.

OPENING REMARKS:

Petitioners (**R. Alan Luberda**, Kelley Drye & Warren LLP)
Respondents (**Warren E. Connelly**, Akin Gump Strauss Hauer & Feld LLP)

In Support of the Imposition of Antidumping Order:

Kelley Drye & Warren LLP
Washington, D.C.
on behalf of

ABB Inc.
Delta Star, Inc.
Pennsylvania Transformer Technology, Inc.

Deirdre Cusack, Senior Vice President & General Manager, Local Business Unit Manufacturing for Power Transformers North America, ABB Inc.
William Strochecker, Vice President for Strategic Utility Accounts, U.S. Power Sales, ABB, Inc.
David Onuscheck, Senior Vice President, General Counsel, *and* Secretary, ABB Inc.
Steve Newman, Vice President, Delta Star, Inc.
Robert Radcliffe, Director of Sales & Marketing, Delta Star, Inc.
Dennis Blake, General Manager, Pennsylvania Transformers Technology, Inc.
Jorge O. Guerra, Chief Operations Office, USA Efacec
Michael Bauer, Vice President of Sales and Marketing, Power Transformers, Efacec
Michael Kerwin, Director, Georgetown Economic Services
Gina Beck, Economist, Georgetown Economic Services

R. Alan Luberda)
Kathleen W. Cannon) – OF COUNSEL
Benjamin Blase Caryl)

In Opposition to the Imposition of Antidumping Order:

White & Case LLP
Washington, D.C.
on behalf of

Hyundai Heavy Industries Co., Ltd.
Hyundai Corporation, USA ("HHI")

Jean Cheol Lee, General Manager, International Sales and Marketing, HHI
Hwan Soo Lee, General Manager, Atlanta Office, HHI
Sang Gyu Lee, Quotation Engineer, Transformer Design Department, HHI
Sa Hoon Pack, Senior Vice President, HHI
John Egan, Engineering Sales Marketing Manager, Hyundai Power Transformers
Daniel Klett, Principal, Capital Trade

David Bond)
Frank Morgan) – OF COUNSEL
Jay Campbell)

Akin Gump Strauss Hauer & Feld LLP
Washinngton, D.C.
on behalf of

Hyosung Corporation
HICO America Sales & Technology, Inc.

Jason E. Neal, Vice President, HICO America Sales & Technology, Inc.
Alexander Ebbert, Sales and Marketing Director, HICO America Sales & Technology, Inc.
Vincent Chiodo, Sales and Marketing Director, HICO America Sales & Technology, Inc.

Warren E. Connelly)
J. David Park) – OF COUNSEL
Jarrod M. Goldfeder)

CLOSING REMARKS:

Petitioners (**Kathleen W. Cannon**, Kelley Drye & Warren LLP)
Respondents (**Frank Morgan**, White & Case LLP)

APPENDIX C

SUMMARY DATA

Petitioners and Respondent Hyosung agree that volume expressed in MVA (rather than value) is the most reasonable basis for measuring apparent U.S. consumption and market share.[1] Therefore, tables in appendix C present apparent U.S. consumption and market share on the basis of quantity only. To address certain firms' reporting of inventories, which were actually finished units in transit; imports (rather than shipments of imports) from subject and non-subject sources have been used to calculate apparent U.S. consumption.

Table C-1 presents the U.S. market for all LPTs, using top-rated MVAs as a measure of quantity, while table C-2 uses units of LPTs as a measure of quantity. Tables C-3 and C-4 present the U.S. market for LPTs based on categories according to MVA and kV as proposed by respondents in their comments to the Commission's draft questionnaire.

[1] Petitioners' posthearing brief, Answers to Commission questions, p. 82; Respondent Hyosung's posthearing brief, p. 4.

Table C-1
LPTs: Summary data (using top rated MVA as quantity) concerning the U.S. market, 2009-11, January-March 2011, and January-March 2012

(Quantity=MVA, value=1,000 dollars, unit values, unit labor costs, and unit expenses are per MVA; period changes=percent, except where noted)

	Reported data					Period changes			
				January-March					Jan.-March
Item	2009	2010	2011	2011	2012	2009-11	2009-10	2010-11	2011-12
U.S. consumption quantity:									
Amount	112,219	111,383	137,243	29,009	26,245	22.3	-0.7	23.2	-9.5
Producers' share (1)	17.6	17.0	16.1	15.3	17.9	-1.5	-0.6	-0.9	2.6
Importers' share (1):									
Korea	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Total imports	82.4	83.0	83.9	84.7	82.1	1.5	0.6	0.9	-2.6
U.S. imports from:									
Korea:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All other sources:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All sources:									
Quantity	92,465	92,485	115,177	24,582	21,554	24.6	0.0	24.5	-12.3
Value	813,330	766,644	845,310	178,950	141,285	3.9	-5.7	10.3	-21.0
Unit value	$8,796	$8,289	$7,339	$7,280	$6,555	-16.6	-5.8	-11.5	-10.0
Ending inventory quantity	8,586	5,948	12,611	5,626	11,741	46.9	-30.7	112.0	108.7
U.S. producers':									
Average capacity quantity	43,346	50,200	59,439	14,632	19,168	37.1	15.8	18.4	31.0
Production quantity	20,469	19,426	24,049	4,706	6,448	17.5	-5.1	23.8	37.0
Capacity utilization (1)	47.2	38.7	40.5	32.2	33.6	-6.8	-8.5	1.8	1.5
U.S. shipments:									
Quantity	19,754	18,898	22,066	4,427	4,691	11.7	-4.3	16.8	6.0
Value	276,436	211,558	207,349	45,747	47,952	-25.0	-23.5	-2.0	4.8
Unit value	$13,994	$11,195	$9,397	$10,334	$10,222	-32.9	-20.0	-16.1	-1.1
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Inventories/total shipments (1)	***	***	***	***	***	***	***	***	***
Production workers	***	***	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***	***	***
Wages paid ($1,000s)	***	***	***	***	***	***	***	***	***
Hourly wages	***	***	***	***	***	***	***	***	***
Productivity (MVA/1,000 hours)	***	***	***	***	***	***	***	***	***
Unit labor costs	***	***	***	***	***	***	***	***	***
Net sales:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***
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.

Table C-2
LPTs: Summary data (using units of LPTs as quantity) concerning the U.S. market, 2009-11, January-March 2011, and January-March 2012

(Quantity=units, value=1,000 dollars, unit values, unit labor costs, and unit expenses are per unit; period changes=percent, except where noted)

	Reported data					Period changes			
				January-March					Jan.-March
Item	2009	2010	2011	2011	2012	2009-11	2009-10	2010-11	2011-12
U.S. consumption quantity:									
Amount	568	513	622	126	114	9.5	-9.7	21.2	-9.5
Producers' share (1)	30.3	27.7	25.6	27.0	30.7	-4.7	-2.6	-2.1	3.7
Importers' share (1):									
Korea	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Total imports	69.7	72.3	74.4	73.0	69.3	4.7	2.6	2.1	-3.7
U.S. imports from:									
Korea:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All other sources:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All sources:									
Quantity	396	371	463	92	79	16.9	-6.3	24.8	-14.1
Value	813,330	766,644	845,310	178,950	141,285	3.9	-5.7	10.3	-21.0
Unit value	$2,053,864	$2,066,426	$1,825,724	$1,945,109	$1,788,418	-11.1	0.6	-11.6	-8.1
Ending inventory quantity	39	21	42	22	33	7.7	-46.2	100.0	50.0
U.S. producers':									
Average capacity quantity	508	475	499	121	144	-1.8	-6.5	5.1	19.0
Production quantity	177	147	175	35	45	-1.1	-16.9	19.0	28.6
Capacity utilization (1)	34.8	30.9	35.1	28.9	31.3	0.2	-3.9	4.1	2.3
U.S. shipments:									
Quantity	172	142	159	34	35	-7.6	-17.4	12.0	2.9
Value	276,436	211,558	207,349	45,747	47,952	-25.0	-23.5	-2.0	4.8
Unit value	$1,607,186	$1,489,845	$1,304,082	$1,345,500	$1,370,057	-18.9	-7.3	-12.5	1.8
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Inventories/total shipments (1)	***	***	***	***	***	***	***	***	***
Production workers	***	***	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***	***	***
Wages paid ($1,000s)	***	***	***	***	***	***	***	***	***
Hourly wages	***	***	***	***	***	***	***	***	***
Productivity (units/1,000 hours)	***	***	***	***	***	***	***	***	***
Unit labor costs	***	***	***	***	***	***	***	***	***
Net sales:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***
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.

Table C-3
LPTs (Category A): Summary data concerning the U.S. market, 2009-11, January-March 2011, January-March 2012

* * * * * * *

Table C-4
LPTs (Category B): Summary data concerning the U.S. market, 2009-11, January-March 2011, January-March 2012

* * * * * * *

APPENDIX D

U.S. PRODUCTION, IMPORT, AND FOREIGN PRODUCTION DATA REGARDING CATEGORY A AND CATEGORY B LPTs

In their comments to the draft questionnaires, respondents Hyosung and HHI proposed definitions for two like products as follows:

- 60-300 MVA (top rated, standard step-up/step-down equivalent) power transformers for 345kV high line system voltage, plus Category B (top rated, standard step-up/step-down equivalent) power transformers for less than 345 kV high line system voltages (hereafter, "Category A");
- 60 MVA and above (top rated, standard step-up/step-down equivalent) power transformers for 500 kV and above high line system voltages, plus above 300 MVA (top rated, standard step-up/step-down equivalent) power transformers for 345kV high line system voltage (hereafter, "Category B").

In light of requests from respondents Hyosung and HHI to solicit additional information concerning the two proposed definitions of LPTs, the Commission requested U.S. producers and U.S. importers to comment on the comparability of the two categories of LPTs proposed by respondents. These data are provided in the following tables.

Table D-1
LPTs (Category A): U.S. producers' summary data, 2009-11, January-March 2011, and January-March 2012

* * * * * * *

Table D-2
LPTs (Category B): U.S. producers' summary data, 2009-11, January-March 2011, and January-March 2012

* * * * * * *

Table D-3
LPTs (Category A): Summary data concerning the U.S. market, 2009-11, January-March 2011, January-March 2012

* * * * * * *

Table D-4
LPTs (Category B): Summary data concerning the U.S. market, 2009-11, January-March 2011, January-March 2012

* * * * * * *

Table D-5
LPTs (Category A): Data for capacity, production, shipments, and inventories of producers in Korea, 2009-11, January-March 2011, January-March 2012, and projected 2012-13

* * * * * * *

Table D-6
LPTs (Category B): Data for capacity, production, shipments, and inventories of producers in Korea, 2009-11, January-March 2011, January-March 2012, and projected 2012-13

* * * * * * *

APPENDIX E

U.S. PRODUCERS' AND U.S. IMPORTERS' COMMENTS REGARDING THE COMPARABILITY OF LARGE POWER TRANSFORMERS

In their comments to the draft questionnaires, respondents Hyosung and HHI proposed definitions for two like products as follows:

- 60-300 MVA (top rated, standard step-up/step-down equivalent) power transformers for 345kV high line system voltage, plus Category B (top rated, standard step-up/step-down equivalent) power transformers for less than 345 kV high line system voltages (hereafter, "Category A");
- 60 MVA and above (top rated, standard step-up/step-down equivalent) power transformers for 500 kV and above high line system voltages, plus above 300 MVA (top rated, standard step-up/step-down equivalent) power transformers for 345kV high line system voltage (hereafter, "Category B").

In light of requests from respondents Hyosung and HHI to solicit additional information concerning the two proposed definitions of LPTs, the Commission requested U.S. producers and U.S. importers to comment on the comparability of the two categories of LPTs proposed by respondents. These comments are provided on the following pages.

U.S. PRODUCERS' COMMENTS ON THE COMPARABILITY OF CATEGORY A LPTs AND CATEGORY B LPTs

* * * * * * *

U.S. IMPORTERS' COMMENTS ON THE COMPARABILITY OF CATEGORY A LPTs AND CATEGORY B LPTs

* * * * * * *

APPENDIX F

BID DATA

. The 77 responding purchasers provided data on over 300 separate bidding events for deliveries between January 2009 and March 2012 or for bids during this time for later scheduled delivery.[1] Some events did not include all data requested. Selected data from 304 events are displayed in figure F-1 and table F-1. Some data are event-specific (purchaser, number of units, date, base and top MVA, and high line kV), whereas others are bidder-specific (bidder name, country, base price, evaluated cost, and warranty). In addition, the winning bidder is presented along with the winner's price margin[2] and the reason(s) stated for the bidder to have won the event. Presented in table F-1 is the price margin based on base and evaluated costs where available.

Figure F-1 shows the winner's base price margins and evaluated cost margins in descending order. Figure F-2 compares how closely base price winner's margins tracks with evaluated cost margins.[3] This figure demonstrates that evaluated cost margins do not follow from base price margins in lock step, but are somewhat close and follow the same general pattern.

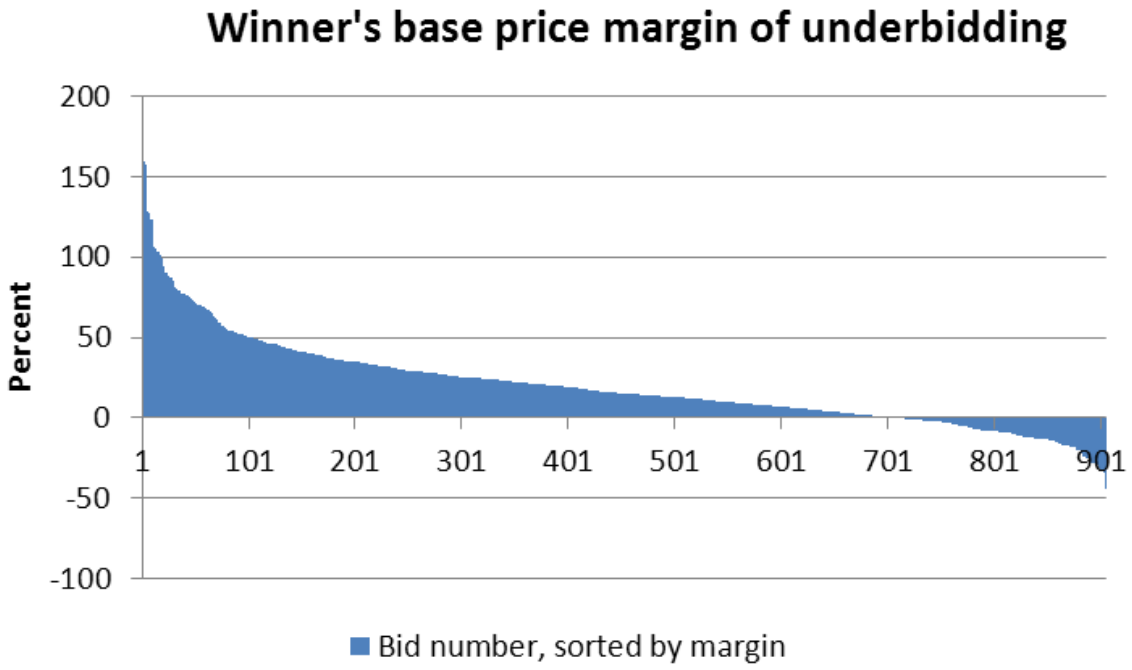
In all, there were 905 comparisons of base price margins, and 624 comparisons of evaluated costs. For base price bid comparisons, the winning bidder was also the lowest bidder in 710 of the 905 comparisons (78.5 percent of the time), whereas the winning bidder was the lowest evaluated cost bidder in 521 of the 624 comparisons (83.5 percent of the time).

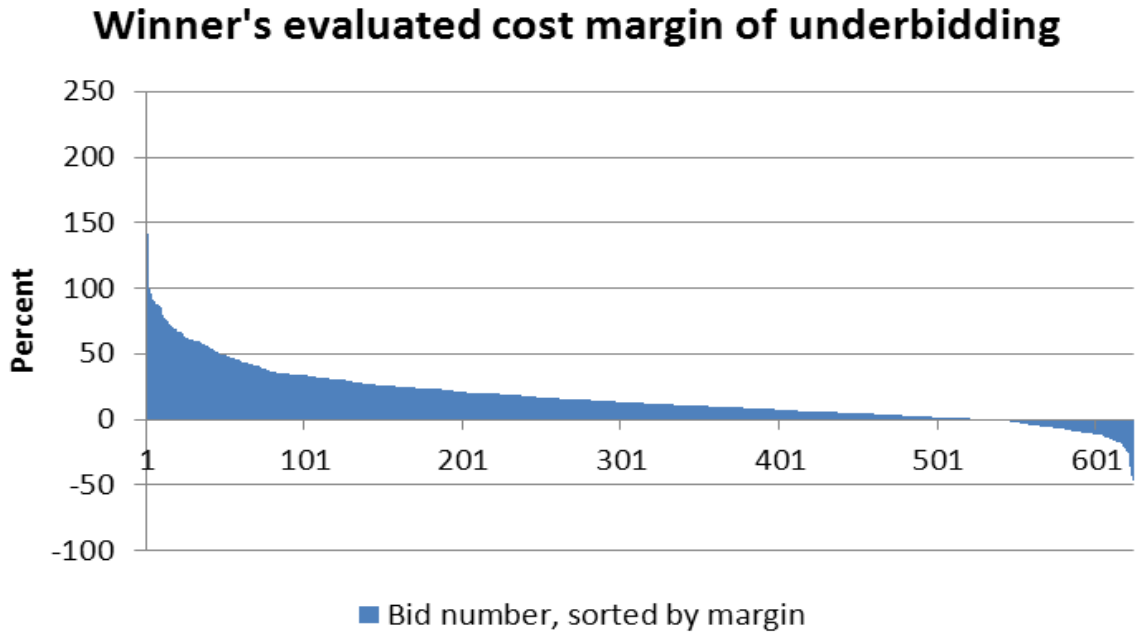
[1] Some bidding events may pre-date January 2009. However, delivery was made during January 2009-March 2012 for these events. Other events for which purchasers submitted data may have been non-subject merchandise, provided no bidding price information, or gave unuseable data. These data are not presented.

[2] This margin is calculated by taking the difference between the winner's bid and each losing bidder's bid and dividing the difference by the winner's bid. Therefore, more than one margin may be calculated per bidding event. In figure F-1, these values are sorted from the highest margin of underbidding to lowest (i.e., the highest margin of overbidding). In these figures, a positive margin indicates that the winning bid was priced lower than the losing bid in a bidding event. These data show that, for approximately three-quarters of bidding event comparisons, the winning bidder was the firm with the lowest base price and/or evaluated loss price. Figure F-2 presents the winner's base price margin of underbidding compared with the evaluated cost margin of underbidding. If the two margins are equal for a certain comparison, the data point would lie along a 45-degree line starting from the origin. Data points in the lower left corner represent bids where the winner did not have the lowest base price or evaluated cost in a comparison.

[3] For evaluated cost (evaluated loss price) data that were below the initial bid price, nonsensical, or otherwise unexpected, the Commission contacted purchasers to correct the submitted data. Not all purchasers corrected their data. A number of those that did reply noted that data they submitted for evaluated cost should be added to the initial bid price to calculate a total evaluated price. Other reasonable data that fit this pattern were also added together to calculate a total evaluated price. Where data were unreasonable (based on a number of criteria), evaluated cost margins were not computed.

Figure F-1
LPTs: Winning bidder's margins of underbidding based on base prices and evaluated cost





Source: Table F-1.

Figure F-2
LPTs: Winning bidder's base price margin compared with evaluated cost margin

Source: Table F-1.

Table F-1
LPTs: Purchaser bidding event details, January 2009-March 2012

* * * * * * *