

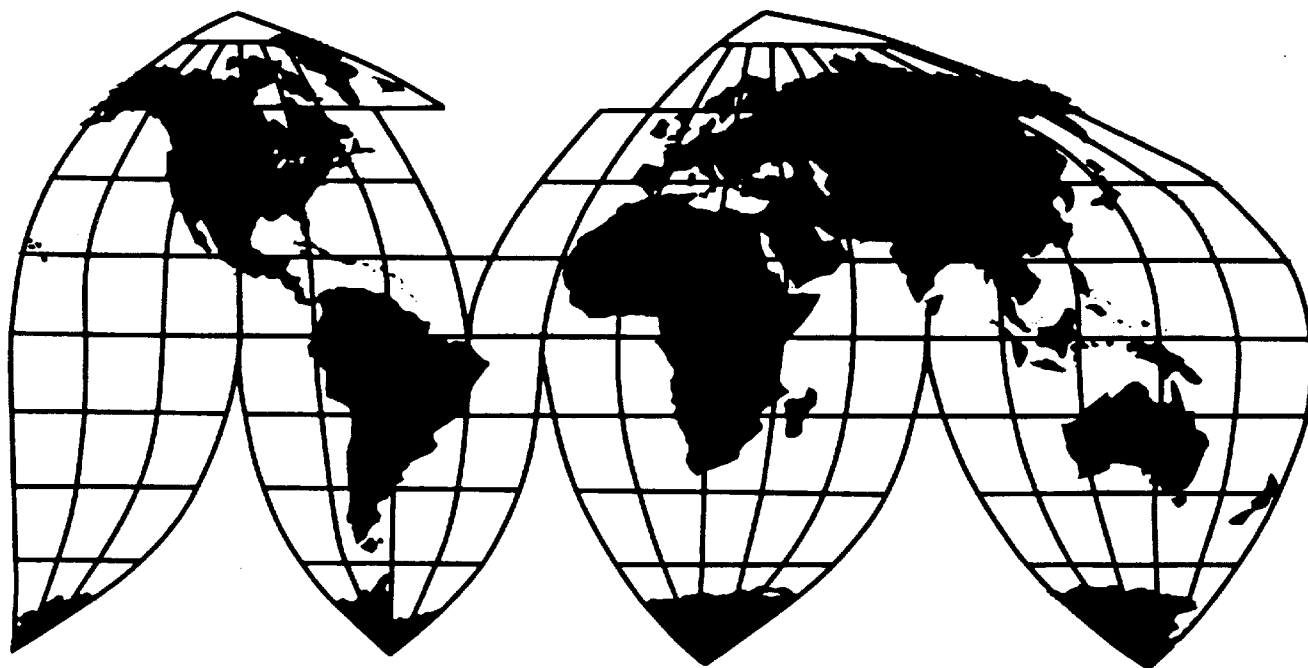
Uranium From Russia

Investigation No. 731-TA-539-C (Second Review)

Publication 3872

August 2006

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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Lemuel Shields, Statistical Assistant

Diane Mazur, Supervisory Investigator

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

U.S. International Trade Commission

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Note.–Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report.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

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-539-C (Second Review)

URANIUM FROM RUSSIA

DETERMINATION

On the basis of the record¹ developed in the subject five-year review, the United States International Trade Commission (Commission) determines, pursuant to section 751(c) of the Tariff Act of 1930 (19 U.S.C. § 1675(c)) (the Act), that termination of the suspended investigation on uranium from Russia would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.²

BACKGROUND

The Commission instituted this review on July 1, 2005 (70 F.R. 38212) and determined on October 4, 2005 that it would conduct a full review (70 F.R. 60368, October 17, 2005). Notice of the scheduling of the Commission's review and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* on January 20, 2006 (71 F.R. 3326).³ The hearing was held in Washington, DC, on May 25, 2006, 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 Deanna Tanner Okun did not participate in this review; Commissioner Charlotte R. Lane made a negative determination.

³ A revision to the schedule was published in the *Federal Register* on April 7, 2006 (71 FR 17915).

VIEWS OF THE COMMISSION

Based on the record in this five-year review, we determine under section 751(c) of the Tariff Act of 1930, as amended (“the Act”), that termination of the suspended investigation covering uranium from Russia would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.^{1 2}

I. BACKGROUND

On December 23, 1991, the Commission determined that there was a reasonable indication that an industry in the United States was being materially injured by reason of imports of uranium from the U.S.S.R. that allegedly were being sold at less than fair value.³ Two days later, the Soviet Union dissolved into separate republics. The Department of Commerce (“Commerce”) and the Commission continued their respective investigations, with uranium producers in the 12 independent countries that occupied the territory of the former Soviet Union becoming the respondents in 12 separate investigations.⁴ Commerce issued preliminary determinations against the industries in the newly independent countries in June 1992.⁵ On October 16, 1992, Commerce entered into suspension agreements with the six Soviet successor countries (Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan) that produced uranium.⁶

In early 1993, Tajikistan and Ukraine requested the termination of their suspension agreements. Accordingly, Commerce reopened the investigations of imports from those countries in April 1993, and issued final affirmative determinations as to each.⁷ The Commission issued a negative determination with respect to Tajikistan and an affirmative determination with respect to Ukraine in August 1993.⁸ Commerce subsequently issued an antidumping duty order on imports of uranium from Ukraine.⁹

The suspension agreements with Kazakhstan, Kyrgyzstan, Russia, and Uzbekistan remained in effect, and were subject to a series of amendments that broadened the range of products subject to the agreements, gave the subject countries a larger quota of U.S. imports, and, in the case of Russia, made changes to correspond with the Russian HEU Agreement¹⁰ and the USEC Privatization Act.¹¹

¹ Commissioner Deanna Tanner Okun not participating.

² Commissioner Charlotte R. Lane dissenting. She joins in Sections I through III.A. of these views.

³ Uranium from U.S.S.R., Inv. No. 731-TA-539 (Preliminary) USITC Pub. 2471 (December 1991) (“Soviet Uranium”).

⁴ 57 Fed. Reg. 11064 (Apr. 1, 1992).

⁵ 57 Fed. Reg. 23380 (June 3, 1992).

⁶ See, e.g., Agreement Suspending the Antidumping Investigation on Uranium from Russia (Oct. 16, 1992), 57 Fed. Reg. 49220 (Oct. 30, 1992). Commerce subsequently terminated the investigations against the remaining countries that did not produce uranium on the grounds that there were no LTFV sales from those countries. 57 Fed. Reg. 48505 (Oct. 26, 1992).

⁷ Uranium From Ukraine and Tajikistan, 58 Fed. Reg. 36640 (July 8, 1993) (final) (“Final LTFV Determination – Ukraine”).

⁸ Uranium From Tajikistan and Ukraine, Inv. Nos. 731-TA-539-D-539-E (Final), USITC Pub. 2669 (Aug. 1993) (“Uranium From Tajikistan and Ukraine”).

⁹ 58 Fed. Reg. 45483 (Aug. 30, 1993).

¹⁰ The Russian HEU Agreement is formally known as the Agreement Between the Government of the United States and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium
(continued...)

In early 1999, the suspension agreement with Kazakhstan was terminated at the request of the Government of Kazakhstan. As a result of the termination, Commerce and the Commission resumed their investigations, and the Commission reached a negative final determination on July 13, 1999.¹²

The Commission conducted full reviews in its first five-year reviews of the suspension agreements on uranium from Russia and Uzbekistan and the antidumping duty order on imports from Ukraine. In these first reviews, Commerce found that revocation of the Russian Suspension Agreement (“RSA”) would likely lead to continuation or recurrence of dumping at a weighted-average margin of 115.82 percent; and the Commission found that termination of the suspended investigation would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.¹³ Commerce published notice of continuation of the suspended antidumping duty investigation concerning uranium from Russia on August 20, 2000.¹⁴ The Commission made negative determinations in the reviews of the antidumping duty order on uranium from Ukraine and the suspended investigation on uranium from Uzbekistan.¹⁵

On July 1, 2005, the Commission instituted this second review pursuant to section 751(c) of the Act, to determine whether termination of the suspended investigation on uranium from Russia would likely lead to continuation or recurrence of material injury within a reasonably foreseeable time.¹⁶

The Commission received responses to its notice of institution from: (i) USEC, Inc. and its wholly owned subsidiary, the United States Enrichment Corporation (collectively “USEC”) (a domestic producer of low enriched uranium); (ii) Power Resources, Inc. (“PRI”) and Crow Butte Resources, Inc. (“CBR”) (both domestic producers of natural uranium, referred to collectively as “PRI/CBR”); (iii) the United Steel, Paper, and Forestry, Rubber, Manufacturing, Energy, Allied-Industrial and Service Workers International Union, AFL-CIO, CFC (“USW”) (a labor union with members employed in the domestic production of uranium); (iv) RWE Nukem, Inc. (“Nukem”) (an importer of uranium from Russia); and (v) the Ad Hoc Utilities Group (“AHUG”) (a coalition of U.S. nuclear utilities which are industrial users of uranium). The Commission did not receive a response from any Russian uranium producer.

On October 4, 2005, the Commission determined that all of the responses described above (except that of AHUG, which is not an “interested party” within the meaning of 19 U.S.C. § 1677(9), and with respect to which the Commission’s regulations do not contemplate an adequacy determination) were individually adequate. The Commission also determined that the domestic interested party group response was adequate, and that the respondent interested party group response was inadequate. Notwithstanding the inadequate respondent interested party group response, and in light of a desire to further examine conditions of competition for this industry, including changes to the U.S.-Russia HEU Agreement, the Commission found that circumstances warranted conducting a full review.

¹⁰ (...continued)

Extracted from Nuclear Weapons. CR at I-36, PR at I-27-28.

¹¹ See, e.g., 59 Fed. Reg. 15373 (April 1, 1994)(Russia); 60 Fed. Reg. 55004 (Oct. 27, 1995)(Uzbekistan); 61 Fed. Reg. 56665 (Nov. 4, 1996)(Russia).

¹² Uranium From Kazakhstan, 64 Fed. Reg. 10317 (Mar. 3, 1999) (notice of continuation of review); Uranium From the Republic of Kazakhstan, 64 Fed. Reg. 31179 (June 10, 1999) (“Final LTFV Determination – Kazakhstan”); Uranium from Kazakhstan, Inv. No. 731-TA-539-A (Final), USITC Pub. 3213 (July 1999) (“Uranium from Kazakhstan”).

¹³ Uranium From Russia, Ukraine, and Uzbekistan: Determinations, 65 Fed. Reg. 48734 (August 9, 2000).

¹⁴ Continuation of Suspended Antidumping Duty Investigation: Uranium From Russia, 65 Fed. Reg. 50958 (August 20, 2000).

¹⁵ Uranium From Russia, Ukraine, and Uzbekistan, Inv. Nos. 731-TA-539-C, E and F (Review), USITC Pub. 3334 (Aug. 2000) (“Russia First Review Determination”).

¹⁶ 70 Fed. Reg. 38212 (July 1, 2005).

The Commission received questionnaire responses from ten domestic producers of the like product: five concentrators (Areva NC Inc., Cotter Corp., Power Resources, Inc., Crow Butte Resources, Inc. (collectively “PRI/CBR”), and Uranium Resources, Inc. (“URI”)); one converter (ConverDyn); one enricher (USEC Inc.); and three fabricators (Areva NP Inc., Global Nuclear Fuel, and Westinghouse Electric Co. LLC (“Westinghouse”). Of the five importers of uranium from Russia (***) that responded to the Commission’s questionnaire, one, ***, reported imports of uranium concentrate; three, *** reported imports of natural uranium hexafluoride; three, ***, reported imports of enriched uranium hexafluoride; and *** reported imports of enriched uranium oxides, nitrates, or metals from Russia during the period of review. The Commission received responses to its questionnaires from 29 purchasers of the subject product. No Russian producers or exporters of subject imports responded to the Commission’s Foreign Producers Questionnaire.

USEC, PRI/CBR, and USW filed briefs and appeared at the hearing in opposition to the termination of the RSA. Nukem and AHUG filed briefs and appeared at the hearing in support of termination of the RSA. The Commission also received a posthearing submission from Rosenergoatom (also known as “Rosatom”), the entity in Russia that is responsible for building and operating domestic nuclear power plants.

The posthearing submission from Rosatom, which contained only limited information, is the only information that the Commission received from Russian uranium producers and exporters in this review. These Russian entities did not respond to the Commission’s notice of institution, did not submit briefs, and did not respond to the Commission’s questionnaires. Accordingly, where appropriate and to the extent that the Rosatom submission was deficient, we have relied on the facts available in this review, which consist primarily of the evidence in the record from the Commission’s original investigations and the first five-year reviews, the information collected by the Commission since the institution of this review, and the information submitted by parties in this review.

II. DOMESTIC LIKE PRODUCT AND INDUSTRY

A. Domestic Like Product

1. Background

In making its determination under section 751(c), the Commission defines “the domestic like product” and the “domestic industry.”¹⁷ The Act defines “domestic like product” as “a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation under this subtitle.”¹⁸ In a section 751(c) review, the Commission also must take into account “its prior injury determinations.”¹⁹

In its final full sunset review of the suspended Russian investigation, Commerce defined the scope of the review as follows:

According to the June 3, 1992, preliminary determination, the suspended investigation of uranium from Russia encompassed one class or kind of merchandise. The merchandise included natural uranium in the form of uranium ores and concentrates; natural uranium

¹⁷ 19 U.S.C. § 1677(4)(A).

¹⁸ 19 U.S.C. § 1677(10). See *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). See also S. Rep. No. 249, 96th Cong., 1st Sess. 90-91 (1979).

¹⁹ 19 U.S.C. § 1675a(a)(1)(a).

metal and natural uranium compounds; alloys, dispersions (including cermets), ceramic products, and mixtures containing natural uranium or natural uranium compound; uranium enriched in U235 and its compounds; alloys dispersions (including cermets), ceramic products and mixtures containing uranium enriched in U235 or compounds or uranium enriched in U235; and any other forms of uranium within the same class or kind. The uranium subject to this investigation was provided for under subheadings 2612.10.00.00, 2844.10.10.00, 2844.10.20.10, 2844.10.20.25, 2844.10.20.50, 2844.10.20.55, 2844.10.50, 2844.20.00.10, 2844.20.00.20, 2844.20.00.30, and 2844.20.00.50 of the Harmonized Tariff Schedule of the United States (“HTSUS”). In addition, the Department preliminarily determined that HEU (uranium enriched to 20 percent or greater in the isotope uranium-235) is not within the scope of the investigation. On October 30, 1992, the Department issued a suspension of the antidumping duty investigation of uranium from Russia and an amendment of the preliminary determination. The notice amended the scope of the investigation to include HEU. Imports of uranium ores and concentrates, natural uranium compounds, and all other forms of enriched uranium were classifiable under HTSUS subheadings 2612.10.00, 2844.10.20, 2844.20.00, respectively. Imports of natural uranium metal and forms of natural uranium other than compounds were classifiable under HTSUS subheadings 2844.10.10 and 2844.10.50.5

In addition, Section III of the Suspension Agreement provides that uranium ore from Russia that is milled into U3O8 and/or converted into UF6 in another country prior to direct and/or indirect importation into the United States is considered uranium from Russia and is subject to the terms of the Suspension Agreement, regardless of any subsequent modification or blending. In addition, Section M.1 of the Suspension Agreement in no way prevents Russia from selling directly or indirectly any or all of the HEU in existence at the time of the signing of the agreement and/or LEU produced in Russia from HEU to the Department of Energy (“DOE”), its governmental successor, its contractors, or U.S. private parties acting in association with DOE or the USEC and in a manner not inconsistent with the Suspension Agreement between the United States and Russia concerning the disposition of HEU resulting from the dismantlement of nuclear weapons in Russia.²⁰

The subject merchandise is a radioactive metal used principally as fuel to generate electricity in nuclear power plants and secondarily as a fuel to propel naval vessels and as an active ingredient in atomic weaponry.²¹ Processing uranium ore into a product usable as fuel in a nuclear reactor involves four successive stages of preparation in which uranium takes on four different forms. The process of transforming U₃O₈ into enriched UO₂ is known as the “uranium fuel cycle.”²² In the first stage, “concentrators” mine uranium ore and extract the uranium content of the ore in a concentrated form of

²⁰ 71 Fed. Reg. 32517, 32518 (June 6, 2006) (footnotes omitted).

²¹ Confidential Staff Report (“CR”) at I-20-23, Public Staff Report (“PR”) at I-17-18.

²² CR at I-23-28, PR at I-18-22. Electric utilities have typically purchased the uranium concentrates, contracted with converters and enrichers to toll-produce the natural uranium hexafluoride (natural UF₆) and low-enriched uranium hexafluoride (“LEU-HF”) or enriched UF₆, and then contracted with fabricators both to toll-produce the LEU-HF into low-enriched uranium dioxide (“LEU-DO”) and pelletize the latter product, and to construct the fuel assemblies. CR at I-28-29, PR at I-22.

U₃O₈, resulting in a product known as “uranium concentrate.”²³ In the second stage, “converters” transform the U₃O₈ into natural uranium hexafluoride (UF₆), which is a powder at room temperature but becomes a gas with relatively little addition of energy.²⁴ In the third stage, the “enricher” vaporizes the natural UF₆ and processes it to increase the percentage of U²³⁵ (the only naturally occurring uranium isotope that is easily fissionable), thereby producing enriched UF₆.²⁵ The effort expended in the enrichment process is measured in “separative work units” (“SWU”). Through the enrichment process, the proportion of U²³⁵ in the uranium is increased from the naturally occurring 0.71 percent to 3 to 5 percent by weight (low-enriched uranium or LEU for use in nuclear plants) or to 20 percent or more (highly-enriched uranium or HEU for use in nuclear propulsion and nuclear weapons). The enriching process also produces a waste stream, or “tails,” which is depleted in its natural concentration of U²³⁵, but can be re-enriched with U²³⁵ and recycled into nuclear fuel.²⁶ LEU can also be produced by de-enriching or “blending down” surplus HEU, *i.e.*, by diluting its concentration of U²³⁵ to LEU levels. In the fourth and final stage, “fabricators” convert the enriched UF₆ into uranium dioxide (UO₂), which they then pelletize and encase the pellets into protective metal sheaths, called fuel assembly rods, to meet the needs of specific nuclear power plants.²⁷ The UO₂ in powder or pellet form, in addition to the previous uranium forms, is part of the subject merchandise, but the fuel assembly rods are not.²⁸

In the 1991 preliminary determination for the original investigation of Uranium from the U.S.S.R. and the 1993 final determination in Uranium from Ukraine, the majority of the Commission found that the five-factor semifinished product analysis dictated a single like product encompassing all four forms of uranium.²⁹ In Uranium from Ukraine, the Commission evaluated whether there were two like products

²³ For the purposes of this review, we use the terms “uranium concentrate” and “U₃O₈” interchangeably. In 2006, the concentrate accounts for either 47.1 percent or *** percent of the total nuclear fuel costs, depending upon which data is used. CR at I-33, PR at I-25.

²⁴ At this point, the uranium consists of several isotopes, which are forms of the uranium molecule that contain different numbers of neutrons. In 2006, the conversion accounts for either 5.4 or *** percent of the total nuclear fuel costs, depending upon which data is used. CR at I-33, PR at I-25.

²⁵ In 2006, the enrichment process accounts for either 31.6 or *** percent of the total nuclear fuel costs, depending upon which data are used. CR at I-33, PR at I-25.

²⁶ Depleted uranium or uranium tails remain a large potential source of natural uranium. It has not been economically feasible for widespread commercial exploitation of the substantial supply of uranium tails, *i.e.*, re-enrichment of the depleted uranium waste. Only Russia’s enrichers have re-enriched significant quantities of depleted uranium in recent years. CR at IV-26, PR at IV-17.

²⁷ In 2006, the converting and pelletizing process represents either 15.8 or *** percent of total nuclear fuel costs, depending upon which data are used. CR at I-33, PR at I-25.

²⁸ CR at I-16, PR at I-13.

²⁹ Soviet Uranium, USITC Pub. 2471 at 8-9 (The Commission concluded “that the lack of significant independent uses for unenriched forms of uranium other than for nuclear fuel and the presence of the “essential” [U²³⁵] isotope in all pertinent forms of uranium outweigh the countervailing criteria and support designation of a single like product coextensive with the articles under investigation.” *Id.* at 8.) Uranium from Tajikistan and Ukraine, USITC Pub. 2669 at 12. Vice Chairman Watson and Commissioner Nuzum dissented from the majority’s like product determination in Uranium from Tajikistan and Ukraine, deciding instead that there were two like products, consisting of HEU and uranium other than HEU. They voted in the negative with regard to HEU and in the affirmative with respect to LEU. Of the Commissioners who found a single like product covering all uranium, two voted in the affirmative, and two in the negative. Therefore, the final affirmative determination applied only to uranium other than HEU. *Id.* at 35-39 (separate views of Vice Chairman Watson and Commissioner Nuzum).

Likewise, in Uranium from Kazakhstan, the Commission found a single like product encompassing all four forms of uranium. The Commission considered and decided that fuel assemblies should be explicitly excluded from
(continued...)

composed of enriched and unenriched uranium. It found that three of the factors favored a single like product: (1) that all forms of uranium were dedicated for use in the production of nuclear fuel; (2) that all forms shared the same essential characteristic, the presence of fissionable U²³⁵, and (3) that there were no independent markets for the various forms of uranium. The Commission found that these three factors outweighed the two that militated for separate like products, namely: (1) that the enrichment step involved a more than nominal cost and added substantial value to UF₆, and (2) that the various forms of uranium were not interchangeable.³⁰

In the first five-year review of the suspended Russian investigation the Commission noted that the product had remained essentially unchanged since the 1991 preliminary determination in Uranium from the U.S.S.R., and that the parties had not presented any arguments for revisiting the 1991 domestic like product definition. Accordingly, it defined a single domestic like product consisting of all forms of uranium coextensive with the scope of the review. The Commission also addressed two additional issues. One was the Russian respondents' contention that Commerce's inclusion of HEU in the scope was invalid; and the other was the argument of domestic interested parties that uranium tails are within the scope. The Commission explained that both of these arguments involved the scope of the review, that such issues are properly directed to Commerce and not the Commission, and that the Commission is precluded from changing Commerce's scope determination. With respect to the question of whether tails are within the scope of the review, the Commission noted that Commerce's scope language neither explicitly included, nor excluded, depleted uranium; and that the scope included language regarding uranium compounds without reference to the concentration level.³¹

2. Parties' Arguments

USEC and PRI/CBR contend that the Commission should continue to define the domestic like product as all forms of uranium, coextensive with the definition of the subject merchandise. They contend that there have been no material changes in the product, production processes, or distribution channels since the 1991 preliminary original investigation, the 1993 Uranium from Ukraine final determination, and the first five-year review of the Suspension Agreement.³²

AHUG makes four arguments with regard to the definition of the domestic like product. First, it maintains that in light of the Eurodif decisions by the U.S. Court of Appeals for the Federal Circuit ("CAFC"),³³ the Commission must exclude uranium purchased pursuant to SWU transactions from its definition of the domestic like product. AHUG also argues that the Commission is precluded from treating imports pursuant to SWU transactions as within the scope of this review.³⁴

AHUG's second argument is that fabricated fuel rods and assemblies should not be included in the like product because they were not identified in the antidumping petition as within the scope of subject merchandise, and because they are not within the scope of the Suspension Agreement. AHUG claims that the Commission excluded fabricated fuel rods and assemblies from the like product in the first

²⁹ (...continued)

the like product. Uranium from Kazakhstan at 6-8 (July 1999) (The Commission found that the factors favoring a single like product, especially the similarity of functions and the lack of independent markets among the forms of uranium, outweigh the factors suggesting multiple like products.).

³⁰ See Uranium from Tajikistan and Ukraine at 10-12.

³¹ Russia First Review Determination at 10-13.

³² USEC Prehearing Brief at 15-18, PRI/CBR Prehearing Brief at 5-6.

³³ Eurodif S.A. v. United States, 411 F.3d 1355 (Fed. Cir. 2005) ("Eurodif I"); Eurodif S.A. v. United States, 423 F.3d 1275 (Fed. Cir. 2005) ("Eurodif II").

³⁴ AHUG Prehearing Brief at 28-34, and Posthearing Brief at 8-9.

five-year review of the RSA, and that the Commission clarified in that review that this exclusion covered both the rods' metal sheath and their fabricated uranium contents. AHUG contends that the Commission reached the same result in its 1999 negative injury determination in Uranium from Kazakhstan.³⁵

AHUG's third like product argument is that tails and spent fuel should not be included in the like product because they are not included in the scope of the Suspension Agreement. AHUG maintains that tails and spent fuel are classifiable under a tariff subheading that is not covered by the scope. AHUG also notes that, unlike the four products in the uranium fuel cycle (uranium concentrate, uranium feed, LEU, and fabricated powders and pellets), tails and spent fuel are the waste stream of the fuel cycle.³⁶

Finally, AHUG argues that the Commission should find that each of the four segments of the uranium fuel cycle produces a separate like product. As an initial matter, AHUG maintains that the Commission's analysis in the 1991 preliminary determination and in the first five-year review is flawed because it includes both "products" and what the CAFC has now (in the Eurodif litigation) deemed to be "services." AHUG also contends that the Commission's limitation of the like product to LEU in the 2001/2002 LEU investigations³⁷ provides further support for finding that enriched uranium is a separate like product from uranium concentrate, UF₆ or UO₂. AHUG argues that the Commission's semifinished product analysis has changed substantially since 1991 (when the Commission initially applied that analysis to find that all four forms of uranium constitute a single like product), and that the record in this review contains more detailed information pertinent to the semifinished product analysis than was available to the Commission in its 1991 preliminary phase investigation. Applying the current version of the semifinished product analysis leads to the conclusion that there are four like products, according to AHUG. AHUG addresses four of the five factors of the semifinished product analysis.³⁸ First, it argues that there are separate markets for each of the four products, with different prices and conditions, and with very little competition between the products in different markets. Second, AHUG argues that the four products have different physical characteristics and functions. Third, it maintains that the four products have very different values. Finally, AHUG states that the degree of processing at each stage of the fuel cycle is significant.³⁹ Even if the Commission continues to find a single like product, AHUG urges the Commission to conduct a disaggregated analysis of each of the four stages of the fuel cycle.⁴⁰

3. Analysis

a. The Good/Service Issue

As noted above, the scope of this review encompasses "uranium enriched in U²³⁵ and its compounds." There is no exclusion for LEU sold pursuant to SWU transactions. Commerce has explicitly rejected AHUG's argument that it should remove SWU transactions from the scope of this proceeding.⁴¹ As the Commission noted in the first five-year review of the RSA, "it is contrary to law for

³⁵ AHUG Prehearing Brief at 34-38.

³⁶ AHUG Prehearing Brief at 38-39.

³⁷ Low Enriched Uranium From France, Germany, the Netherlands, and the United Kingdom, Inv. Nos. 701-TA-409-412 (Final) and 731-TA-909 (Final), USITC Pub. 3486 (Feb. 2002) ("LEU Determination").

³⁸ AHUG does not discuss the question of whether the upstream article is dedicated to the production of the downstream article.

³⁹ AHUG Prehearing Brief at 40-46, and Posthearing Brief at 16-25.

⁴⁰ AHUG Prehearing Brief at 47-48.

⁴¹ Issues and Decision Memorandum for the Sunset Review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation; Final Results at 14-15, CR at I-17-18, PR at I-14-15.

the Commission to look behind Commerce's determination as to what merchandise is subject to review."^{42 43}

Furthermore, regardless of whether imports pursuant to SWU transactions are properly included in the scope, we see no reason for excluding domestic production resulting from SWU transactions from the domestic like product. The statute defines "domestic like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation under this subtitle."⁴⁴ No one has argued that LEU produced in the United States by USEC is not "like" LEU imported from Russia.⁴⁵

b. Fabricated Fuel Rods and Assemblies

AHUG's argument that fabricated fuel rods and assemblies should be excluded from the like product extends to both the protective metal sheaths of the fuel assembly rods (the casings) and to the enclosed UO₂ in powder or pellet form (the uranium content). While the casings are not included in the scope, the uranium content is.⁴⁶ Contrary to AHUG's representations,⁴⁷ the Commission did not, in the first five-year reviews or the Uranium from Kazakhstan final determination, find that the uranium content of fabricated fuel assemblies is outside the scope and the like product. In each of these proceedings, the Commission addressed the issue of whether fuel fabricators engage in sufficient production-related activities to merit inclusion in the domestic industry. In Uranium from Kazakhstan the Commission

⁴² Russia First Review Determination at 11 (footnote omitted). The courts have consistently held that Commerce has the responsibility of defining the scope of an investigation. See e.g., NEC Corp., 36 F. Supp. 2d at 383 (Ct. Int'l Trade 1998) ("the Commission must accept the determination of Commerce as to the scope of the imported merchandise sold at less than fair value. . . ."); Goss Graphics, 33 F. Supp. 2d at 1093 (ITA included certain presses in the class of merchandise sold at LTFV and Commission properly included them in its injury analysis); Algoma, 688 F. Supp. at 645 (Ct. Int'l Trade 1988)(ITC bases "its decision on effects of relevant imports from companies determined [by Commerce] to have sold the subject merchandise at LTFV."), aff'd 865 F. 2d 240 (Fed. Cir. 1988), cert. denied, 492 U.S. 919 (1989); Makita Corp., 974 F. Supp. at 783 (Ct. Int'l Trade 1997); Nippon Steel, 19 CIT at 467 (CIT 1995); United Engineering & Forging, 779 F. Supp. at 1391 (Ct. Int'l Trade 1991).

⁴³ We also note that the CAFC's Eurodif decisions arose out of investigations in which the enrichment transactions being examined by the Court were quite different from the transactions in this review pursuant to which Russian LEU is imported, and is likely to be imported in the reasonably foreseeable future.

⁴⁴ 19 U.S.C. § 1677(10).

⁴⁵ We also note that the CAFC's reasoning in the Eurodif cases for excluding SWU transactions from the class or kind of merchandise subject to investigation does not carry over to excluding such transactions from the like product. The CAFC found that SWU transactions are not subject to the antidumping duty law because (i) the statute requires a finding that a class or kind of foreign merchandise is being, or is likely to be, "sold" in the United States at less than fair value; and (ii) the Court found that SWU transactions involve the provision of a service and not the sale of merchandise. 411 F. 3d at 1361-1364. This statutory "sale" requirement does not appear in the definition of the domestic like product. 19 U.S.C. § 1677(10). The statute defines "domestic like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation under this subtitle." There is no requirement in this definition that there be a "sale."

⁴⁶ The Commission noted in the first sunset reviews that: "[t]he UO₂ in powder or pellet form, in addition to the previous uranium forms, is part of the subject merchandise, but the fuel assembly rods are not." Russia First Review Determination at 9.

⁴⁷ AHUG Prehearing Brief at 37-38.

explicitly excluded fabricators' manufacturing operations for fuel assemblies, which the Commission stated are not part of the domestic like product, from the domestic industry.⁴⁸

Commerce has informally advised the Commission that the uranium content of fuel assemblies is within the scope of this review.⁴⁹ AHUG has not presented any plausible reason for why the uranium content of fuel assemblies should be excluded from the domestic like product. We have determined to follow our previous practice of including the uranium content of fuel assemblies in the domestic like product, but excluding the casings.

c. Tails and Spent Fuel

The Commission considered the question of whether tails and spent fuel are within the domestic like product in its first five-year reviews. It explained that it made little difference in practice whether or not depleted uranium or uranium tails are included in the domestic like product because they are treated as waste and are not commercially exploited in the United States. Accordingly, there would be no production data on U.S. re-enrichment of uranium tails that could be included in the domestic industry data. The Commission further noted that while Commerce's scope did not explicitly include depleted uranium, it also did not explicitly exclude it. The Commission defined the domestic like product to be coextensive with the scope of the first five-year reviews.⁵⁰

There is nothing in AHUG's argument, or in the record of this review, that warrants reexamining this position.⁵¹ In the United States, tails and spent fuel continue to be waste products, which are not commercially exploited.^{52 53}

d. One or Four Like Products

The semi-finished product factors that the Commission considered in the 1991 Soviet Uranium preliminary determination, and its analysis of each factor, are as follows:

(1) *The necessity for, and costs of, further processing.* The Commission found that uranium concentrate must undergo both conversion and enrichment in order to be used as

⁴⁸ Uranium from Kazakhstan at 8-9 (July 1999), Russia First Review Determination at 14-15.

⁴⁹ The Commission staff contacted Commerce staff, who advised that this question had not been raised with Commerce in a formal scope review, and that Commerce's position is that "all uranium products with a Russian component (including fuel assemblies) would be covered by the scope of the Suspension Agreement." E-mail from Sally Gannon to Cynthia Trainor dated March 22, 2006, CR at I-16, PR at I-13.

⁵⁰ Russia First Review Determination at 12-13 (footnotes omitted).

⁵¹ AHUG's argument that the tariff subheading covering tails and spent fuel is not among those listed in Commerce's scope is unpersuasive, because Commerce generally takes the position that HTSUS subheadings are provided for convenience and customs purposes, and that the written description remains dispositive.

⁵² CR at I-21 and IV-26, PR at I-17 and IV-17, and Hearing Transcript ("Hearing Tr.") at 81 (Robert Van Namen, USEC).

⁵³ We also note that the Commission did not gather information on the domestic production of tails or spent fuel in this review. Despite having had opportunity to comment on a draft version of the Commission's questionnaires, no party requested that the Commission seek such information.

nuclear fuel, and that there was evidence that these processing costs were fairly substantial.⁵⁴

(2) *The degree of interchangeability of articles at different stages of production.* The Commission found that uranium concentrate, uranium hexafluoride, and enriched uranium are not interchangeable in uses.⁵⁵

(3) *Whether the article at an earlier stage of production is dedicated to use in the finished article.* The Commission found that all forms of uranium are dedicated for use in enriched uranium. It noted that virtually all uranium concentrate consumed in the United States was used for nuclear fuel. It also noted that although there appeared to be some independent markets for uranium concentrate, uranium hexafluoride, and enriched uranium, each market involves the same participants: utilities, the ultimate consumers of enriched uranium.⁵⁶

(4) *Whether there are significant independent uses or markets for the finished and unfinished articles.* The Commission found that, although there appeared to be some independent markets for uranium concentrate, uranium hexafluoride, and enriched uranium, each market involves the same participants: utilities, the ultimate consumers of enriched uranium.⁵⁷

(5) *Whether the article at an earlier stage of production embodies or imparts to the finished article an essential characteristic or function.* The Commission found that enriched uranium is valuable to the nuclear fuel industry because it contains U²³⁵, the only naturally-existing fissionable isotope. The U²³⁵ isotope is present both in uranium concentrate and uranium hexafluoride; the enrichment process only increases its concentration. Thus, the Commission found that the essential characteristic of enriched uranium -- its U²³⁵ content -- is imparted by uranium ore and embodied by uranium hexafluoride.⁵⁸

In weighing these five factors in the 1991 Soviet Uranium preliminary determination, the Commission found that those criteria concerning the necessity for further processing and interchangeability appeared to militate against treating the various forms of uranium at issue as a single like product; but that the "significant independent uses or markets" criterion generally supported single like product treatment, and that the "dedication for use" and "essential characteristic" criteria strongly supported such treatment. On balance, the Commission concluded that the lack of significant independent uses for unenriched forms of uranium other than for nuclear fuel, and the presence of the "essential" U²³⁵ isotope in all pertinent forms of uranium outweighed the countervailing criteria and support designation of a single like product coextensive with the articles under investigation. The Commission did not reconsider the question of whether a single like product finding was warranted in its first five year reviews.

⁵⁴ Soviet Uranium at 7.

⁵⁵ Id.

⁵⁶ Id.

⁵⁷ Id.

⁵⁸ Id. at 7-8.

In the present review, we find no significant change in the standard applied or the pertinent record facts. In a semifinished products analysis, the Commission currently examines: (1) whether the upstream article is dedicated to the production of the downstream article or has independent uses; (2) whether there are perceived to be separate markets for the upstream and downstream articles; (3) differences in the physical characteristics and functions of the upstream and downstream articles; (4) differences in the costs or value of the vertically differentiated articles; and (5) the significance and extent of the processes used to transform the upstream into the downstream articles.⁵⁹ The semifinished product criteria have undergone only a slight modification since the 1991 Soviet Uranium preliminary determination.⁶⁰

A finding of a single like product continues to be warranted under the Commission's current analysis. The first factor (dedication of the upstream article to production of the downstream article) strongly supports finding a single like product. The uranium products at each stage of the fuel cycle are all intermediate products that are dedicated to production of the downstream product: (i) mined uranium ore is used to produce uranium concentrate; (ii) uranium concentrate is used to produce uranium hexafluoride; (iii) uranium hexafluoride is used to produce enriched uranium hexafluoride; (iv) enriched uranium hexafluoride is used to produce uranium dioxide in pellet form; and uranium dioxide in pellet form is used in fuel rods and assemblies.⁶¹

The second factor (the perception of separate markets for the upstream and downstream articles) also supports finding a single like product. In the 1991 Soviet Uranium preliminary determination the Commission found that, although there appeared to be some independent markets for uranium concentrate, uranium hexafluoride, and enriched uranium, each market involves the same participants -- utilities, the ultimate consumers of enriched uranium. This continues to be the case.⁶² AHUG's reasoning in arguing that there are separate markets for the four uranium products along the fuel cycle is not persuasive. AHUG argues that there have been structural changes in the uranium markets, in which these markets have gone from being "inventory-based" to being "production-based," and that prices for the four forms of uranium have not moved in tandem.⁶³ Any asserted structural changes and differences in price trends, however, have not altered the fundamental fact that each market involves the same participants on the buying side, namely utilities. While it is true, as AHUG notes,⁶⁴ that "juniors" and speculators have become active as buyers in the uranium concentrates market, utilities remain the predominant buyers in this market.⁶⁵

The third factor (differences in the physical characteristics and functions of the upstream and downstream articles) also supports finding a single like product, albeit not as strongly as the first two

⁵⁹ E.g., Certain Frozen Fish Fillets from Vietnam, Inv. No. 731-TA-1012 (Preliminary), USITC Pub. 3533 (August 2002) at 7; Low Enriched Uranium from France, Germany, the Netherlands, and the United Kingdom, Inv. Nos. 701-TA-409-412 (Preliminary) and 731-TA-909-912 (Preliminary), USITC Pub. 3388 (January 2001) at 5-6; Uranium from Kazakhstan at 6 n.23.

⁶⁰ The Commission's revision of the semifinished criteria after the 1991 Soviet Uranium preliminary determination was characterized by the Commission itself as working only a slight modification. Certain Cased Pencils From the People's Republic of China, Inv. No. 731-TA-669 (Final), USITC Pub. 2837 at I-6 n.14 (December 1994).

⁶¹ CR at I-4 and I-23-28, PR at I-3 and I-18-22.

⁶² CR at I-28-29, PR at I-18-22.

⁶³ AHUG Posthearing Brief, Responses to Commission Questions at 18-20.

⁶⁴ Id. at 19-20.

⁶⁵ Moreover, the uranium concentrates that "juniors" and speculators produce or purchase are ultimately sold to utilities or to the enricher.

factors. As AHUG notes,⁶⁶ the four uranium products have different physical characteristics and functions in some respects. For example, uranium concentrate is a yellow powder, while converted uranium and LEU may be in a gaseous form. However, as the Commission explained in the 1991 Soviet Uranium preliminary determination, enriched uranium is valuable to the nuclear fuel industry because it contains U²³⁵, the only naturally existing fissionable isotope in sufficient proportions as to enable the uranium to generate electricity in nuclear power plants. Because the U²³⁵ isotope is present in all four forms of uranium in different degrees, all four forms share some commonality in terms of this essential physical characteristic.

The fourth factor (differences in the costs or value of the vertically differentiated articles) provides support for finding at least some – but not necessarily four – separate like products. The cost or value of enriched uranium is substantially higher than the cost or value of natural uranium hexafluoride, thus providing some support for finding LEU-HF and LEU-DO to be a separate like product.⁶⁷ However, the cost or value of natural uranium hexafluoride is not much greater than that of uranium concentrate, and the cost or value of LEU-DO is also not much greater than that of LEU.⁶⁸

The fifth factor (the significance and extent of the processes used to transform the upstream into the downstream articles) also supports finding at least some – but not necessarily four – separate like products. Some of the processes in the fuel cycle, particularly enrichment, involve significant and extensive activities and costs.⁶⁹

On balance, in light of the almost complete dedication of each upstream product to production of the downstream article; the presence of the same buyers at all stages of the fuel cycle (and at most stages of the fuel cycle, the only buyers), namely the utilities; and the presence of the same essential characteristic (the U²³⁵ isotope) in all four forms of uranium, we find that all four forms of uranium constitute a single domestic like product. These factors outweigh the differences in the costs or value of the different forms of uranium, and the significance and extent of the processes used to prepare nuclear fuel.⁷⁰

e. Conclusion

For the reasons given above, we define a single domestic like product consisting of all four forms of uranium coextensive with the scope of this review.

B. Domestic Industry

1. Background

Section 771(4)(A) of the Act defines the relevant industry as the domestic “producers as a [w]hole of a domestic like product, or those producers whose collective output of a domestic like product

⁶⁶ AHUG Posthearing Brief, Responses to Commission Questions at 20-21.

⁶⁷ CR at I-33, PR at I-25.

⁶⁸ Id.

⁶⁹ See CR at I-23-28, PR at I-18-22.

⁷⁰ We see no merit to AHUG’s argument that the Commission’s definition of the like product in the 2001/2002 LEU investigations provides support for finding that enriched uranium is a separate like product. In contrast to the broad scope in the current review, the scope in the LEU investigations was limited to LEU. LEU Determination at 4-5. Given the difference in scope, the Commission’s like product determination in the LEU investigations does not suggest that separate like products are warranted here.

constitutes a major proportion of the total domestic production of the product.”⁷¹ 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, provided that adequate production-related activity is conducted in the United States.⁷² In accordance with our domestic like product determination, we determine that there is one domestic industry consisting of all domestic producers of uranium, including concentrators, the converter, the enricher, and fabricators.

In the first five-year reviews, the Commission considered, and rejected, an argument that U.S. fabricators should be excluded from the domestic industry because they do not engage in sufficient production-related activity. This issue has not been raised in this second review. In the first reviews, the Commission also considered whether appropriate circumstances existed to exclude Cogema (a domestic concentrator in the first reviews) or USEC from the domestic industry as related parties; the Commission found that appropriate circumstances did not exist to do so.⁷³

There are three domestic industry issues in this review: (1) whether PRI/CBR are related parties, and if so, whether appropriate circumstances exist to exclude them from the domestic industry; (2) whether appropriate circumstances exist to exclude USEC (which is a related party by virtue of its importation of LEU from Russia) from the domestic industry; and (3) whether appropriate circumstances exist to exclude Westinghouse (a fabricator which is a related party by virtue of its importation of uranium hexafluoride from Russia) from the domestic industry.

2. PRI/CBR Related Party Issue

AHUG argues that PRI/CBR should be excluded from the uranium concentrates industry. (As explained above, AHUG urges the Commission to find four distinct like products and industries.) It maintains that PRI/CBR should be excluded because they are owned by a foreign exporter of the subject merchandise, Cameco. AHUG contends that Cameco is a foreign exporter within the meaning of the statute because “as part of a consortium with Cogema and Nukem Inc., [it] is authorized by Tenex⁷⁴ to supply the United States a percentage of uranium feed under the quota authorized by the USEC Privatization Act.” According to AHUG, PRI/CBR benefit, through Cameco, from the importation of subject merchandise. AHUG maintains that “it is impossible to analyze PRI’s and Crow Butte’s financial performance independently from that of Cameco, and that Cameco is currently reporting record profits on its sales of concentrate and UF₆, including sales made in the United States.”⁷⁵

Although PRI/CBR have not directly addressed the related party issue, they have suggested that appropriate circumstances do not exist to exclude them from the domestic industry. They have stated that “[t]he financial health of PRI and Crow Butte is solely a function of the companies’ production costs and the market for uranium,” and that “the operation of the HEU Agreement and Cameco’s role in the HEU Agreement as part of the Western consortium of companies that purchases feed (i.e., natural uranium hexafluoride, or UF₆) from Tenex in no way impacts the operations or financial results of PRI or Crow Butte.”⁷⁶

⁷¹ 19 U.S.C. § 1677(4)(A).

⁷² See, e.g., United States Steel Group v. United States, 873 F. Supp. 673, 682-83 (Ct. Int’l Trade 1994), aff’d, 96 F.3d 1352 (Fed. Cir. 1996).

⁷³ Russia First Review Determination at 14-18.

⁷⁴ Tenex is the Executive Agent for Russia under the HEU Agreement.

⁷⁵ AHUG Prehearing Brief at 49-51.

⁷⁶ PRI/CBR Posthearing Brief, Responses to Commissioner’s Questions at 19 and 20.

PRI/CBR are related parties, but not for the reason that AHUG gives. AHUG maintains that they are related parties because they are owned by a foreign exporter of the subject merchandise, Cameco. In fact, Cameco is not an exporter⁷⁷ but is an importer of subject merchandise.⁷⁸ Cameco imported the following amounts of uranium hexafluoride from Russia during the review period: *** kilograms U in 2000, *** kilograms U in 2001, *** kilograms U in 2002, *** kilograms U in 2004, and *** kilograms U in 2005.⁷⁹

PRI/CBR are by far the largest of the U.S. uranium concentrate producers,⁸⁰ and the value of their shipments accounts for a significant share of the value of total shipments by all producers in the domestic industry.⁸¹ There is no evidence that PRI/CBR were shielded from any injury that might have been caused by subject imports on account of their corporate parent's importing activity. Because AHUG has not shown otherwise, we accept at face value PRI/CBR's statement that "[t]he financial health of PRI and Crow Butte is solely a function of the companies' production costs and the market for uranium concentrate." Also, we note that PRI/CBR support the continuation of the RSA,⁸² thereby suggesting that their interests lie predominantly in domestic production of uranium, rather than in the ability of their corporate parent to have unfettered access to subject imports. Accordingly, we find that appropriate circumstances do not exist to exclude PRI/CBR from the domestic industry.⁸³

3. USEC Related Party Issue

AHUG's argument that USEC should be excluded rests on USEC's importation of "enrichment services" pursuant to the HEU Agreement. According to AHUG, USEC's role as a broker for such services "puts its interests in conflict with the domestic industry producing enriched uranium for the U.S. market." AHUG maintains that USEC's profitability is based mainly on its sales of Russian SWU at

⁷⁷ AHUG contends that Cameco is a foreign exporter within the meaning of the statute because "as part of a consortium with Cogema and Nukem Inc., [it] is authorized by Tenex to supply the United States a percentage of uranium feed under the quota authorized by the USEC Privatization Act." AHUG Prehearing Brief at 49. Contrary to AHUG's suggestion, Cameco does not export the uranium feed to the United States. Instead, it purchases from Tenex some of the uranium feed that USEC provides to Tenex under the HEU Agreement. CR at I-38, I-40, and Figure I-1, PR at I-29-30. Although the USEC Privatization Act provides that "[u]ranium hexafluoride delivered to the Russian Executive Agent . . . shall be deemed under U.S. law for all purposes to be of Russian origin" (42 U.S.C. § 2297h-10(b)(3)), this uranium feed does not leave the United States prior to being purchased by Cameco, and thus it is hard to see how Cameco can be deemed to be an exporter of the subject merchandise.

⁷⁸ CR at IV-7, PR at IV-1.

⁷⁹ Cameco Importer Questionnaire Response at Section II-7(A).

⁸⁰ For example, PRI/CBR's 2005 production was *** million pounds of uranium concentrate. Total production of U.S. uranium concentrate producers in that year was *** million pounds. See responses of Areva NC, PRI/CBR, Cotter, and URI to the Commission's Uranium Concentrator Questionnaire.

⁸¹ The value of PRI/CBR's 2005 shipments was \$***. The value of total shipments by all four segments of the domestic industry in 2005 was \$***. PRI/CBR Concentrator Questionnaire Response at Section II-8. Because the four types of uranium along the nuclear fuel cycle are not all counted in the same units of measurement, a comparison of the quantity of PRI/CBR's shipments to the industry total is not feasible.

⁸² CR at III-10, PR at III-7.

⁸³ In the first five-year review the Commission also addressed an argument that PRI should be excluded from the domestic industry as a related party because of Cameco's supposed role as an importer of subject merchandise. The Commission found that there was no evidence that Cameco had made any importations. Russia First Review Determination at 18.

large markups from the price that USEC pays Tenex, and that USEC's interests are to maintain this arrangement rather than have increased production of enriched uranium in the United States.⁸⁴

USEC argues that it should not be excluded from the domestic industry because of its importing activity, for the same reasons that the Commission declined to exclude it in the first five-year reviews. It maintains that its investment since then in the building of a new enrichment facility provides additional evidence of its commitment to U.S. production.⁸⁵

Under the terms of the Russian HEU Agreement, USEC imports LEU blended down in Russia from HEU and sells it directly to utilities. The SWU component of the LEU is the effective net import since a quantity of natural uranium hexafluoride equal to the natural uranium hexafluoride feed component of the imported LEU is credited/returned to Tenex and is considered Russian in ownership and origin.⁸⁶

As indicated above, in the first review the Commission declined to exclude USEC from the domestic industry on account of its importation of subject merchandise.⁸⁷ It explained:

USEC is the sole U.S. enricher of uranium. Since the enrichment process accounts for about 59 percent of the subject total nuclear fuel costs, USEC accounts for a substantial share of total domestic production of the domestic like product. USEC imports Russian enriched uranium in its role as Executive Agent under the Russian HEU Agreement. As USEC indicates, “[i]ts imports of subject merchandise are made to support a nuclear non-proliferation agreement, not as a result of a commercial decision to buy the subject merchandise rather than make the domestic like product.” In fact the SWU that USEC is required to purchase under the Russian HEU Agreement have forced it to use correspondingly less of its enrichment capacity, resulting in higher unit production costs at the plants it operates. While USEC's imports are substantial, USEC claims that it “is now and intends to remain a producer of enriched uranium.”⁸⁸

There have been some changes in the facts that the Commission considered in the first reviews. With the increase in the cost of uranium concentrates, enrichment no longer accounts for as high a percentage of total nuclear fuel costs.⁸⁹ Even at the lower percentages, however, USEC still accounts for a substantial share of total domestic production of the domestic like product. Also, since the first reviews, USEC has closed one of its enrichment plants (its Portsmouth, Ohio facility), and has undertaken to build a new one.⁹⁰ With the closure of this plant, the sale of Russian SWU accounts for a larger proportion of USEC's total sales than it did during the first reviews.⁹¹

Notwithstanding these changes, we find that appropriate circumstances do not exist to exclude USEC from the domestic industry. USEC is the sole U.S. enricher, and it accounts for a substantial share

⁸⁴ AHUG Prehearing Brief at 51.

⁸⁵ USEC Prehearing Brief at 21-23.

⁸⁶ CR at I-38, PR at I-29. USEC's imports of Russian SWU under the HEU Agreement during the review period, and the ratio of these imports to USEC's domestic enriched uranium production, were: ***. CR/PR at Table III-7.

⁸⁷ Russia First Review Determination at 15-18.

⁸⁸ Russia First Review Determination at 17-18 (footnotes omitted).

⁸⁹ In 2006, enrichment accounted for 31.6 percent of total nuclear fuel costs, if calculated based on published market prices, or *** percent, if calculated based on long-term contract values. CR at I-33, PR at I-25.

⁹⁰ CR at III-20-21, PR at III-10.

⁹¹ See CR/PR at Tables I-5 and IV-1.

of total domestic production of the domestic like product. It imports Russian LEU to support a nuclear non-proliferation agreement, not as a result of a commercial decision to buy the subject merchandise rather than make the domestic like product. There is no indication that USEC does not continue to remain a domestic producer of enriched uranium. This is underscored by its investment in a new enrichment facility.

4. Westinghouse Related Party Issue

Westinghouse Electric Co., L.L.C. is a fabricator of nuclear fuel rods.⁹² The company imported LEU from Russia during the review period.⁹³ The parties to this review did not address the question of whether appropriate circumstances exist to exclude Westinghouse from the domestic industry.

Because the quantity of Westinghouse's production of uranium dioxide for fuel rods is much larger than the quantity of its imports of LEU,⁹⁴ it seems unlikely that – on account of these imports – it is shielded from any injury that might be caused by subject imports. Accordingly, we find that appropriate circumstances do not exist to exclude Westinghouse as a related party, especially as no party has urged the Commission to do so.

5. Conclusion

For the foregoing reasons, we find that appropriate circumstances do not exist to exclude PRI/CBR, USEC, or Westinghouse from the domestic industry. Given our determination with respect to the domestic like product, we find there to be one domestic industry, consisting of all domestic producers of uranium, including concentrators, the converter, the enricher, and fabricators. There are currently four domestic uranium concentrate producers (PRI/CBR, Areva NC, Cotter, and URI),⁹⁵ one converter (ConverDyn),⁹⁶ one enricher (USEC),⁹⁷ and three fabricators (Areva NP, Global Nuclear Fuel, and Westinghouse).⁹⁸

III. LIKELIHOOD OF CONTINUATION OR RECURRENCE OF MATERIAL INJURY IF THE SUSPENDED INVESTIGATION ON RUSSIA IS TERMINATED

A. Legal Standard In A Five-Year Review

In a five-year review conducted under section 751(c) of the Act, Commerce will revoke an antidumping order or terminate a suspended investigation unless: (1) it makes a determination that dumping is likely to continue or recur, and (2) the Commission makes a determination that revocation of the antidumping order or termination of the investigation “would be likely to lead to continuation or

⁹² CR at III-25, PR at III-11.

⁹³ Westinghouse's imports from Russia were as follows: ***. Westinghouse Importer Questionnaire Response at Section II-7.

⁹⁴ Westinghouse's production quantities were: *** kilograms U in fiscal year 2001, *** kilograms U in fiscal year 2002, *** kilograms U in fiscal year 2003, *** kilograms U in fiscal year 2004, and *** kilograms U in fiscal year 2005. Westinghouse Uranium Fabricators' Questionnaire Response at Section II-8a. Westinghouse did not provide value data for its production.

⁹⁵ CR at III-10-15, PR at III-7.

⁹⁶ CR at III-16-18, PR at III-9.

⁹⁷ CR at III-18-24, PR at III-9.

⁹⁸ CR at III-25-27, PR at III-11.

recurrence of material injury within a reasonably foreseeable time.”⁹⁹ The SAA states that “under the likelihood standard, the Commission will engage in a counter-factual analysis; it must decide the likely impact in the reasonably foreseeable future of an important change in the status quo – the revocation or termination of a proceeding and the elimination of its restraining effects on volumes and prices of imports.”¹⁰⁰ Thus, the likelihood standard is prospective in nature.¹⁰¹ The U.S. Court of International Trade has found that “likely,” as used in the sunset review provisions of the Act, means “probable,” and the Commission applies that standard in five-year reviews.^{102 103}

The statute states that “the Commission shall consider that the effects of revocation or termination may not be imminent, but may manifest themselves only over a longer period of time.”¹⁰⁴ According to the SAA, a “‘reasonably foreseeable time’ will vary from case-to-case, but normally will exceed the ‘imminent’ timeframe applicable in a threat of injury analysis [in antidumping investigations].”¹⁰⁵ The parties to this review are in general agreement that, because of the factors unique to the uranium industry (such as the length of the nuclear fuel cycle, the prevalence of long-term contracts and longer lead times for delivery), a longer “reasonable period of time” may be appropriate in this review than in other five-

⁹⁹ 19 U.S.C. § 1675a(a).

¹⁰⁰ SAA, H.R. Rep. No. 103-316, vol. I, at 883-84 (1994). The SAA states that “[t]he likelihood of injury standard applies regardless of the nature of the Commission’s original determination (material injury, threat of material injury, or material retardation of an industry). Likewise, the standard applies to suspended investigations that were never completed.” SAA at 883.

¹⁰¹ While the SAA states that “a separate determination regarding current material injury is not necessary,” it indicates that “the Commission may consider relevant factors such as current and likely continued depressed shipment levels and current and likely continued [sic] prices for the domestic like product in the U.S. market in making its determination of the likelihood of continuation or recurrence of material injury if the order is revoked.” SAA at 884.

¹⁰² See NMB Singapore Ltd. v. United States, 288 F. Supp. 2d 1306, 1352 (Ct. Int’l Trade 2003) (“‘likely’ means probable within the context of 19 U.S.C. § 1675(c) and 19 U.S.C. § 1675a(a)”); Nippon Steel Corp. v. United States, Slip Op. 02-153 at 7-8 (Ct. Int’l Trade Dec. 24, 2002) (same); Usinor Industeel, S.A. v. United States, Slip Op. 02-152 at 4 n.3 & 5-6 n.6 (Ct. Int’l Trade Dec. 20, 2002) (“more likely than not” standard is “consistent with the court’s opinion”; “the court has not interpreted ‘likely’ to imply any particular degree of ‘certainty’”); Indorama Chemicals (Thailand) Ltd. v. United States, Slip Op. 02-105 at 20 (Ct. Int’l Trade Sept. 4, 2002) (“standard is based on a likelihood of continuation or recurrence of injury, not a certainty”); Usinor v. United States, Slip Op. 02-70 at 43-44 (Ct. Int’l Trade July 19, 2002) (“‘likely’ is tantamount to ‘probable,’ not merely ‘possible’”).

¹⁰³ Commissioner Lane notes that, consistent with her views in Pressure Sensitive Plastic Tape from Italy, Inv. No. AA1921-167 (Second Review), USITC Pub. 3698 (June 2004) at 15-17, she does not concur with the U.S. Court of International Trade’s interpretation of “likely” but she will apply the Court’s standard in this review and all subsequent reviews until either Congress clarifies the meaning or the U.S. Court of Appeals for the Federal Circuit addresses the issue.

¹⁰⁴ 19 U.S.C. § 1675a(a)(5).

¹⁰⁵ SAA at 887. Among the factors that the Commission should consider in this regard are “the fungibility or differentiation within the product in question, the level of substitutability between the imported and domestic products, the channels of distribution used, the methods of contracting (such as spot sales or long-term contracts), and lead times for delivery of goods, as well as other factors that may only manifest themselves in the longer term, such as planned investment and the shifting of production facilities.” SAA at 887.

year reviews.¹⁰⁶ We concur with the parties, given the relatively long timeframes for contracting, delivery, and planning in the uranium industry.¹⁰⁷

Although the standard in a five-year review is not the same as the standard applied in an original antidumping investigation, it contains some of the same fundamental elements. The statute provides that the Commission is to “consider the likely volume, price effect, and impact of imports of the subject merchandise on the industry if the orders are revoked or the suspended investigation is terminated.”¹⁰⁸ It directs the Commission to take into account its prior injury determinations, whether any improvement in the state of the industry is related to the order or the suspension agreement under review, whether the industry is vulnerable to material injury if the orders are revoked or the suspension agreement is terminated, and any findings by Commerce regarding duty absorption pursuant to 19 U.S.C. § 1675(a)(4).¹⁰⁹

In evaluating the likely volume of imports of subject merchandise if an antidumping duty order is revoked or a suspended investigation is terminated, the Commission is directed to consider whether the likely volume of imports would be significant either in absolute terms or relative to production or consumption in the United States.¹¹⁰ In doing so, the Commission must consider “all relevant economic factors,” including four enumerated factors: (1) any likely increase in production capacity or existing unused production capacity in the exporting country; (2) existing inventories of the subject merchandise, or likely increases in inventories; (3) the existence of barriers to the importation of the subject merchandise into countries other than the United States; and (4) the potential for product shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products.¹¹¹

In evaluating the likely price effects of cumulated subject imports if an antidumping duty order is revoked or a suspended investigation is terminated, the Commission is directed to consider whether there is likely to be significant underselling by the subject imports as compared to domestic like products and whether the subject imports are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of domestic like products.¹¹²

¹⁰⁶ USEC Posthearing Brief, Answers to Commission Questions, Exhibit 6; AHUG Posthearing Brief, Answers to Commission Questions at 26-30; Hearing Tr. at 269 (A. Lee, Counsel for Nukem).

¹⁰⁷ In analyzing what constitutes a reasonably foreseeable time, Commissioner Koplan examines all the current and likely conditions of competition in the relevant industry. He defines “reasonably foreseeable time” as the length of time it is likely to take for the market to adjust to a revocation or termination. In making this assessment, he considers all factors that may accelerate or delay the market adjustment process including any lags in response by foreign producers, importers, consumers, domestic producers, or others due to: lead times; methods of contracting; the need to establish channels of distribution; product differentiation; and any other factors that may only manifest themselves in the longer term. In other words, this analysis seeks to define “reasonably foreseeable time” by reference to current and likely conditions of competition, but also seeks to avoid unwarranted speculation that may occur in predicting events into the more distant future.

¹⁰⁸ 19 U.S.C. § 1675a(a)(1). The statute further provides that the presence or absence of any factor that the Commission is required to consider shall not necessarily give decisive guidance with respect to the Commission’s determination. 19 U.S.C. § 1675a(a)(5). While the Commission must consider all factors, no one factor is necessarily dispositive. SAA at 886.

¹⁰⁹ 19 U.S.C. § 1675a(a)(1). There has been no duty absorption finding by Commerce in this review. 71 Fed. Reg. 32517 (June 6, 2006).

¹¹⁰ 19 U.S.C. § 1675a(a)(2).

¹¹¹ 19 U.S.C. § 1675a(a)(2)(A-D).

¹¹² 19 U.S.C. § 1675a(a)(3). The SAA states that “[c]onsistent with its practice in investigations, in considering the likely price effects of imports in the event of revocation and termination, the Commission may rely on

(continued...)

In evaluating the likely impact of the subject merchandise if an antidumping order is revoked or a suspended investigation is terminated, the Commission is directed to consider all relevant economic factors that are likely to have a bearing on the state of the industry in the United States, including but not limited to: (1) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity; (2) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment; and (3) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.¹¹³ All relevant economic factors are to be considered within the context of the business cycle and the conditions of competition that are distinctive to the industry.¹¹⁴ As instructed by the statute, we have considered the extent to which any improvement in the state of the domestic industry is related to the suspended investigation at issue and whether the industry is vulnerable to material injury if the suspended investigation is terminated.¹¹⁵

B. Conditions of Competition

In evaluating the likely impact of the subject imports on the domestic industry, the statute directs the Commission to consider all relevant economic factors “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.”¹¹⁶ The following conditions of competition in the uranium industry are relevant to our determination in this review.

1. Nature of the Product

First, the various forms of uranium – uranium concentrate (U_3O_8), natural UF_6 , enriched UF_6 (LEU-HF), and uranium oxides (UO_2 or LEU-DO) – are fungible, commodity products.¹¹⁷ Uranium in most forms is substitutable with uranium of the same form produced elsewhere in the world.¹¹⁸ The four basic forms are not physically interchangeable with each other since they are all intermediate products

¹¹² (...continued)
circumstantial, as well as direct, evidence of the adverse effects of unfairly traded imports on domestic prices.” SAA at 886.

¹¹³ 19 U.S.C. § 1675a(a)(4).

¹¹⁴ 19 U.S.C. § 1675a(a)(4). Section 752(a)(6) of the Act states that “the Commission may consider the magnitude of the margin of dumping” in making its determination in a five-year review. 19 U.S.C. § 1675a(a)(6). The statute defines the “magnitude of the margin of dumping” to be used by the Commission in five-year reviews as “the dumping margin or margins determined by the administering authority under section 1675a(c)(3) of this title.” 19 U.S.C. § 1677(35)(C)(iv). *See also* SAA at 887.

In the final results of its full review of the suspended antidumping duty investigation on uranium from Russia, Commerce found that termination of the suspended investigation would be likely to lead to continuation or recurrence of dumping at a margin of 115.82 percent for all Russian manufactures/exporters. 71 Fed. Reg. 32517, 32519 (June 6, 2006).

¹¹⁵ The SAA states that in assessing whether the domestic industry is vulnerable to injury if the order is revoked, the Commission “considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they may also demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports.” SAA at 885.

¹¹⁶ 19 U.S.C. § 1675a(a)(4).

¹¹⁷ CR at II-41, PR at II-26.

¹¹⁸ CR at II-40-41; PR at II-26. The majority of uranium purchasers reported that all uranium products and services (except fabrication) from the United States, Russia, and nonsubject countries were always interchangeable. *Id.*

each successively contained in each other. All forms of uranium except uranium oxides (UO₂) are traded on a worldwide basis.¹¹⁹ As the Commission found in the first five-year reviews, significant volumes of natural UF₆ and LEU-HF act as substitutes for uranium concentrates, natural conversion, and enrichment services, and thus for these sources limit the need for the earlier stages of the fuel cycle.¹²⁰ In other words, utilities are able to avoid earlier stages of the nuclear fuel cycle by purchasing UF₆ from existing inventories, or by purchasing LEU-HF that has been obtained by blending down HEU.

2. Structure of the Domestic Industry

In the first five-year reviews the Commission described substantial structural changes to the domestic industry since the original investigation. These included consolidations and closings affecting concentrate producers and converters, and the privatization of USEC. There have not been any further significant structural changes to the domestic uranium industry since the first five-year reviews.¹²¹

The Commission also described USEC's role as the U.S. Government's Executive Agent under the Russian HEU Agreement. In this role, USEC is required to import large quantities of Russian enriched UF₆ (LEU-HF blended down from Russian HEU that was part of the Soviet military stockpile) and sell it directly to utilities. USEC is committed to purchasing 5.5 million SWU per year from Russia through 2013. This represents *** of the company's U.S. enrichment sales.¹²² In addition, under this Agreement, USEC pays Russia in kind for the natural uranium contained in the enriched UF₆ (by crediting Russia an equivalent quantity of natural UF₆) and pays in cash for the value of enrichment (SWU).¹²³ This natural UF₆ or Russian feedstock, which is owned by Russia and is stored at USEC facilities, may be imported and sold in the U.S. market under an annual limit that began at 2 million pounds in 1998 and increases by 2 million pounds per year, and later by 1 million pounds per year, until the annual limit reaches, and continues at, 20 million pounds.¹²⁴ These imports and sales of Russian LEU-HF led to correspondingly diminished use of USEC's enrichment capacities and were cited as a factor in its decision to close one of its two enrichment facilities in June 2001.¹²⁵

USEC has continued in the role of Executive Agent under the HEU Agreement during the period of this second review. In 2002, the pricing terms under which USEC acquires LEU blended down from Russian HEU were amended to implement a market-based pricing structure that is reportedly based on "a fixed discount from a weighted-average of international and U.S. indices, including long-term and spot market prices for uranium enrichment services over the previous three years."¹²⁶ LEU imported pursuant to the HEU Agreement has become the most significant source of uranium trade under the RSA; indeed, except as provided under the RSA's re-exportation provision, no other form of Russian LEU may be imported into the United States.¹²⁷

¹¹⁹ CR at II-21, PR at II-12.

¹²⁰ CR at II-2, PR at II-1.

¹²¹ See CR at III-10-27, PR at III-7-11.

¹²² See CR/PR at Tables III-11A and III-11C.

¹²³ CR/PR at Figure I-1.

¹²⁴ CR/PR at Table I-9.

¹²⁵ USEC Prehearing Brief at 54.

¹²⁶ CR at I-40-41, PR at I-26.

¹²⁷ CR at I-41, PR at I-26.

3. Demand for Uranium

U.S. utilities' demand for uranium, as measured by reactor requirements, has grown slowly in the part several years, and is projected to continue to do so during the reasonably foreseeable future.¹²⁸ Demand for uranium depends on a number of factors, including the level of U.S. demand for electricity, the number of operating U.S. nuclear power plants, the capacity utilization (also known as the "load factor") of these plants, the enrichment level of the fuel used, the plants' cycle length and burnup/fuel design, and contracted tails assays.¹²⁹ Demand for uranium also has been affected by deregulation of electrical utilities, which effectively puts nuclear power plants in competition with other sources of electricity.¹³⁰ With worldwide demand for electricity increasing, particularly in certain developing economies, the longer-term prospects for nuclear power generation have recently become brighter.¹³¹

The nature of U.S. demand may have changed as U.S. electric utilities became able to partially bypass the fuel cycle by purchasing the processed products directly, especially natural UF₆ and enriched uranium.¹³² Enriched uranium obtained from downblended HEU under the HEU Agreement has become a significant source of nuclear fuel for U.S. nuclear utilities.¹³³ During the period of review, USEC imported and shipped to U.S. utilities Russian LEU-HF blended down from HEU containing a total of ***.¹³⁴ U.S. nuclear utilities have expressed concerns over their sources of supply after the HEU Agreement expires in 2013.¹³⁵

Another recent development affecting demand for uranium is the entrance of hedge funds and other financial speculators into the uranium markets. For example, in 2005, hedge funds reportedly accounted for 10 million of the 29 million pounds of uranium purchased on the spot market.¹³⁶

A majority of U.S. electric utilities' purchases of uranium and uranium processing are based on long-term contracts.¹³⁷ Over the period of review, there has been a trend toward a greater use of long-term contracts.¹³⁸ Future reactor demand for uranium is generally divided between "covered demand," which consists of future reactor requirements that are to be filled by existing long-term contracts and inventory drawdowns, and "uncovered demand," which accounts for the remainder of future reactor requirements.¹³⁹

4. Supply of Uranium

With respect to supply, the reports of most purchasers diverged somewhat from other pertinent record evidence. The majority of uranium purchasers responding to the Commission's questionnaire reported that the supply of uranium in the United States had decreased during the period of review.

¹²⁸ CR at II-28, PR at II-16.

¹²⁹ CR at II-31, PR at II-18.

¹³⁰ CR at II-32, PR at I-19.

¹³¹ Id.

¹³² CR at II-27, PR at II-15.

¹³³ See CR/PR at Tables III-11A and III-11C.

¹³⁴ CR/PR at Table I-8.

¹³⁵ E.g., Hearing Tr. at 186 (J. Mallone, Exelon Generation Company).

¹³⁶ CR at II-35-36, PR at II-21.

¹³⁷ CR at II-27, PR at II-15.

¹³⁸ CR at II-29, PR at I-5.

¹³⁹ CR at II-7, PR at II-5.

Purchasers cited a number of reasons for this, including: the temporary shutdown of a U.S. conversion facility, the suspension of deliveries by Global Nuclear Services and Supply, Ltd. (“GNSS”), the LEU trade cases against Western European enrichers, and general difficulties with deliveries.¹⁴⁰

On the other hand, inventories of natural and enriched UF₆ in the United States and throughout the world continue to represent a significant source of uranium supply. Although inventories held by owners and operators of U.S. civilian nuclear plants were largely unchanged in the beginning of the review period, they increased somewhat in 2004 and 2005.¹⁴¹ Inventories held by brokers and traders increased significantly over the review period.¹⁴² Inventories held by members of the U.S. uranium industry declined substantially, especially towards the end of the review period.¹⁴³ Russia reportedly holds significant inventories of uranium in various stages of enrichment.¹⁴⁴ Also, the U.S. Department of Energy has a separate large stockpile of natural UF₆, amounting to about *** million pounds of U₃O₈ in 2005. Most of this uranium is to be held off the market until at least 2009.¹⁴⁵

In addition to continued large inventories, the supply of uranium concentrate has been affected by an upswing in exploration and mining of uranium ore. After several years of decline, the U.S. uranium mining and milling industry has been experiencing an upturn since 2004.¹⁴⁶

The large domestic inventories of uranium allow producers and utilities to engage in a variety of non-cash transactions. Companies holding uranium in different locations may swap equivalent quantities to avoid transportation costs or government restrictions.¹⁴⁷ A company may loan uranium to other companies that need to cover excess demand or optimize inventories.¹⁴⁸ Such alternative transactions can result in the disaggregation of an advanced stage of uranium (such as natural or enriched UF₆) into the raw material (uranium concentrate or natural UF₆) and processing (conversion or enrichment) used to make it. This process creates separate, but interrelated, markets for the uranium and enrichment components of enriched UF₆. Consequently, a given quantity of uranium may change ownership or possession a number of times before its consumption in a nuclear power plant.

Canada and Australia were major nonsubject suppliers of uranium concentrate to the United States during the period of review.¹⁴⁹ There were also significant nonsubject imports of LEU-HF, principally from Western European suppliers.¹⁵⁰ Global production of U₃O₈ is projected to increase from 108.1 million pounds in 2005 to 165.2 million pounds in 2010, and Russia is projected to remain one of the top five producers in the world.¹⁵¹

A development that is significant for the future supply of LEU is the planned deployment of two new enrichment facilities in the United States. USEC is developing its “American Centrifuge” facility at

¹⁴⁰ CR at II-25-26, PR at II-15.

¹⁴¹ CR/PR at Table II-8.

¹⁴² Id.

¹⁴³ Id.

¹⁴⁴ CR at IV-36, PR at IV-23.

¹⁴⁵ CR at II-3, PR at II-2.

¹⁴⁶ CR at III-2-3, PR at III-1-2.

¹⁴⁷ CR/PR at V-1.

¹⁴⁸ Id.

¹⁴⁹ CR/PR at Table IV-4, CR at IV-11, PR at IV-6.

¹⁵⁰ CR at IV-1 and IV-17-18, PR at IV-6.

¹⁵¹ CR/PR at Table IV-4.

Portsmouth, Ohio, which is scheduled to begin commercial operations by January 2009.¹⁵² This USEC facility will eventually have an annual capacity of 3.5 million SWU per year. A second new enrichment facility, the “National Enrichment Facility,” is to be built in Eunice, New Mexico by Louisiana Energy Services (“LES”). This facility is projected to produce 1 million SWU by 2009, and to reach its full annual capacity of 3 million SWU in 2013.¹⁵³

Finally, trade restrictions in addition to the RSA affect exports of uranium from Russia. The European Atomic Energy Community (“EURATOM”) countries limit imports of uranium from Russia to about 15 percent of the EURATOM market.¹⁵⁴ RSA and EURATOM restrictions have resulted in a two-tiered pricing structure in the global market for uranium. Uranium eligible for sale in the United States and EURATOM countries (known as “restricted market uranium”) bears a higher price than uranium that can only be sold in countries without import restrictions (known as “unrestricted market uranium”).¹⁵⁵

We find that the foregoing conditions of competition are likely to remain unchanged for the reasonably foreseeable future and thus provide an adequate basis by which to assess the likely effects within the reasonably foreseeable future of terminating the suspended investigation.

C. Likely Volume of Subject Imports

In the first five-year review the Commission found that the volume of subject imports, which was already substantial, likely would increase significantly if the suspended investigation were terminated. It based this decision on Russia’s significant reserves of unmined uranium, its extensive capacity to produce all forms of uranium, its substantial inventories of various forms of uranium, its relatively small home market, and barriers to imports of Russian uranium in third-country markets.¹⁵⁶

In assessing the likely volume effects of the termination of the suspended investigation, we have considered the current volume of subject imports under the RSA, as well as Russia’s inventories of uranium and its capacity to produce uranium in various stages of the nuclear fuel cycle. We have also considered various public and private indications of the Russian uranium industry’s intent to increase its exports to the United States. Based on these factors, we find that Russian producers would likely increase significantly shipments of subject uranium to the United States within the reasonably foreseeable future if the suspended investigation is terminated.

We have analyzed the effect of total likely subject imports from Russia on the entirety of the domestic like product and industry, as contemplated by the statute. Attempting to assign complex transactions involving multiple forms of uranium to one market segment would be arbitrary. Furthermore, strict segmentation would ignore the impact that sales of one form of uranium have on the others. We recognize, however, that some degree of disaggregated analysis is unavoidable, particularly with respect to quantity data for different segments which are inappropriate to aggregate.

There are several ways to measure volume in the uranium industry: in terms of the value of total imports or sales during a given period, the volume or value sold within each sector (*i.e.*, the uranium concentrate, natural UF₆, enriched UF₆, and UO₂ sectors), and the volume of uranium required by U.S. utilities each year. The value of U.S. imports of all uranium products from Russia, based on questionnaire responses and official Commerce statistics, declined irregularly during the period of review,

¹⁵² CR at III-21, PR at III-10.

¹⁵³ CR at III-7-8, PR at II-5-6.

¹⁵⁴ CR at IV-38, PR at IV-24.

¹⁵⁵ CR at II-5, PR at II-3.

¹⁵⁶ Russia First Review Determination at 32-37.

from *** in 2005, but was higher than during the previous review period.¹⁵⁷ ¹⁵⁸ Imports of uranium into the United States from Russia *** of the total value of U.S. sales and imports of uranium in 2000 to *** of the total value of U.S. sales and imports of uranium in 2005.¹⁵⁹ Uranium imported from Russia accounted for about *** percent of the total value of all U.S. imports of uranium during the period of review.¹⁶⁰

1. Current Levels of Subject Imports, Even Under the Suspension Agreement, Are Significant.

Imports from Russia during the period of review were in the form of natural uranium hexafluoride and LEU-HF. The value of natural uranium hexafluoride directly imported from Russia varied considerably over the review period, ranging from \$*** million in 2003 to \$*** million in 2004.¹⁶¹ Direct imports of natural uranium hexafluoride from Russia increased from *** percent of the total value of U.S. sales and imports of natural uranium hexafluoride in 2000 to *** percent of the total value of U.S. sales and imports of natural uranium hexafluoride in 2005.¹⁶² The value of directly imported Russian natural uranium hexafluoride accounted for *** percent of total U.S. imports of this product during the period of review.¹⁶³ The volume of natural uranium hexafluoride imported from Russia ranged from *** kilograms U in 2003 to *** kilograms U in 2004.¹⁶⁴

While imports of Russian natural uranium hexafluoride represented a relatively small share of total U.S. natural uranium hexafluoride sales during the period of review, subject imports of enriched uranium, or LEU-HF, accounted for a substantial share of all U.S. uranium requirements. The value of enriched UF₆ imported from Russia *** in 2005, but was higher than during the previous review period.¹⁶⁵ Similarly, the SWU contained in this enriched UF₆ imported from Russia *** in 2005.¹⁶⁶ The SWU contained in U.S. imports of Russian LEU-HF represented *** percent of U.S. utilities' reactor requirements in uranium enrichment SWU in 2005.¹⁶⁷ The value of imported Russian LEU-HF accounted for *** of total U.S. imports of this product during the period of review and *** of the total value of U.S. sales and imports of enriched UF₆ in 2005.¹⁶⁸

In short, the volume of subject imports has been significant, even with the Suspension Agreement in place.

¹⁵⁷ We note that the data in the 1991 original preliminary investigation on imports from the USSR were not available separately for the former republics of the USSR and thus we have no import data for the Russian Federation during the 1990-1992 period.

¹⁵⁸ CR/PR at Tables I-1 and IV-1.

¹⁵⁹ CR/PR at Table I-1.

¹⁶⁰ Calculated from CR/PR at Table IV-1.

¹⁶¹ CR/PR at Table I-2.

¹⁶² Calculated from CR/PR at Tables I-2 and I-4.

¹⁶³ Calculated from CR/PR at Table I-2.

¹⁶⁴ CR/PR at Table I-2.

¹⁶⁵ CR/PR at Table I-2.

¹⁶⁶ CR/PR at Table I-2. We note that the volume of subject imports of enriched UF₆ was ***. Such subject imports were *** SWU in 1999, *** in 2000, and *** in 2001. CR/PR at Table I-2.

¹⁶⁷ Calculated from *The Global Nuclear Fuel Market, Supply and Demand 2005-2030*, World Nuclear Association ("WNA"), (hereinafter "*The Global Nuclear Fuel Market*, WNA, 2005") Table IV.1.

¹⁶⁸ Calculated from CR/PR at Tables I-2 and I-4.

2. Russian Inventories of Uranium Are Significant

Russian producers provided no data on their inventories of uranium to the Commission, but it is clear that they are substantial. Russia holds substantial inventories of natural UF₆. Russia holds significant inventories of natural UF₆ in the U.S. market that results largely from sales of the Russian LEU-HF blended down under the HEU Agreement.¹⁶⁹ This inventory can be sold and imported into the U.S. market subject to current limits, but some of the limits increase by 1 or 2 million pounds per year with an annual limit of 20 million pounds in 2009 under the USEC Privatization Act.¹⁷⁰ One estimate is that Russia has inventories of *** metric tons of natural uranium (not counting the inventories of natural UF₆ held for Russia's account in the United States).¹⁷¹ Russia also reportedly has substantial inventories of LEU-HF, which are estimated to be in the range of *** metric tons.¹⁷²

While the Russian HEU Agreement governs the blending down of 500 metric tons of Russian HEU for importation into the United States as LEU, Russia holds an additional stockpile estimated to be *** metric tons of HEU not governed by the HEU Agreement that could be blended down to LEU. While contamination may make some of this material unsuitable for down-blending, it does not appear that most of the HEU inventory is affected.^{173 174}

Finally, Russia also holds substantial inventories of uranium tails (depleted UF₆ that is produced as part of the enrichment process). Russia devotes some of its enrichment capacity to re-enriching uranium tails from its inventory as well as tails from Western European producers, thereby providing another source of uranium.¹⁷⁵ Russia's inventory of uranium tails is estimated to be in excess of *** metric tons.¹⁷⁶

3. Russia's Production Capacity Is Significant

Apart from its large existing inventories, Russia has significant production capacity to make more uranium products for export. Russian producers have the capacity to produce all forms of uranium, including re-enrichment of uranium tails and reprocessing of spent nuclear fuel.¹⁷⁷ Collectively, the countries of the former Soviet Union have about 30 percent of the world's class 1 uranium concentrate reserves, or about 1.4 million metric tons of uranium.¹⁷⁸ Russia currently has one conventional mine in operation.¹⁷⁹ It is estimated that this mine will have annual production of 3,500 metric tons of natural

¹⁶⁹ PRI/CBR Posthearing Brief, Exhibit 4.

¹⁷⁰ CR/PR at Table I-9.

¹⁷¹ CR at IV-36, PR at IV-23.

¹⁷² Id.

¹⁷³ AHUG Posthearing Brief, Exhibit 1 at 39, USEC Posthearing Brief at Exhibit 10.

¹⁷⁴ Although Russian authorities recently announced that they do not expect that this additional HEU will be subject to down-blending, we recognize that such future plans are subject to change. In any event, Russian inventories of uranium are very large, even if such additional HEU is not available for down-blending.

¹⁷⁵ CR at IV-26, PR at II-17.

¹⁷⁶ CR at IV-36, PR at IV-23.

¹⁷⁷ CR at II-21, PR at II-12.

¹⁷⁸ CR at II-20, PR at II-11.

¹⁷⁹ CR at II-20, PR at II-11.

uranium in the 2005-2007 period.¹⁸⁰ Two additional mines with a capacity of 1,000 metric tons each are expected to begin full production in 2008 and 2012.¹⁸¹

Russian uranium concentrate production, which is estimated to have been in the range of 8.7 to *** million pounds in 2005, is projected to grow in the next several years.¹⁸²

Russia is estimated to have 24 percent of the world's annual natural UF₆ conversion capacity.¹⁸³

With respect to enrichment, Russia is estimated to have annual capacity of *** in 2005, which accounts for almost *** percent of global nameplate capacity.¹⁸⁴ According to Rosatom, this enrichment capacity is expanding and will increase by 30 percent in 2010 relative to 2002.¹⁸⁵ While the Russian industry argued in the first five-year review that its enrichment capacity is largely committed,¹⁸⁶ Russia's home market demand for enrichment was estimated to average only 4.5 million SWU annually during the 2003-05 period.¹⁸⁷ Moreover, a significant amount of Russia's enrichment capacity is reportedly being used in the relatively uneconomic process of re-enriching tails.¹⁸⁸

4. The Russian Uranium Industry Is Export-Oriented and Strives to Maintain High Capacity Utilization

We find it likely that significant volumes of Russia's current enrichment capacity would be targeted to the U.S. market within a reasonably foreseeable time if the suspended investigation were terminated. Russia's home market demand is low – only about 23 percent of its enrichment capacity reportedly is used to meet home market demand – and most of its enrichment capacity is used for export-related activities.¹⁸⁹ Russian enrichers attempt to operate their facilities at as close to full capacity as possible, even if this involves the relatively uneconomic activity of re-enriching tails,¹⁹⁰ and they can be expected to avail themselves of the more profitable opportunity to sell more LEU-HF to the United States if the suspended investigation is terminated.

5. Evidence of Russia's Interest in Expanding Sales to the United States

In this review, we have been presented with specific and concrete evidence of the Russian industry's intention to increase its uranium exports to the United States upon termination of the suspended

¹⁸⁰ Id.

¹⁸¹ CR at II-20-21, PR at II-11.

¹⁸² CR/PR at Table IV-6.

¹⁸³ CR at II-21, PR at II-11.

¹⁸⁴ CR at IV-24, PR at IV-16.

¹⁸⁵ CR at IV-24, PR at IV-16. Russian enrichers use gas centrifuge enrichment technology, which permits additional capacity to be added incrementally. CR at IV-24, PR at IV-16 and Hearing Tr. at 51 (D. Klett, Capital Trade Inc.)

¹⁸⁶ CR at II-21, PR at II-12.

¹⁸⁷ Id.

¹⁸⁸ CR at IV-26, PR at IV-17.

¹⁸⁹ CR at II-21, PR at II-12. According to information provided by Rosatom in this review, in 2002, Russian enrichment capacity was used in the following manner: 33 percent was used to produce enriched uranium for Russian-origin reactors (in Russia, elsewhere in the Commonwealth of Independent States, and in Eastern Europe), 24 percent was used to implement the HEU Agreement, and 43 percent was used to satisfy other export contracts. CR at IV-32, PR at IV-21.

¹⁹⁰ CR at IV-26, PR at IV-17, and *The Global Nuclear Fuel Market*, WNA, 2005, at 144-146.

investigation. In part, this has taken the form of statements to the press in May 2006 by Sergei Kiriyyenko, the head of Rosatom (the Russian, largely state-owned company responsible for building and operating Russian nuclear power plants), in which he indicated that Russia wishes to expand its uranium sales in the United States if the suspended investigation is terminated.¹⁹¹ He indicated that the Russian industry is ready to supply additional uranium and that U.S. purchasers wish to buy it.¹⁹²

Perhaps even more significant is record evidence of discussions and contingent contracts between the Russian industry and U.S. utilities.¹⁹³ The Russian uranium industry has had discussions with U.S. nuclear utilities about sales in the event that the suspended investigation is terminated, and it has entered into a number of contingent contracts with U.S. utilities. Sixteen of the 29 responding uranium purchasers advised the Commission that they had solicited or had been solicited to negotiate contingent contracts for Russian-sourced uranium during 2000-2005.¹⁹⁴ The contingent contracts are for conversion to UF₆, for natural uranium hexafluoride, for enrichment services, and for the purchase of enriched uranium product (“EUP”). These arrangements reflect repeated attempts by the Russian industry to increase sales to the United States over and above sales currently permitted under the RSA.¹⁹⁵ These persistent efforts, coupled with Mr. Kiriyyenko’s public statements, indicate the Russian industry’s intent to expand uranium sales in the U.S. market upon termination of the suspended investigation.

We are not persuaded by respondents’ arguments that shortages of natural uranium would likely prevent Russia from significantly expanding its exports to the United States. First, we note that Russia is expanding its uranium mining capacity,¹⁹⁶ with the first of two additional mines capable of producing 1,000 metric tons annually of uranium scheduled to come on line in 2008.¹⁹⁷ Russia also has access to some uranium that is mined by joint ventures in the former Soviet Republics of Kazakhstan and Uzbekistan.¹⁹⁸ Moreover, Mr. Kiriyyenko’s public statements and the Russian industry’s activities in entering into contingent contracts with U.S. utilities are inconsistent with an inability to supply enriched uranium due to shortages of natural uranium.

We are also not persuaded by respondents’ contentions that Russian enrichment capacity is already committed to such an extent as to preclude a significant increase in exports to the United States. As noted above, the Russian industry’s current capacity is estimated to be *** million SWU per year, while home market demand is in the range of only 4.5 million SWU per year. Although the parties agree that Russia has excess capacity and that it is increasing, based on differing assumptions, the parties provided competing estimates of annual excess capacity – ranging from *** million SWU by respondents to over *** million SWU by USEC.¹⁹⁹ Even the lower estimates of excess capacity,

¹⁹¹ CR at IV-34, PR at IV-22.

¹⁹² CR at IV-34-35, PR at IV-22.

¹⁹³ CR at II-7, PR at II-5.

¹⁹⁴ Id.

¹⁹⁵ CR/PR at Tables II-2, II-3, II-4, and II-5. We note that the relatively large number of contingent contracts involving the provision of EUP, and the large amount of uranium involved in these contracts, could be particularly harmful to the domestic uranium industry because EUP encompasses all of the previous stages of the nuclear fuel cycle. Thus, the provision of EUP takes away sales from not only the enricher but also the converter and concentrators.

¹⁹⁶ The WNA estimates that the Russian industry’s production of U₃O₈ will rise from 9.1 million pounds in 2006 to 11.7 million pounds by 2008. CR/PR at Table IV-4.

¹⁹⁷ CR at II-20-21, PR at II-11.

¹⁹⁸ Nukem Posthearing Brief at 5. See also CR at IV-29, PR at IV-19.

¹⁹⁹ CR/PR at Table IV-7.

however, are large in relation to production in the United States (** million SWU in 2005)²⁰⁰ and U.S. consumption (12-13 million SWU per year).²⁰¹ Accordingly, even respondents' lower estimate of excess capacity represents amounts that are significant relative to production and consumption in the United States. Moreover, Russia's contracts for the re-enrichment of tails for Western European customers may end as early as 2007, potentially freeing up significant enrichment capacity that could be devoted to the more profitable task of enriching natural uranium hexafluoride for the U.S. market.²⁰² Any increases in demand for Russian uranium in markets such as Japan, China, and India is likely to occur in the longer term.²⁰³

An additional reason for our conclusion that significant volumes of Russian uranium are likely to be exported to the United States is that Russian uranium faces barriers to entry in Europe, which is a significant market for enriched uranium. Imports of uranium from the former Soviet states are subject to EURATOM sales quotas, which limit Russian participation in the EURATOM market to about 15 to 20 percent.²⁰⁴

An additional argument advanced by respondents is that there is little uncommitted demand in the United States during the reasonably foreseeable future. While long-term contracts are important in this market, the record does not support the conclusion that such contracts would preclude a significant increase in the volume of subject imports. Using different methodologies, uncommitted demand is estimated to be very small for the remainder of 2006, but it rises sharply in 2007 and reaches substantial quantities in 2008 and 2009.²⁰⁵ Moreover, the Russian industry clearly does not regard U.S. demand as already committed, given Mr. Kiriyyenko's public statements and the abundance of contingent contracts.

In sum, Russia's substantial uranium inventories and production capacity, when viewed together with its stated intention to expand exports to the United States and its extensive contingent contracts and ongoing contract negotiations with U.S. purchasers, lead us to conclude that the volume of subject imports, which already is substantial, likely would increase significantly within a reasonably foreseeable time if the suspended investigation is terminated.

D. Likely Price Effects

In the first five-year review the Commission found that termination of the suspended investigation would likely lead to significant underselling by the subject imports, and to significant price depression and suppression, within a reasonably foreseeable time. It based this decision on factors that included the price sensitive nature of the uranium market; an increase in worldwide supplies of uranium, including the growing availability of natural UF₆ and LEU-HF as finished products that bypass part of the fuel cycle; and declining uranium prices.²⁰⁶

²⁰⁰ CR/PR at Table I-5.

²⁰¹ CR at II-28, PR at II-16.

²⁰² USEC Posthearing Brief, Answers to Commission Questions at 44.

²⁰³ Hearing Tr. at 112-113 and 114 (R. Van Namen, USEC), and *The Global Nuclear Fuel Market*, WNA, 2005, at 43, 46 and 48. As noted in the WNA Report, following the completion of two new nuclear reactors in China within the next two years, and five new nuclear reactors in India in 2006 and 2008, no additional reactors are expected to come online in these countries until at least 2011. In Japan, following the commissioning of two new reactors (one in 2006, and one in 2009), there are no specific forecasts for new reactors until about 2020.

²⁰⁴ CR at IV-31 and IV-38, PR at IV-20 and IV-24, and USEC Prehearing Brief, Exhibit 32.

²⁰⁵ Staff Table #1 and CR/PR at Tables II-6 and II-7.

²⁰⁶ Russia First Review Determination at 37-38.

We find that the increased volumes of subject imports of uranium from Russia that would be likely to enter the United States if the suspended investigation were terminated likely would have significant negative effects on prices for the U.S. product.

Uranium is a commodity product and is price sensitive to significant changes in the supply of uranium on the market. Lowest price was the third-highest ranked purchasing factor reported by U.S. electric utilities, after availability and reliability of supply.²⁰⁷

The Commission's pricing analysis in this review did not yield meaningful direct comparisons between the domestic like product and the subject imports from Russia. Other evidence in the record indicates that prices for uranium generally have risen during the period of review, in some cases quite sharply.²⁰⁸

As explained above, we find that it is likely that Russia would export significant volumes of uranium to the United States if the suspended investigation is terminated. We find that without the discipline of the Suspension Agreement, there is a substantial likelihood that the Russian uranium would be priced aggressively in the U.S. market in order to gain market share. The likelihood that Russia would undersell the domestic product is accentuated in our view by the tendency of Russian enrichers to operate at high rates of capacity utilization. This tendency suggests that Russian producers will be motivated to sell LEU-HF at whatever price is necessary to move the product and keep their enrichment facilities at full production. The fact that Russian enrichers have devoted a substantial portion of their capacity to the relatively uneconomic re-enrichment of tails also suggests that they would be willing to undersell the domestic like product.²⁰⁹ In fact, because the price that USEC pays under the HEU Agreement includes a discount from an index of retrospective U.S. and international prices, Russia could sell additional uranium outside the terms of the HEU Agreement for a higher price than it obtains under that agreement, yet still undersell the domestic like product.²¹⁰ Consistent with the above, there is evidence in the record that the Russian industry's LEU prices in North America and the EU are lower than prices offered by other suppliers.^{211 212}

This likely underselling by Russian imports would likely lead to significant price depression or suppression of prices for the domestic like product, as the Russian industry competes with the domestic industry for contracts, and as the presence of Russian imports at aggressive prices drives down spot market prices, which, in turn, are a factor in the negotiation of contract prices.²¹³

The increased presence of hedge funds in the uranium markets towards the end of the review period increases the likelihood of significant adverse price effects due to increased Russian imports. As noted above, hedge funds have accumulated significant uranium inventories, on the expectation that

²⁰⁷ CR at II-36-40, PR at II-22.

²⁰⁸ CR/PR at Figures V-2, V-4, V-5, and V-7.

²⁰⁹ AHUG has argued that its members are motivated to purchase Russian uranium because of their desire to establish diversity of supply, and not by a desire to obtain a cheaper product. E.g. Hearing Tr. at 176 (K. Church, Duke Energy Corp.). We note that the objectives of ensuring diversity of supply, and obtaining the lowest price, are not necessarily mutually exclusive.

²¹⁰ USEC Posthearing Brief, Answers to Commission Questions at Exhibit 18.

²¹¹ See CR/PR at Figure V-7.

²¹² Further evidence that Russia would be likely to undersell the domestic like product can be found in the pricing terms of many of the contingent contracts that Russia has negotiated with U.S. utilities. Generally, one would expect prices under long-term contracts (such as these contingent contracts), which give security of supply (the leading concern of purchasers), to be somewhat higher than spot prices, particularly at a time when both prices and global demand are rising. The contingent contracts in this case, however, generally have lower prices than prevailing spot prices. Staff Table #2 and PRI/CBR Final Comments at 7.

²¹³ CR at II-53, PR at II-36.

prices will continue to rise.²¹⁴ It is likely, given the typical behavior of speculators, they would unwind their positions if uranium prices begin to decline, exacerbating any pricing pressure from the Russian product.

Respondents argue that the Russian industry would not undersell the domestic like product because to do so would undercut the price that it receives from USEC under the HEU Agreement.²¹⁵ This argument is unpersuasive, because declining U.S. prices will have only a delayed and muted effect on the pricing mechanism of the HEU Agreement.²¹⁶ The full effect would be delayed because the HEU price is based on a three-year retrospective average.²¹⁷ Moreover, the effect is muted because the HEU price is based in part on non-U.S. prices, which would be affected little if at all by underselling by subject imports in the U.S. market.

For the foregoing reasons, we find that termination of the suspended investigation on uranium from Russia would be likely to lead to significant underselling by the subject imports of the domestic like product, as well as significant price depression and suppression, within a reasonably foreseeable time.

E. Likely Impact

In the first five-year review the Commission found that subject imports from Russia would be likely to have a significant adverse impact on the domestic industry within a reasonably foreseeable time if the suspended investigation were terminated. It based this decision on the weakened state of the domestic industry and declines in the overall financial performance of all domestic producers. It concluded that the increase in subject imports at aggressive prices would likely have a significant adverse impact on all of the domestic industry's performance indicators.²¹⁸

As in the first five-year review, we have analyzed the impact of the subject imports on the entirety of the domestic like product and industry, but we recognize that some degree of disaggregated analysis is unavoidable, particularly with respect to the financial performance of domestic producers at different stages of the uranium fuel cycle.

We find that the likely significant volume of subject imports would adversely impact the domestic industry if the suspended investigation were terminated. While the domestic producers showed varying financial results during the period of review, overall the industry performed poorly. The operating income of the concentrators was variable over the review period.²¹⁹ ConverDyn, the sole U.S. converter, experienced *** of the review period.²²⁰ USEC's financial results on its U.S. production

²¹⁴ Hearing Tr. at 176 (K. Church, Duke Energy Corp.).

²¹⁵ E.g., Nukem Prehearing Brief at 10-11.

²¹⁶ The HEU Agreement price is based on a weighting of U.S. and international prices, and it uses a retrospective three-year average of such prices. Hearing Tr. at 23 (Phillip Sewell, USEC), USEC Posthearing Brief at 9 and Exhibit 18.

²¹⁷ USEC Posthearing Brief at 9 and Exhibit 18.

²¹⁸ Russia First Review Determination at 39-40

²¹⁹ The concentrators' operating income or (losses) were: \$*** million in 2000, \$*** million in 2001, \$*** million in 2002, \$*** million in 2003, \$*** million in 2004, and \$*** million in 2005. The domestic concentrators' operating income/(losses) as a share of net sales was: *** percent in 2000, *** percent in 2001, *** percent in 2002, *** percent in 2003, *** percent in 2004, and *** percent in 2005. CR/PR at Table III-8

²²⁰ ConverDyn's operating income or (losses) were: \$*** million in 2000, \$*** million in 2001, \$*** million in 2002, \$*** million in 2003, \$*** million in 2004, and \$*** million in 2005. Its operating income/(losses) as a share of net sales was: *** percent in 2000, *** percent in 2001, *** percent in 2002, *** percent in 2003, *** percent in 2004, and *** percent in 2005. CR/PR at Table III-10.

operations were ***.²²¹ Finally, the reported financial data for fabricators' operations that included both subject and nonsubject operations showed large fluctuations over the review period, although there was a significant improvement reported towards the end of the period.²²²

Given the weak financial performance of the domestic industry overall and substantial investments required to build the two new U.S. enrichment facilities, we conclude that the domestic industry is in a weakened state and currently is vulnerable to material injury by the likely significant volume of subject imports and subsequent negative price effects that would occur if the suspended investigation is terminated. USEC is in a particularly vulnerable position, as it seeks to make the critical shift from reliance solely on the power-intensive gaseous diffusion technology used in its remaining enrichment facility, to the more energy-efficient centrifuge technology to be used by its planned American Centrifuge facility.²²³

The likely significant volume of imports from Russia at aggressive prices would particularly affect the demand for USEC's enrichment services.²²⁴ USEC's U.S. shipments of its enrichment services experienced significant declines during the period of review, reflecting in part the closure in 2001 of one of its enrichment plants to accommodate the Russian-produced SWU.^{225 226} We recognize that *** of USEC's shipments of its U.S. production were exported.²²⁷ While this fact attenuates the likely impact of subject imports on USEC's overall domestic operations, since generally imports can have no effect on a company's (domestically produced) exports, we note USEC's explanation that its foreign purchasers will not accept LEU that is down-blended from HEU, forcing it to export its domestic product, rather than the Russian product it must purchase under the HEU Agreement.²²⁸ Nevertheless, we find that enough of USEC's production has been directed to the U.S. market to enable us to conclude that subject imports are likely to have a significant negative impact on the company's U.S. production operations. If USEC were to lose domestic sales to subject imports, this would negatively affect its *** at its remaining enrichment

²²¹ USEC's operating income or (losses) were: \$*** million in 2000, \$*** million in 2001, \$*** million in 2002, \$*** million in 2003, \$*** million in 2004, and \$*** million in 2005. Its operating income/(losses) as a share of net sales was: *** percent in 2000, *** percent in 2001, *** percent in 2002, *** percent in 2003, *** percent in 2004, and *** percent in 2005. CR/PR at Table III-11B.

²²² CR/PR at Table III-12.

²²³ Although centrifuge enrichment plants require a sizable capital investment (for example, it is estimated that USEC's new plant will cost \$1.7 billion (USEC Prehearing Brief at 96)), centrifuge plants require much less power than gaseous diffusion facilities. USEC estimates that the power usage at its American Centrifuge plant will be *** per SWU, as compared with *** per SWU at its existing gaseous diffusion plant. USEC Posthearing Brief, Answers to Commission Questions at Exhibit 24.

²²⁴ USEC's enrichment service production was: *** in 2005. By comparison, USEC's annual production in the early 1990's was about ***. CR/PR at Table I-5.

²²⁵ CR at III-19-20 and III-39 n.83, PR at III-10 and III-15 n.83. We note also that USEC has a commitment to the U.S. Department of Energy to continue producing at least 3.5 million SWU per year at its Paducah plant until six months before its new centrifuge facility is operating at a 3.5 million SWU per year level. Hearing Tr. at 18 (P. Sewell, USEC). As noted above, its production level *** SWU in 2005.

²²⁶ USEC's U.S. shipments of its enrichment services were: *** in 2005. By comparison, USEC's annual U.S. sales in the early 1990's were ***. CR/PR at Table I-5.

²²⁷ See CR/PR at Table III-3. For example, in 2005, USEC produced *** million SWU and exported *** million SWU.

²²⁸ USEC Posthearing Brief, Answers to Commission Questions at 8.

facility, and further drive up unit costs at that facility.²²⁹ The likely significant volume of imports from Russia at aggressive prices would also threaten the viability of the two new enrichment facilities being planned in the United States, USEC's "American Centrifuge" facility and LES's "National Enrichment Facility," without at least one of which the U.S. industry will be increasingly marginalized by its old and uneconomic technology.

As discussed above, termination of the suspended investigation would likely lead to a significant increase in the volume of subject imports, and these aggressively priced shipments would likely undersell the domestic product and significantly depress or suppress the domestic industry's prices. The increase in subject imports is likely to cause decreases in both the prices and volume of domestic producers' shipments. We find that these developments would likely have a significant adverse impact on the production, shipments, sales, market share, and revenues of the domestic industry, particularly given its vulnerable condition. This reduction in the industry's production, shipments, sales, market share, and revenues would result in further erosion of the industry's profitability as well as its ability to raise capital and make and maintain necessary capital investments, especially the two new planned enrichment facilities. In addition, we find it likely that termination of the suspended investigation will result in commensurate employment declines for the industry.

Accordingly, based on the record in this review, we conclude that, if the suspended investigation is terminated, subject imports from Russia would be likely to have a significant adverse impact on the domestic industry within a reasonably foreseeable time.

CONCLUSION

For the foregoing reasons, we determine that termination of the suspended investigation on imports of uranium from Russia would be likely to lead to continuation or recurrence of material injury to the U.S. uranium industry within a reasonably foreseeable time.

²²⁹ USEC's capacity utilization rate has been *** since 2002, the year after it closed its Portsmouth, Ohio plant. Its capacity utilization rate was *** percent in 2005. CR/PR at Table III-3.

DISSENTING VIEWS OF COMMISSIONER CHARLOTTE R. LANE

Section 751(d)(2) of the Tariff Act of 1930, as amended (“the Act”), requires that the U.S. Department of Commerce (“Commerce”) terminate a suspended investigation unless Commerce determines that dumping or a countervailable subsidy would be likely to continue or recur and the U.S. International Trade Commission (“Commission”) determines that material injury to a U.S. industry would be likely to continue or recur within a reasonably foreseeable time. Based on the record in this second five-year review, I determine that material injury is not likely to continue or recur within a reasonably foreseeable time if the suspended investigation on uranium from Russia is terminated.

I join my colleagues’ discussion regarding domestic like product, domestic industry and the legal standards governing sunset reviews. I write separately to discuss the conditions of competition and to provide my analysis of the likely effect of termination of the suspended investigation.

I. TERMINATION OF THE SUSPENDED INVESTIGATION ON URANIUM FROM RUSSIA IS NOT LIKELY TO LEAD TO CONTINUATION OR RECURRENCE OF MATERIAL INJURY TO A DOMESTIC INDUSTRY WITHIN A REASONABLY FORESEEABLE TIME

A. Conditions of Competition

In evaluating the impact of subject imports on the domestic industry if the suspended investigation is terminated, the statute directs the Commission to evaluate all relevant economic factors “within the context of the business cycle and conditions of competition that are distinctive to the affected industry.” The conditions of competition that are distinctive to the uranium industry and that form the context for my consideration of the likely impact of terminating the suspended investigation follow.

1. The Nuclear Fuel Cycle

The various uranium containing compounds at issue in this proceeding -- uranium concentrate (U_3O_8), natural uranium hexafluoride (UF_6), low-enriched uranium hexafluoride (LEU), and uranium dioxide (UO_2)-- are fungible commodity products. Each of these compounds or forms of uranium are, for the most part, substitutable with like forms, regardless of their source or production methods.²³⁰ However, these forms are not physically interchangeable with each other since each represents a different physical form which has been modified by separate production processes or stages.

Basically, each compound contains elemental uranium, which is a highly reactive, easily oxidized, metal. The traditional production stages required to produce the enriched UO_2 , which is the final form of uranium used for fuel in nuclear reactors, are collectively referred to as the uranium fuel cycle. The cycle is typically conducted pursuant to a business model that has final end users, the electric utility industry, purchasing uranium concentrates and then contracting with converters to convert the concentrate to UF_6 , enrichers to enrich the UF_6 into LEU, and fabricators to produce UO_2 and construct the nuclear fuel assemblies. Based on 2006 data from the [Wise Nuclear Fuel Cost Calculator](#) relative component costs for each stage of this cycle are approximately 47 percent for producing uranium concentrate, 5 percent for conversion to UF_6 , 32 percent for the enriching process and 16 percent for

²³⁰ There is some indication that fuel assemblies built for Western style nuclear reactors are not commonly used for Russian design nuclear reactors. It is not clear whether this is due to institutional policy or incompatibility of fuel.

conversion of LEU to UO₂ and fabrication of fuel rods.²³¹ USEC presented somewhat different estimates of these component costs in its posthearing brief after revising the evaluations to reflect commercial considerations in the U.S. market. USEC estimated the component costs as *** percent for producing uranium concentrate, *** percent for conversion, *** percent for enrichment, and *** percent for fabrication.

A significant condition of competition in the uranium industry is the level of government oversight and regulation of industry activities. Uranium has few uses other than nuclear reactor fuel and nuclear weapons material. As a concentrated and enriched product it creates significant health and safety concerns requiring regulatory oversight. Thus, this is not an industry that is marked by extreme ease and flexibility for entry or exit from the market. As described by the World Nuclear Association in its most recent Supply and Demand Report: “A web of licensing, surveillance and national and multinational regulations are in place throughout the fuel cycle to ensure that safety and non-proliferation objectives are met... Political influence on the uranium market has always been a significant factor. Decisions taken to build new reactors, or to allow new fuel cycle facility construction or trade in materials to take place, contain significant non-economic dimensions.”²³²

2. The Domestic Industry

The industry in the United States is made up of relatively few participants. The concentrator stage of the fuel cycle comprised only four companies during the period of review. However, the business activities of these four companies were widely dissimilar during the period of review (“POR”) and effectively, *** represented almost all of the uranium concentrate production during the period of review. The conversion and enrichment stages of the fuel cycle included only one company in each stage and the fabrication stage included only three companies, one of which did not provide any financial information for its operations during the POR.

The Commission received questionnaire responses from five concentrate producers. These were Power Resources, Inc. and Crow Butte Resources, Inc. (collectively “PRI/CBR”), Areva NC Inc., (“Areva NC”), Cotter Corp. (“Cotter”) and Uranium Resources, Inc. (“URI”). Of these producers, PRI/CBR was the *** from its mining and concentrate operations. Areva NC had *** and provided no financial data for the POR. Its mine was in a restoration stage during most of the POR and had limited uranium recovery as a result of its restoration of its well-fields. During the POR Cotter had very limited mining activity. Most of its small amount of production came from pre-2000 stockpiles. Cotter restarted limited mining activities in 2004 but all of its mines were placed on standby in November, 2005 and it was not mining or concentrating any ore by March, 2006. URI had *** than Cotter during the POR. PRI/CBR *** the POR and represented *** of the total quantity of concentrate production.

The only uranium conversion facilities in the United States are owned and operated by ConverDyn.

Commercial enrichment in the United States is performed exclusively by USEC, Inc.’s subsidiary, the United States Enrichment Corporation (“USEC”). USEC employs a gaseous diffusion enrichment process which is not competitive with advanced, gas centrifuge technology.²³³ USEC has canceled continuing research on a laser isotope separation program and has announced plans to build a new gas centrifuge plant with an annual capacity of 3.5 million SWU. Although the investment in this new technology will be very high, USEC believes that operating expenses will be very favorable and that

²³¹ CR at I-33, PR at I-25.

²³² *The Global Nuclear Fuel Market, Supply and Demand 2005-2030*, World Nuclear Association (“WNA”), 2005 (hereinafter “The Global Nuclear Fuel Market, WNA, 2005”) at 9.

²³³ CR at III-6, PR at III-5.

the plant will be economical and competitive.²³⁴ The decreased energy needs of the centrifuge technology will reduce energy costs by 95 percent as compared to production using the gaseous diffusion process. Furthermore, the centrifuge technology allows for incremental increases in capacity at relatively low costs per unit of added SWU capacity.²³⁵

There are three companies making up the domestic industry in the fabrication stage of the fuel cycle: Areva NP, Inc. (“Areva NP”), Global Nuclear Fuel (“GNF”), and Westinghouse Electric Co. LLC (“Westinghouse”). Unlike the U.S. producers of the other forms of uranium, which are primarily limited to their uranium business activity, the fabricators are large, multi-product producing companies. Westinghouse ***. Areva NP and GNF *** of fabricated uranium products.

Although the LEU fuel cycle described above was, and remains, the dominant process by which electric utilities obtain their uranium fuel, the product can also begin with highly enriched weapons uranium (HEU) which can then be converted back to a gaseous form and blended down to LEU. There is currently a significant amount of HEU-derived LEU delivered into the U.S. market as a result of the Russia/U.S. HEU Agreement.²³⁶ The LEU derived from this agreement is equivalent to 5.5 million SWU, or over 40 percent of the U.S. nuclear reactor requirements.²³⁷ USEC is the Executive Agent under the HEU Agreement. USEC’s payments to Russia under the HEU Agreement include a commodity payment in the form of UF₆ equal to the quantity of unenriched natural uranium contained within the LEU delivered by Russia and a cash payment for value of enrichment as measured in SWU. The natural uranium payment to Russia is held in USEC’s inventories, but is available to Russia within certain limitations.

The U.S. and global uranium industries and markets have seen significant changes since the last review. The HEU Agreement was in place at the time of the last review; however, there has been a significant change in the HEU Agreement which affects the current conditions of competition in this industry. In 2002, responding to concerns that USEC’s purchases of SWU under the agreement were unprofitable, the pricing structure was changed from a fixed price to a fixed discount from an average index of long-term and spot market prices over the previous three years.²³⁸ Other significant changes affecting the industry are described within the following demand and supply conditions of competition discussion.

3. Demand

Demand is frequently measured by both the weight of uranium and the enrichment SWUs required to obtain LEU. A variety of factors, including the multiple measures of demand, make it difficult to estimate future demand.²³⁹ These factors include two alternative concepts of uranium demand: nuclear-reactor uranium requirements or the volume of uranium purchases. The existence of long-term purchase contracts and the ability to hold varying amounts in inventory can cause purchase quantities of uranium to be very different from reactor requirements in any given period of time. Additionally, SWUs can vary significantly even to meet the same amount of ultimate LEU demand due to the nature of the

²³⁴ Hearing Tr. at 92 (Sewell).

²³⁵ Hearing Tr. at 93 (Cunningham).

²³⁶ In 1994, the U.S. Government agreed to purchase 500 metric tons of bomb-grade Russian HEU from dismantled nuclear weapons. The agreement calls for the HEU to be downblended to LEU in Russia. The LEU is then purchased by USEC and resold as part of its LEU supplies.

²³⁷ U.S. utility nuclear reactor requirements were 11.3 million SWU in 2003, but increased to 12.8 million in 2005 and are projected to exceed 13 million by 2007. CR at II-28, PR at II-16.

²³⁸ CR at I-40-41, PR at I-31.

²³⁹ CR at II-12, PR at II-7.

enrichment process. When power costs are low or natural uranium prices are high lower amounts of natural uranium can be used to achieve a given output of LEU (underfeeding) by applying more SWU to achieve the desired enrichment level. Conversely, when power costs are high or natural uranium prices lower, the enrichment process can use “extra” quantities of natural uranium (overfeeding) and less SWU to achieve the same desired enrichment level. The demand evaluation is further complicated by the alternative option to acquire LEU through purchasing enriched uranium product (“EUP”) rather than the traditional acquisition approach of buying concentrate and contracting for subsequent fuel cycle stages.²⁴⁰ Therefore, even if LEU demand could be predicted with absolute certainty, the demand for the natural uranium and enrichment services could vary depending on decisions regarding overfeeding or underfeeding.

U.S. demand for natural uranium, as measured by metric tons of uranium, is projected by the World Nuclear Association (“WNA”) in its middle/reference scenario to increase slightly every year (aggregate increase of 4 percent) from 2006 through 2010. Similar projections for SWU anticipate a small decline in 2006 and then a gradual increase totaling 6 percent from 2006 through 2010.²⁴¹ Worldwide demand for natural uranium, as measured by metric tons of uranium, is projected by the WNA in its reference scenario to increase every year from 2006 through 2010, aggregating an increase of over 9 percent in 4 years. In its upper scenario, the WNA projects worldwide demand to increase over 13 percent from 2006 through 2010, or over 3 percent per year.²⁴²

The WNA projects increased U.S. demand for conversion services of approximately 3.5 percent from 2006 through 2010 in its reference scenario and only slightly more in its upper scenario. Worldwide, the WNA’s reference scenario for conversion services demand is an increase of 9.6 percent and an increase of 13 percent in its upper scenario from 2006 through 2010.²⁴³

The WNA projects increased U.S. demand for enrichment services, as measured by SWU, of approximately 6.5 percent from 2006 through 2010 in both its reference and upper scenario. Over the same four year period it projects increases in worldwide demand for enrichment services of approximately 10.5 percent in its reference scenario and nearly 15 percent in its upper scenario.²⁴⁴

In summarizing its report on supply and demand, the WNA notes that the outlook for nuclear power around the world has generally brightened since its 2003 Market Report, in spite of unhelpful political interference in some countries.

Another way of evaluating the demand for uranium is to evaluate energy demand and growth in the capacity and output of nuclear fueled electric generation plants. The WNA noted this in its Supply and Demand Report by stating: “Nuclear power must be regarded within the wider framework of trends in energy and electricity supply... Within the electricity sector, to satisfy a doubling of demand by 2030 will require huge amount of investment in new generating capacity, the refurbishment of existing power plants, and the expansion of transmission and distribution. How much of this will be met by nuclear power is a subject of great debate, but in principle, the magnitude of investment to be made by the utilities is a very positive sign for the nuclear plant vendors.”²⁴⁵

In the last review the Commission found that U.S. utilities’ demand for uranium, as measured by reactor requirements, had been constant during the period of review and was projected to remain

²⁴⁰ CR at II-16, PR at II-9.

²⁴¹ CR at II-28, PR at II-16 and *The Global Nuclear Fuel Market*, WNA, 2005.

²⁴² *The Global Nuclear Fuel Market*, WNA, 2005, at Tables II.1 and II.2.

²⁴³ Id. at Tables III.1 and III.2.

²⁴⁴ Id. at Tables IV.1 and IV.2.

²⁴⁵ Id. at pages 11-13.

relatively flat for the next decade.²⁴⁶ Nuclear generation capacity as reported by the Department of Energy's Energy Information Administration ("EIA") was 99.0 gigawatts in 1992, the last year of the POI in the original investigation and 99.7 gigawatts in 1997, the initial year of the POR in the last reviews. Net generation of the U.S. nuclear power plants was 619,000 gigawatt hours in 1992 and 628,000 gigawatt hours in 1997. While the data are consistent with the Commission's determination in the last reviews that demand for uranium by U.S. utilities had been constant, the projections for relatively flat demand have not proven to be reliable. The output of U.S. utility nuclear power plants rose from 628,000 gigawatt hours in 1997 to 789,000 gigawatt hours in 2004, an increase of 26 percent. Moreover, the Annual Energy Outlook published by the Department of Energy projects that net generation from the U.S. utility nuclear power generation will continue to grow, albeit at a modest rate, as existing power plants are extended and upgraded.²⁴⁷ Considering expected growth in the nuclear power electric generation industry, worldwide demand for natural uranium and enriched uranium are likewise expected to increase.

Evidence of increasing demand creating improved conditions for the uranium industry is found in all stages of the fuel cycle. In 1999, Converdyn announced that it was reducing its capacity by 25 percent due to large inventories and relatively weak demand. More recently, however, the market for conversion of uranium concentrates to UF₆ has also improved as spot market prices increased in 2001 and then increased again in 2004 and 2005.²⁴⁸

The expectation that demand for uranium is no longer "flat" is supported by the purchasers responses to Commission questionnaires. When asked if U.S. and world demand had changed since January, 2000, 22 of 23 responses were that U.S. demand had increased. When asked if they anticipated future changes in demand, the answers were overwhelming that demand was increasing.²⁴⁹

The expectation for growth of nuclear power in the United States has changed considerably in the last 5 years. The Energy Policy Act of 2005 ("EPACT 2005") has established a public policy supporting growth of nuclear power. Increasing fossil fuel prices and concerns regarding carbon emissions are also contributing to significant positive changes in projections for future nuclear power production in the United States as well as throughout the world. While nuclear power plant growth in the developed world slowed considerably in the last decade, primarily due to political opposition, growth in partially industrialized countries such as Russia and in developing countries is expected to continue at an increasing pace.²⁵⁰ Furthermore, there has been continuing developments in design research suggesting that new reactors can achieve higher levels of safety and economy.²⁵¹ While long-term storage of spent nuclear fuel remains a significant concern that could slow the revival of the industry in the United States and other developed countries, significant government planning and investment is being directed to the storage issue.

A recent development affecting the demand for uranium is the entrance of hedge funds and/or financial speculators into the market. Increasing purchases by such speculators have helped push the price of uranium higher than it likely would have gone without their participation.²⁵² However, the domestic uranium industry expressed some concern that inventories held by the speculators, which

²⁴⁶ Russia First Review Determination, at 29.

²⁴⁷ "Annual Energy Outlook 2006," EIA, DOE, 79.

²⁴⁸ CR/PR at III-5.

²⁴⁹ Twelve purchasers reported that both U.S. and world demand would increase; 5 reported expected increased demand without differentiating between U.S. and world; 3 reported expected world increases but flat demand in the U.S.; 1 reported expected increased demand in the U.S. alone. Only 2 purchasers expected demand to be flat worldwide. CR at II-31-32, PR at II-19.

²⁵⁰ CR at IV-14, PR at IV-9.

²⁵¹ *Id.*

²⁵² CR at II-35, PR at II-21.

contributed to recent demand levels, are also a supply source which would be readily available to be sold in the event of significant negative price movement and could be an accelerate that could push prices down even faster than would occur without this source of supply.²⁵³ The speculators' inventories as well as other inventories are further addressed in the supply side of conditions of competition discussion.

There is some discussion in the record regarding deregulation of electric utilities potentially affecting demand due to competition. However, many of the nuclear power plants in the U.S. are located in states that have not deregulated their electric markets and some plants located in states that have adopted competition are owned by utilities that operate in both competitive and fully regulated states. There is no clear evidence regarding the extent to which the demand for nuclear power or the utilities' incentives regarding their fuel purchasing practices are affected by the uneven movement of states toward market-based electric supply.

4. Supply

Understanding the supply for uranium fuel generally requires evaluation of the reserves and capacity at each level of the uranium fuel cycle. Reserve information in the record comes from a variety of sources; however, much of the information referenced in the Commission Report, as well as the evidence of various parties, was derived from the World Nuclear Association report on supply and demand for 2005 through 2030.

The United States is estimated to have 382,000 metric tons of natural uranium ore reserves. 56,000 metric tons, or 15 percent, are classified as class I, low-cost reserves having a recovery cost of less than \$40 per kilogram.²⁵⁴ In total, the former Soviet Union countries have an estimated 2.5 million metric tons of natural uranium ore reserves, and 394,000, or 16 percent, are classified as class I, low-cost reserves.²⁵⁵ Worldwide reserves are estimated at 8.3 million metric tons, with 1.3 million metric tons, or 16 percent, classified as class I, low cost reserves. Annual uranium ore production capacity in the United States was 878 metric tons in 2004 and, in the WNA reference scenario, was projected to grow to over 2,000 metric tons through 2007. Annual production capacity in Russia was 3,200 metric tons in 2004 and was projected to grow slightly, to 3,500 metric tons through 2007. Worldwide production capacity was 40,251 metric tons in 2004 and was projected to grow to nearly 49,000 metric tons through 2007.²⁵⁶ Canada and Australia are the largest producers of natural uranium in the world with Canada's annual production more than triple the third largest producer and Australia more than double the third largest producer.²⁵⁷

The existence, magnitude and potential for use of Russian HEU as an LEU supply source is a potential supply source that must be considered when evaluating Russian capacity to expand its LEU production. HEU is one of several "secondary" supply sources that are factored into evaluations of domestic and worldwide supply of uranium. The WNA describes secondary supplies as previous uranium production which has been held off the commercial nuclear fuel market for an extended period.²⁵⁸ USEC urges the Commission to consider the supply of HEU in Russia as a major factor in the availability of

²⁵³ Hearing Tr. at 144 (Cunningham).

²⁵⁴ CR at II-14, PR at II-8.

²⁵⁵ *The Global Nuclear Fuel Market*, WNA, 2005, at 115.

²⁵⁶ *Id.* at 123.

²⁵⁷ The WNA supply and demand report shows production in Canada, Australia, Kazakhstan, Niger, and Russia, the five top producers in 2004, as 11,597 metric tons, 8,982 metric tons, 3,719 metric tons, 3,282 metric tons, and 3,200 metric tons, respectively.

²⁵⁸ *The Global Nuclear Fuel Market*, WNA, 2005, at 128.

capacity that Russia can direct to the U.S. market if the suspended investigation is terminated. AHUG argues that there are contamination issues regarding the HEU supplies, a contention that USEC rebuts.

It is estimated that prior to the HEU Agreement Russia held about 1,400 metric tons of HEU which would have an estimated uranium equivalent content of 426,000 metric tons of uranium. The HEU Agreement covered 500 metric tons of HEU with an estimated uranium equivalent content of 152,000 metric tons of uranium.²⁵⁹ It is clear that Russia has significant additional quantities of HEU outside of the current HEU Agreement. However, the WNA suggests that it might not be economical for Russia to use this HEU to produce LEU for export and that, particularly as the current HEU Agreement expires, with the build-up of oil and gas exports, Russia may not need the foreign revenues as badly as in the past, and the potential LEU may be needed to fuel the domestic and captive Russian reactor program.²⁶⁰

All available data indicate that the supply picture for uranium in the U.S. and worldwide appears to be tight. This evaluation, particularly the worldwide evaluation, is complicated by the complexities of the supply side of the uranium market. There is a strong degree of segmentation between fuel supply for Russian origin reactors and that for Western style reactors. For this reason, the World Nuclear Association evaluates supply available for Russian origin reactors and supply for Western style reactors separately. The WNA estimates that supply available to meet Russian origin reactor requirements – which includes all supply capacity of Russia, The Czech Republic and Ukraine as well as part of the expected expansion in supply in Kazakhstan – will be sufficient to meet the demand of Russian-origin reactors for at least part of its projection time horizon in most of its scenarios. The only exception is its lower-supply scenario where supply does not meet its upper demand scenario in any year and is not sufficient to meet its reference demand scenario after 2016.²⁶¹ However, the WNA projects that even with Russian surplus supplies over and above Russian origin reactor requirements, on a worldwide basis there is a projected “chronic and increasing supply deficit.”²⁶² The WNA projections show that its reference-case worldwide supply, including Russian supply, predict small surpluses above its reference and upper-demand scenarios until approximately 2015 to 2018. Through 2010 these surpluses are very small, two percent or less, and slightly higher to 2018.²⁶³ The conclusion drawn by the WNA is that existing supply sources are not adequate to meet projected demand and that new supply sources are needed to meet worldwide demand for uranium.²⁶⁴

Uranium hexafluoride conversion nameplate capacity in the United States was estimated by the WNA to be 14,000 metric tons of uranium. Capacity in Russia was estimated to be 15,000 metric tons of uranium. Worldwide capacity was estimated at 62,590 metric tons of uranium. It was further noted by the WNA that 100 percent output was not feasible so that maximum outputs in the range of 61,500 metric tons of uranium would be expected.²⁶⁵ There is also an additional 3,562 tons of uranium, nameplate capacity, uranium dioxide conversion capacity in the world; although none of this capacity is located in either the United States or Russia.

Annual enrichment capacity reported by the WNA for 2005 was 11.3 million SWU in the United States, 20.0 million SWU in Russia and 51.8 million SWU worldwide. The other countries with enrichment capacity which are separately listed by the WNA are France (11.8 million SWU), UK (3.1

²⁵⁹ Id. at 134.

²⁶⁰ Id. at 136.

²⁶¹ *The Global Nuclear Fuel Market*, WNA, 2005, at Figures 5.5, 5.6 and 5.7.

²⁶² Id. at 180.

²⁶³ Id. at Figures 5.8, 5.9 and 5.10.

²⁶⁴ Id. at 182: “It is clear from the analysis that, in addition to current uranium reserves, there is a requirement for the discovery of new uranium deposits to meet demand in the longer term future.”

²⁶⁵ Id. at 147.

million SWU), Netherlands (2.5 million SWU), Germany (1.7 million SWU), Japan (1.1 million SWU) and China (1.0 million SWU).²⁶⁶

Four U.S. firms operate fabrication facilities that include the conversion and pelletizing of LEU and fuel rod assembly. These firms operated at *** levels of capacity utilization during the POR as capacity utilization increased from *** percent in 2000 to *** percent in 2005.²⁶⁷

5. Other Conditions of Competition

The prevalence of long-term contracts is an important condition of competition for this industry. In the last reviews, the Commission determined that utilities were reducing their long-term purchases of uranium in favor of shorter term contracts and spot purchases. This is no longer the case. A majority of electric utilities continue to purchase uranium and uranium processing under long-term contracts. These contracts run 3 to 7 years, or longer.²⁶⁸ Unlike the situation described by the Commission in the last review, it now appears that U.S. utilities have been securing supply even further into the future through long-term contracts. Most of these long-term contracts include base-escalated prices or escalating-price floors set at or near today's prices, tending to lock in current price levels to a greater extent than would occur in the absence of such long-term contracts and price floors.²⁶⁹ It also appears that both the percentage of utility fuel requirements being purchased pursuant to long-term contracts and the length of the contracts is increasing. Testimony at the hearing indicated that utilities have increased the percentage of their requirements that are covered under long-term contracts and that utilities are now seeking nuclear fuel supply for new plant construction that is not even licensed yet.²⁷⁰

Recent trends in inventory buildup by the U.S. utilities are a factor to be considered within the conditions of competition for this industry. Utility inventories increased from 54.8 million pounds of U₃O₈ equivalent at year end 2000 to 64.8 million at year end 2005. These inventories will tend to reduce future demand; however they are not, as was argued regarding the speculators' inventories, a supply source. Since these inventories are held by end users, rather than speculators, they are not likely be sold into the market creating downward impetus to any downturn in prices. Furthermore, while the increase in utility inventories is significant in absolute terms, it is less significant relative to current and projected utility demand. Nuclear generation increased from 754,000 gigawatt hours in 2000 to a record 788,500 gigawatt hours in 2004 and then dropped slightly to 780,500 gigawatt hours in 2005. Thus, relative to utility generation, the inventory increase from 2000 to 2005 is not as great as the increase in the absolute volume of inventory.

Overall, inventories have decreased. Increased inventories of both the traders and utilities have been offset by significant declines in inventories held by the U.S. domestic uranium industry over the POR. Total inventories held by utilities, brokers and producers declined in every year of the POR for which inventories are reported. The total inventories have dropped from 111.3 million pounds U₃O₈ equivalents in 2000 to 93.8 million pounds in 2005, a decline of 16 percent. The available supply held in inventories by producers and brokers has declined from 56.5 million pounds U₃O₈ equivalents in 2000 to 29.0 million pounds in 2005, a decrease of 49 percent.²⁷¹

As mentioned above, the expected addition of new enrichment capacity, using different technology, is a factor that could affect future supplies of LEU. USEC has announced plans to build a

²⁶⁶ Id. at 152.

²⁶⁷ CR at II-18, PR at II-10.

²⁶⁸ CR at II-5, PR at II-3.

²⁶⁹ Hearing Tr. at 172 (Church).

²⁷⁰ Hearing Tr. at 175 (Church).

²⁷¹ CR/PR at Table II-8.

new gas centrifuge plant with an annual capacity of 3.5 million SWU. Another new enrichment centrifuge facility is planned by Louisiana Energy Services. This facility is now planned to be built in New Mexico and is projected to have a capacity of 1 million SWU by 2009 and an eventual capacity of 3 million SWU by 2013.

Finally, the domestic industry is heavily export-oriented. Total shipments by all domestic industry participants providing data in this review totaled \$683 million in 2005. Of this total revenue stream to the domestic industry, only \$*** million, or *** percent came from domestic shipments with the balance representing exports. This relatively low level of domestic concentration was consistent throughout the POR with domestic shipment values ranging from a high of *** percent of total shipments in 2000 to a low of *** percent in 2004.

I find that the foregoing conditions of competition provide an adequate basis by which to assess the likely effects of the termination of the suspended investigation.

B. Likely Volume of Subject Imports

The Commission is required by statute to consider whether the likely volume of subject imports would be significant either in absolute terms or relative to production or consumption in the United States if the suspended investigation is terminated. In considering the likely volume of subject imports, I have considered “all relevant economic factors,” as required by the statute and will address the significant factors leading to my impact findings and conclusions.

The domestic parties argue that termination of the suspended investigation will lead to significant increases in the volume of Russian uranium imported into the United States. However, the record is mixed and there is considerable controversy regarding Russian excess capacity in each of the four uranium fuel cycle products: uranium ore and concentrates, natural UF₆, enrichment services and fabrication.

With regard to concentrates and UF₆, USEC and PRI/CBR argue that Russia has substantial reserves and also has access to natural uranium supplies from Kazakhstan. They also argue that the Commission should consider the availability of tails in Russia that could be re-enriched, as well as significant volumes of HEU, not committed to the current agreement, that could be the source for eventual conversion and downblending to LEU. Thus, USEC and PRI/CBR both argue that terminating the suspended investigation will result in increases in volume of the natural uranium components of the fuel cycle directed into the U.S. market by Russia.

The existence and/or extent of excess capacity for uranium concentrates in Russia is a contested issue. The World Nuclear Association reported that Russia averaged 3,083 metric tons of natural uranium production from 2003 through 2005. The WNA estimates annual production of 3,500 metric tons during 2005 through 2007.²⁷² Nukem and AHUG argue that this level of production does not satisfy Russia’s own demand, which it claims has been estimated by independent sources to be between 5,000 and 6,000 metric tons.²⁷³

I find that the evidence supports a finding that Russian uranium capacity is not likely to be directed to exports to the U.S. in significant quantities if the suspended investigation is terminated. Russia produced approximately 3,083 metric tons of natural uranium per year from 2003 through 2005 and estimates annual production of 3,500 metric tons during 2005 through 2007. With estimated demand of 5,000 to 6,000 metric tons per year from 2005 through 2007, the level of production in Russia does not satisfy its own demand. It is also important to note that the WNA evaluation of Russian and worldwide supply/demand balance includes consideration of re-enriched tails and HEU. Yet, the WNA report consistently suggests that apparent excess capacity in Russia is a small contribution to the worldwide

²⁷² CR at II-20, PR at II-11.

²⁷³ CR at II-20, PR at II-11, and RWE Nukem Posthearing Brief at 11.

supply shortfall. I believe that the data suggests that if additional volumes of HEU are downblended to LEU in Russia it is more likely that such nuclear fuel will be necessary for Russia's internal requirements and to support Russian-design reactors operating outside of Russia.

An important factor that supports a conclusion that Russian capacity is needed for its own requirements and is not likely to be used to increase exports into the United States is the extent to which Russian-origin reactors have been and will, in the future, supply needed energy in many developing and other countries. The historic model has been that Russian-origin reactors are supplied from Russian fuel sources. The WNA factors this historic reality into its projections of nuclear fuel supplies. Therefore, I find that it is more likely that increases in Russian capacity will be primarily dedicated to meet the needs of Russian-origin reactors rather than to increase exports to the United States. I find that the extent to which additional natural uranium supplies can be developed in Russia and used to substantially increase exports to the United States is likely to be limited.

With regard to enriching uranium, the record is clear that Russia has significant SWU capacity. Both USEC and Nukem agree that current capacity in Russia is *** million SWU. However there is not agreement as to the quantity of SWU that represents excess capacity. USEC estimates Russian current excess capacity at *** million SWU and projects that number growing to nearly *** million by 2010. Nukem, on the other hand projects current excess capacity in Russia at *** million SWU and projects that number to be less than *** million by 2010. I find that the evidence supports the existence of some excess SWU capacity in Russia.

Any consideration of the likely volume of subject imports in the reasonably foreseeable future if the suspended investigation is terminated must include the extent to which the utilities have contracted for their supply under long-term contracts. The record is clear that the extent and duration of these contracts is greater and longer for this industry than is typical in many other industries and the trend is toward even longer terms. Existing contracts for future requirements reduce the likelihood of significant increases in Russian supply entering the United States in the foreseeable future and protect the domestic industry from loss of market share. This domestic industry has a very significant portion of its output for the reasonably foreseeable future locked up in existing long-term contracts. While the extent of such long-term contracts varies for the segments of the industry at different levels of the fuel cycle, all of the fuel cycle participants have such protection against significant loss of sales in the reasonably foreseeable future.

Table II-6 in the Commissions Report shows that a very large percentage of the utilities' market requirements are currently under contract. These data indicate utilities have existing long-term commitments for their concentrates equal to 97 percent of 2006 requirements, 89 percent of 2007 requirements and 75 percent of 2008 requirements.

A review of the responses to the Commission questionnaires, indicates that the utilities reported 2005 conversion requirements of *** million kilograms UF₆. Future needs that were covered by contracts in place in 2005 were reported to be *** million kilograms in 2006, *** million kilograms in 2007 and *** million kilograms in 2008. The data indicate utilities have existing long-term commitments for conversion equal to *** percent of 2005 requirements in 2006, *** percent in 2007 and *** percent in 2008.

Similarly, based on responses to the Commission questionnaires, the utilities reported 2005 enrichment requirements of 8.8 million SWU. Future needs that were covered by contracts in place in 2005 were reported to be 9.0 million SWU in 2006, 8.2 million SWU in 2007 and 7.0 million SWU in 2008. These data indicate utilities have existing long-term commitments for enrichment equal to 103 percent of 2005 requirements in 2006, 94 percent in 2007 and 81 percent in 2008.

Although the exact term of existing long-term contracts at each segment of the fuel cycle is difficult to extract from the mass of data in the record, it is clear that the significance of the long-term contract commitments is considerable in this proceeding. As mentioned in my discussion of conditions of competition, in the last review, the Commission determined that utilities were reducing their long-term purchases of uranium in favor of shorter term contracts and spot purchases. This is no longer the case. There is evidence that the utilities are relying more heavily on long-term contracts than in the past and

that while contracts have historically ranged from 3 to 7 years in length, the recent trend is to longer rather than shorter terms. In a recent case involving tin and chromium-coated steel plate, the Commission determined that the prevalence of long-term contracts would not inhibit the influx of significant volumes of subject imports in the reasonably foreseeable future if the order in that case was revoked. However, in that case the terms of the contracts tended to be shorter than the contracts for uranium, the larger volume contracts contained “meet or release” clauses that practically eliminated the protection of long-term contracts for the domestic industry and *** percent of the contracts were expiring by 2007.²⁷⁴

The facts regarding the uranium long-term contracts are significantly different and support a finding that the existence of long-term contracts would limit the influx of significant volumes of Russian uranium in the foreseeable future. I believe that the protection of the contracts will extend well into the “reasonably foreseeable future” to restrict any increases in imports from Russia if the suspended investigation is terminated.

The domestic industry points to the evidence of “contingent contracts” for proof that the Russian industry will increase its imports to the United States if the suspended investigation is terminated. However, the evidence indicates that many of the proposals came about as a result of utility requests for supply proposals. The evidence further indicates that many of the proposals were either rejected or terminated without action.²⁷⁵ It appears that only *** out of 9 proposals resulted in contingent contracts for enrichment services. Furthermore, relative to the entire domestic demand, the contingent volumes are relatively small.²⁷⁶

Utilities have indicated that requests for supply proposals are part of their policy to diversify their supply portfolios.²⁷⁷ Testimony at the hearing further indicated a reluctance to allocate significant portions of supply to Russian imports.²⁷⁸

The domestic industry suggests that the evidence of “contingent contracts” reflects a “lust for cheap Russian product.”²⁷⁹ Yet the price reported for the only natural uranium contract is \$*** in 2005, which is high compared to the average prices received by the domestic industry and at the high end of the range of 2005 spot market prices. The contingent prices reported for enrichments services ranged from \$*** per SWU to \$*** per SWU, with price escalation provisions.²⁸⁰ These prices are comparable to market prices.

I do not find this evidence relating to contingent contracts as persuasive that they indicate the likelihood of significant increases in Russian imports if the suspended investigation is terminated or that proposed Russian contracts will be priced at levels that will have significant negative price effects.

I believe that the evidence is sufficient to support a finding that there would be a limited capability for Russia to increase its enrichment services for the U.S. market if the suspended investigation were terminated. However, considering: (1) the present limitations on Russian natural uranium supply; (2) the need that Russia has in using additional natural uranium supplies to meet its home market demand and to provide fuel for Russia design nuclear power plants in other countries; and (3) the significant commitments of the utilities under long-term contracts that extend well into the future, I do not believe

²⁷⁴ *Tin and Chromium-Coated Steel Sheet From Japan, Inv. No. 731-TA-860 (Review)*, USITC Pub. 3860, June 2006, at 14 and 22.

²⁷⁵ CR/PR at Table II-4.

²⁷⁶ *Id.*

²⁷⁷ Hearing Tr. at 229 (Church).

²⁷⁸ Hearing Tr. at 228 (Church).

²⁷⁹ Hearing Tr. at 11 (Cunningham).

²⁸⁰ CR/PR at Table II-4.

that termination of the suspended investigation would cause significant additional volumes of Russian uranium concentrates to be delivered into the U.S. market in the reasonably foreseeable future.

C. Likely Price Effects of Subject Imports

The domestic industry argues that if the suspended investigation is terminated, Russia will price its uranium supplies aggressively, underselling the U.S. market price in an effort to capture U.S. market share. Domestic parties argue that such aggressive pricing by the Russian industry will depress U.S. prices. Both USEC and PRI/CBR argued that because of high enrichment capacity and low variable costs, Russian enrichers would be motivated to price aggressively to gain U.S. market share.²⁸¹

AHUG and Nukem argue that the HEU Agreement pricing mechanism makes it unlikely that Russian producers would price so aggressively as to drive down the U.S. market prices. Since the HEU Agreement now contains a price that is indexed to the market price any such aggressive pricing would reduce profits that were presently being derived by the Russian industry under that agreement.

Considering the relatively high volume of the HEU Agreement, the physical and practical limitations on Russia's capacity to increase its export volumes into the U.S. and the competition from nonsubject supplies I do not think that there is a realistic level of market share that could be captured by aggressive pricing that would offset the losses in revenue that Russia would sustain due to the indexed price of the HEU Agreement. Therefore, it would be irrational for the Russians to price aggressively to drive down the U.S. market price when such action would reduce their revenue stream of over \$*** million per year from the HEU Agreement for what is likely to be small, incremental gains in income from capturing additional U.S. market share at sub-market prices.

I find that it is not likely that there would be significant negative price effects if the suspended investigation is terminated. While I believe that there is some limited capability for additional volumes of Russian imports into the United States if the investigation is terminated, I do not find that the additional volumes will be of such magnitude as to have significant downward pressure on market prices. This is particularly likely in light of the changing conditions of competition in the industry regarding growth in demand for nuclear generation of electricity and the associated growth in demand for nuclear fuel. While recent nuclear generation growth is likely to slow, I believe that the evidence is clear that there will be continuing growth in nuclear generation of electricity in the United States, as well as in the world. Furthermore, as new power plants and upgrades to existing plants are permitted and utilities continue their practice of contracting fuel supplies for these new plants well in advance, I believe that current effects of long-term commitments to nuclear fuel will counter the impact of any increased Russian volumes in the market, if they did occur.

Moreover, prices throughout the industry are high and do not show any sign of declining. Since the last reviews, natural uranium prices have increased by over 400 percent. Prices for other segments of the fuel cycle have also increased substantially and most predictions are for strong demand and strong prices for the foreseeable future. Even if there were some limited price effects due to increased competition from Russian uranium if the suspended investigation was terminated, it is unlikely that the price effects would be significant or injurious to the domestic industry.

D. Likely Impact of Subject Imports

The likelihood of increases in domestic, and worldwide, nuclear fueled electric generating capacity and increased demand for uranium are considerably greater today than at the time of the last review. Contrary to the picture 5 years ago, there is now an expectation for new nuclear power plants to be constructed in the United States as well as upgrades of existing plants. This is a considerably different

²⁸¹ USEC prehearing brief at 88-93; PRI/CBR Prehearing Brief at 51-58.

and more positive picture for the future of nuclear generation than was available 5 years ago. In the DOE's Annual Energy Outlook, it is reported that, instead of planning shut-downs as they near the end of their original life expectancies, all existing nuclear plants are expected to continue operations through 2030 and nuclear capacity is expected to increase in the future.²⁸² This projected increase includes new plant construction which will be stimulated by the EPACT 2005 and 3.2 gigawatts of capacity expansion at existing plants.²⁸³ The impact of the EPACT 2005 places new importance on nuclear energy. EPACT 2005 encourages the construction of new nuclear reactors generating electricity by offering tax incentives and direct payments. A tax incentive of 1.8 cents per kilwatt hour has been set aside for up to 6 gigawatts of new nuclear generation. Other incentives include research and development and direct payments for certain licensing costs. Thus, EPACT 2005 represents a major commitment by the United States to foster new nuclear generation.²⁸⁴

Unprecedented increased prices and changes in fossil fuel markets are likely to result in increased use of nuclear technology. Petitioners testified that nuclear energy is more competitive and utilities are likely to turn to nuclear power as their lowest-cost option for new generation.²⁸⁵ Furthermore, growing concerns about carbon emissions and the potential for future limitations, restrictions or taxes on carbon emissions are contributing to changing attitudes toward increased nuclear generation and enhancing the outlook for new nuclear generation in the future.²⁸⁶ Until very recently, prospects for nuclear power in the United States were for no new plants and retirement of existing plants as they reached the end of their original life expectancy. This negative outlook for the industry has changed. While these changes are not going to occur overnight, I believe that they are already having impacts on the uranium industry. While there are long lead times for siting and constructing nuclear power plants the evidence indicates that fuel supply commitments are made well in advance of the actual in-service date of new power plants. Moreover, expectations are that worldwide demand for nuclear energy will increase at an even faster rate than the demand in the United States. Considering the extent to which the domestic industry is involved in a worldwide market and the extent to which they export uranium fuel products it is, in my opinion, very unlikely that terminating the suspended investigation could have a significant detrimental impact on the domestic industry.

As a whole, the domestic industry, which includes uranium mining and concentration, conversion, enrichment and fabrication, is in a healthy financial position. Even though some companies and/or segments have experienced low operating income or losses all indicators point to continuing improvement throughout the industry. It is clear that the domestic industry is not in a vulnerable or precarious financial condition.

The concentrate segment of the industry was experiencing extensive financial losses during the POR in the last review. The losses in 1997 and 1999 were in excess of *** of net sales. However, the financial picture is quite different today. The concentrators had gains in ***. Moreover, while I look at the concentrate segment in total, I take note of the fact that some of the concentrators had very limited operations during this period with little or no revenue, yet they were maintaining employee levels and

²⁸² CR at II-33, PR at II-20.

²⁸³ "Annual Energy Outlook 2006," EIA, DOE, 79.

²⁸⁴ The EPACT 2005 tax credit, if the 6 gigawatts is fully subscribed and operating at a 90 percent capacity factor, could generate over \$800 million per year in payments to new nuclear generation facilities. Total payments are capped at an aggregate \$5.7 billion over an 8 year period. Additionally, EPACT 2005 earmarks over \$4.5 billion for nuclear research and development and \$2 billion to compensate new generation projects for licensing delays and provides for easing of financing costs for new reactors through government loan guarantees as well as extending Price Anderson liability protection for existing and new nuclear facilities.

²⁸⁵ Hearing Tr. at 129 (Van Namen).

²⁸⁶ Id.

operating capability even when this caused significant operating losses. Because of this, several of the companies reported large losses in ***. While I find these losses to be accurate financial reporting, under the circumstances I do not find that they represent reasonable expectations for the industry in the reasonably foreseeable future. Looking at the financial performance of *** is instructive because it represents the ***. It reported improvement in earnings, going from an operating income ratio to net sales of *** percent in 2000 to *** percent in 2003 before *** percent in 2005.

The prospects for the concentrators is bright regardless of the existence or termination of the suspended investigation. Prices for natural uranium are high and growing. Market conditions and market prices are moving very favorably for the concentrators. The industry faces prospects of increasing demand and increasing prices. While concentrate spot prices were in the range of \$7 per ton at the time of the last review, they are significantly higher at the present time. Spot market prices for concentrate have risen by over 400 percent since 2000 and moved into the range of \$40 a ton by 2005. All information points to even higher prices.²⁸⁷

The enrichment segment of the industry reported positive net operating income every year of the POR in this case. Moreover, this segment of the industry has the greatest degree of protection against declines in future sales as measured by the high percentage of utility enrichment services requirements that are tied-up under long-term contracts over the next three years and beyond. Furthermore, USEC, as agent under the HEU Agreement, has a significant protection against large price swings to its disadvantage because of the change to a discounted pricing mechanism that took place since the last review.

CONCLUSION

All factors point to a healthy and growing uranium industry in the future with greater demand and higher prices than was the case or could have been contemplated in the past. I find that there is not likely to be significant volume increases or negative price effects of imports of uranium from Russia if the investigation is terminated. I find that the likelihood of limited volume increases in subject imports and limited negative price effects, as well as the recent history of increasing prices, and prospects for continued increasing demand and prices for the industry, lead to a finding that material injury to the domestic industry is not likely to continue or recur if the suspended investigation is terminated.

²⁸⁷ The spot prices for uranium concentrate increased from \$43 per ton to \$46 per ton in the three weeks that elapsed between the filing of the pre hearing briefs and the post hearing briefs in this case. AHUG Final Comments at 3.

PART I: INTRODUCTION AND OVERVIEW

BACKGROUND

On July 1, 2005, the Commission gave notice, pursuant to section 751(c) of the Tariff Act of 1930 (the Act), that it had instituted a review to determine whether revocation of the suspension agreement on uranium from Russia would likely lead to the continuation or recurrence of material injury to a domestic industry. Effective October 4, 2005, the Commission determined that it would conduct a full review pursuant to section 751(c)(5) of the Act.¹ Information relating to the background and schedule of the review is provided in the following tabulation.²

| Effective date | Action |
|------------------|---|
| October 16, 1992 | Commerce's suspension agreement (57 FR 49220, October 30, 1992) |
| August 22, 2000 | Commerce's continuation of suspended investigation after first five-year review (65 FR 50958) |
| July 1, 2005 | Commission's institution of second five-year review (70 FR 38212) |
| October 4, 2005 | Commission's decision to conduct a full review (70 FR 60368, October 17, 2005) |
| January 11, 2006 | Commission's scheduling of the review (71 FR 3326, January 20, 2006) |
| April 3, 2006 | Commerce's preliminary results of full review (71 FR 16560) |
| April 7, 2006 | Commission's revised scheduling of the review (71 FR 17915) |
| May 25, 2006 | Date of the Commission's hearing ¹ |
| June 6, 2006 | Commerce's final results of full review (71 FR 32517) |
| July 18, 2006 | Commission's vote |
| August 1, 2006 | Commission's determination transmitted to Commerce |

¹ App. B presents a list of witnesses who appeared at the hearing.

STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

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

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

¹ The Commission determined that all of the domestic interested party responses were individually adequate, the domestic interested party group response was adequate, and the respondent interested party group response was inadequate. In light of a desire to further examine conditions of competition for this industry, including changes to the U.S.-Russia HEU Agreement, the Commission found that circumstances warranted conducting a full review.

² The Commission's notice of institution, notice to conduct a full review, scheduling notice, and statement on adequacy appear in app. A and may also be found at the Commission's web site (internet address www.usitc.gov). Commissioners' votes on whether to conduct an expedited or full review may also be found at the web site.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Section 752(a)(6) of the Act states further that in making its determination, “the Commission may consider the magnitude of the margin of dumping or the magnitude of the net countervailable subsidy.

SUMMARY DATA

Information obtained during the course of the review that relates to the above factors is presented throughout this report. A summary of data collected in the review is presented in appendix C. Except as noted, U.S. industry data are based on questionnaire responses of eight firms that accounted for virtually all of the production of uranium during the period of this review (2000-05). U.S. import data for imports from Russia are based on questionnaire responses of five firms, and nonsubject imports are based on official Commerce statistics (due to the limited data provided in response to the Commission’s questionnaires). No manufacturer and/or exporter of uranium from Russia responded to the Commission’s foreign producer questionnaire.³ Available comparative data for the individual forms of uranium, from the original investigation, the first review, and the current review are presented in tables I-1 through I-6. Responses by U.S. producers, importers, and purchasers of uranium to a series of questions concerning the significance of the existing suspension agreement and the likely effects of termination are presented in appendix D.

Uranium does not lend itself as conveniently and meaningfully to summary presentation and analysis as most products. The four basic forms of uranium - concentrate, natural uranium hexafluoride, enriched uranium hexafluoride, and uranium oxides, nitrates, and metals - are separately produced and traded in the marketplace, yet they are all intermediate products, each successively contained in the other, and ultimately contained in an end product (nuclear fuel rods or assemblies) that is not within the scope of these reviews. Their mutual competitiveness (trade in one form can impact trade in another) frustrates their individual analysis, and their non-additive nature (they are simply different forms of the same quantity of uranium) complicates their analysis as a whole. Further complicating analysis is that they are produced and traded in different units of measurement. Such complications notwithstanding, table I-1 presents a summary of data from the original investigations, from the first five-year reviews, and the current five-year review that is relatively uncompromised by the above considerations and can be used to reasonably characterize the industry as a whole. Table I-2 presents comparative data regarding U.S. imports of uranium and tables I-3-I-6 present U.S. industry data for the four forms of uranium.

³ Rosatom provided written information for the review of the suspended investigation of Russian uranium to the Commission June 9, 2006.

Table I-1

Uranium: Summary data from the original investigations, first reviews, and current review, 1990-92 and 1997-2005

(Value=1,000 dollars)

| Item | 1990 | 1991 | 1992 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--|------------------|------------------|------------------|-----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|-----------|
| Value of imports and sales from U.S. production: | | | | | | | | | | | | |
| Amount | 2,538,506 | 2,844,282 | 2,833,989 | 2,642,242 | 2,749,775 | 2,633,740 | *** | *** | *** | *** | *** | *** |
| Producers' share ¹ | 65.0 | 65.2 | 68.1 | 59.9 | 55.3 | 44.7 | *** | *** | *** | *** | *** | *** |
| Importer's share: | | | | | | | | | | | | |
| Russia ¹ | 0.0 | 0.0 | 0.0 | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| All other countries ¹ | 0.0 | 0.0 | 0.0 | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Total imports ¹ | 35.0 | 34.8 | 31.9 | 40.1 | 44.7 | 55.3 | *** | *** | *** | *** | *** | *** |
| Value of U.S. imports from-- | | | | | | | | | | | | |
| Russia | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| All other sources | (²) | (²) | (²) | *** | *** | *** | 873,023 | 964,753 | 1,202,524 | 1,761,188 | 1,459,736 | 1,945,063 |
| Total imports | 889,520 | 989,844 | 904,856 | 1,059,150 | 1,229,376 | 1,455,725 | *** | *** | *** | *** | *** | *** |
| Sales from U.S. production: | | | | | | | | | | | | |
| U.S. sales | 1,149,494 | 1,259,555 | 1,192,721 | 842,699 | 876,694 | 546,833 | *** | *** | *** | *** | *** | *** |
| Exports | 499,492 | 594,883 | 736,412 | 740,393 | 643,705 | 631,182 | *** | *** | *** | *** | *** | *** |
| Total sales | 1,648,986 | 1,854,438 | 1,929,133 | 1,583,092 | 1,520,399 | 1,178,015 | 1,110,163 | 735,070 | 816,100 | 693,912 | 663,076 | 682,654 |
| Production workers | 3,462 | 3,471 | 3,361 | 5,952 | 5,806 | 5,347 | 4,838 | 3,737 | 2,999 | 2,780 | 2,743 | 2,865 |
| Hours worked | 8,264 | 8,114 | 7,329 | 12,469 | 12,153 | 11,221 | 10,723 | 8,192 | 6,558 | 5,868 | 6,052 | 6,247 |
| Wages paid | 126,278 | 132,792 | 128,259 | 314,822 | 323,692 | 307,580 | 312,382 | 259,900 | 220,038 | 204,554 | 216,949 | 223,398 |
| Hourly wages | \$15.28 | \$16.37 | \$17.50 | \$25.25 | \$26.64 | \$27.41 | \$29.13 | \$31.73 | \$33.55 | \$34.86 | \$35.85 | \$35.76 |

¹ In percent.

² Not available.

Source: Data for 1990-92 and 1997-99 compiled from confidential staff report INV-XX-154, July 7, 2000, table I-2; and data for 2000-05 compiled from responses to Commission questionnaires and from official Commerce statistics. Import data for Russia compiled from responses to Commission questionnaires, and data for total for all sources compiled from official Commerce statistics (HTS statistical reporting numbers 2612.10.0000, 2844.10.2010, 2844.10.2025, 2844.20.0010, 2844.20.0020, 2844.20.0030, and 2844.20.0050). Data for all other import sources do not include HTS statistical reporting numbers 2844.10.1000 (uranium metal), 2844.10.2055 (other), and 2844.10.5000 (other) as the contents of these reporting numbers are unclear.

Table I-2

Uranium: U.S. imports from the original investigations, first reviews, and current review, by sources, 1990-92 and 1997-2005

(Quantity=1,000 pounds U₃O₈ or 1,000 kilograms U; value=1,000 dollars; unit values are per pound or kilogram)

| Item | 1990 | 1991 | 1992 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--|------------------|------------------|------------------|------------------|------------------|------------------|---------|---------|---------|---------|---------|---------|
| Natural uranium concentrate: (Quantity= 1,000 pounds U ₃ O ₈) | | | | | | | | | | | | |
| U.S. imports from-- | | | | | | | | | | | | |
| Russia: | | | | | | | | | | | | |
| Quantity | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Value | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit value | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| All other countries: | | | | | | | | | | | | |
| Quantity | (²) | (²) | (²) | *** | *** | *** | 13,289 | 21,298 | 14,429 | 21,312 | 12,624 | 16,916 |
| Value | (²) | (²) | (²) | *** | *** | *** | 159,968 | 233,346 | 157,124 | 247,383 | 169,797 | 332,302 |
| Unit value | (²) | (²) | (²) | *** | *** | *** | \$12.04 | \$10.96 | \$10.89 | \$11.61 | \$13.45 | \$19.64 |
| All countries: | | | | | | | | | | | | |
| Quantity | 15,387 | 22,972 | 19,419 | 16,838 | 12,022 | 6,914 | *** | *** | *** | *** | *** | *** |
| Value | 236,165 | 354,848 | 298,075 | 265,843 | 177,332 | 97,753 | *** | *** | *** | *** | *** | *** |
| Unit value | \$15.35 | \$15.45 | \$15.35 | \$15.79 | \$14.75 | \$14.14 | *** | *** | *** | *** | *** | *** |
| Natural uranium hexafluoride: (Quantity= 1,000 kilograms U) | | | | | | | | | | | | |
| U.S. imports from-- | | | | | | | | | | | | |
| Russia: | | | | | | | | | | | | |
| Quantity | (²) | (²) | (²) | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** |
| Value | (²) | (²) | (²) | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** |
| Unit value | (²) | (²) | (²) | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** |
| All other countries: | | | | | | | | | | | | |
| Quantity | (²) | (²) | (²) | (²) | (²) | (²) | 6,503 | 7,476 | 6,126 | 2,420 | 2,733 | 3,099 |
| Value | (²) | (²) | (²) | (²) | (²) | (²) | 265,567 | 302,683 | 184,728 | 64,786 | 142,893 | 264,796 |
| Unit value | (²) | (²) | (²) | (²) | (²) | (²) | \$40.84 | \$40.49 | \$30.16 | \$26.77 | \$52.28 | \$85.45 |
| All countries: | | | | | | | | | | | | |
| Quantity | 6,378 | 5,483 | 3,964 | 8,256 | 8,767 | 7,353 | *** | *** | *** | *** | *** | *** |
| Value | 230,344 | 229,258 | 148,886 | 325,745 | 333,530 | 211,701 | *** | *** | *** | *** | *** | *** |
| Unit value | \$36.12 | \$41.81 | \$37.57 | \$39.46 | \$38.04 | \$28.79 | *** | *** | *** | *** | *** | *** |

Table continued on next page.

Table I-2--Continued

Uranium: U.S. imports from the original investigations, first reviews, and current review, by sources, 1990-92 and 1997-2005

(Quantity=1,000 SWUs or 1,000 kilograms U; value=1,000 dollars; unit values are per SWU or kilogram)

| Item | 1990 | 1991 | 1992 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|------------------|------------------|------------------|------------------|------------------|------------------|----------|------------|----------|-----------|-----------|-----------|
| Enriched uranium hexafluoride: (Quantity=1,000 SWUs) | | | | | | | | | | | | |
| U.S. imports from-- Russia: | | | | | | | | | | | | |
| Quantity | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Value | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit value | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| All other countries: | | | | | | | | | | | | |
| Quantity | (²) | (²) | (²) | *** | *** | *** | 2,578 | 3,194 | 4,915 | 9,622 | 7,617 | 5,903 |
| Value | (²) | (²) | (²) | *** | *** | *** | 305,497 | 386,416 | 847,194 | 1,426,991 | 1,143,712 | 1,299,661 |
| Unit value | (²) | (²) | (²) | *** | *** | *** | \$118.52 | \$120.99 | \$172.36 | \$148.31 | \$150.15 | \$220.18 |
| All countries: | | | | | | | | | | | | |
| Quantity | 405 | 583 | 583 | 3,486 | 5,082 | 12,378 | *** | *** | *** | *** | *** | *** |
| Value | 253,019 | 346,317 | 427,224 | 367,025 | 647,325 | 1,100,384 | *** | *** | *** | *** | *** | *** |
| Unit value | \$624.74 | \$594.03 | \$732.80 | \$105.29 | \$127.38 | \$88.90 | *** | *** | *** | *** | *** | *** |
| Enriched uranium oxides, nitrates, and metals: (Quantity=1,000 kgs U) | | | | | | | | | | | | |
| U.S. imports from-- Russia: | | | | | | | | | | | | |
| Quantity | (²) | (²) | (²) | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** |
| Value | (²) | (²) | (²) | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** |
| Unit value | (²) | (²) | (²) | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** |
| All other countries: | | | | | | | | | | | | |
| Quantity | (²) | (²) | (²) | (²) | (²) | (²) | 529 | 28 | 180 | 509 | 36 | 642 |
| Value | (²) | (²) | (²) | (²) | (²) | (²) | 141,991 | 42,307 | 13,477 | 22,028 | 3,334 | 48,305 |
| Unit value | (²) | (²) | (²) | (²) | (²) | (²) | \$268.21 | \$1,530.22 | \$74.92 | \$43.31 | \$93.17 | \$75.25 |
| All countries: | | | | | | | | | | | | |
| Quantity | 321 | 239 | 56 | 166 | 53 | 325 | *** | *** | *** | *** | *** | *** |
| Value | 165,774 | 54,679 | 24,749 | 90,121 | 64,934 | 21,578 | *** | *** | *** | *** | *** | *** |
| Unit value | \$516.43 | \$228.78 | \$441.95 | \$542.90 | \$1,225 | \$66.39 | *** | *** | *** | *** | *** | *** |
| ¹ In percent. ² Not available. ³ Not applicable. | | | | | | | | | | | | |
| Source: Data for 1990-92 and 1997-99 compiled from confidential staff report INV-XX-154, July 7, 2000, tables I-3-I-6; and data for 2000-05 compiled from responses to Commission questionnaires and from official Commerce statistics. | | | | | | | | | | | | |

Table I-3**Natural uranium concentrate: Summary data from the original investigations, first reviews, and current review, 1990-92 and 1997-2005**(Quantity=1,000 pounds U_3O_8 ; value=1,000 dollars; unit values, unit labor costs, and unit financial data are *per pound*)

| Item | 1990 | 1991 | 1992 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---------|---------|---------|----------|----------|----------|------|------|------|------|------|------|
| U.S. producers'-- Capacity quantity | 26,095 | 27,145 | 25,551 | 12,722 | 14,072 | 13,472 | *** | *** | *** | *** | *** | *** |
| Production quantity | 8,379 | 7,995 | 5,917 | 4,989 | 4,389 | 4,936 | *** | *** | *** | *** | *** | *** |
| Capacity utilization ¹ | 32.1 | 29.5 | 23.2 | 39.2 | 31.2 | 36.6 | *** | *** | *** | *** | *** | *** |
| U.S. shipments: Quantity | 7,956 | 6,891 | 3,305 | 3,796 | 3,707 | 3,775 | *** | *** | *** | *** | *** | *** |
| Value | 166,196 | 150,609 | 62,220 | 51,290 | 53,507 | 55,791 | *** | *** | *** | *** | *** | *** |
| Unit value | \$24.60 | \$21.86 | \$18.83 | \$13.51 | \$14.43 | \$14.78 | *** | *** | *** | *** | *** | *** |
| Ending inventory quantity | 11,057 | 8,143 | 7,128 | 3,097 | 2,663 | 3,624 | *** | *** | *** | *** | *** | *** |
| Inventories/total shipments ¹ | 108.3 | 74.6 | 104.8 | 61.3 | 55.2 | 91.2 | *** | *** | *** | *** | *** | *** |
| Production workers | 696 | 603 | 387 | 423 | 475 | 494 | *** | *** | *** | *** | *** | *** |
| Hours worked (1,000 hours) | 1,302 | 1,125 | 786 | 862 | 1,019 | 1,045 | *** | *** | *** | *** | *** | *** |
| Wages paid (1,000 dollars) | 16,968 | 15,624 | 11,692 | 13,038 | 15,512 | 15,938 | *** | *** | *** | *** | *** | *** |
| Hourly wages | \$13.03 | \$13.89 | \$14.88 | \$15.13 | \$15.23 | \$15.25 | *** | *** | *** | *** | *** | *** |
| Productivity (pounds per hour) | 6.5 | 7.2 | 7.5 | 6.7 | 5.0 | 4.6 | *** | *** | *** | *** | *** | *** |
| Net sales: Quantity | 9,008 | 10,277 | 5,909 | 4,196 | 4,341 | 3,748 | *** | *** | *** | *** | *** | *** |
| Value | 218,413 | 224,985 | 139,362 | 65,036 | 69,645 | 59,939 | *** | *** | *** | *** | *** | *** |
| Unit value | \$24.25 | \$21.89 | \$23.58 | \$15.50 | \$16.04 | \$15.99 | *** | *** | *** | *** | *** | *** |
| Cost of goods sold | 155,310 | 165,471 | 102,036 | 76,776 | 64,113 | 59,034 | *** | *** | *** | *** | *** | *** |
| Gross profit/(loss) | 63,103 | 59,514 | 37,326 | (11,740) | 5,532 | 905 | *** | *** | *** | *** | *** | *** |
| Operating income/(loss) | 43,530 | 41,608 | 24,747 | (26,541) | (8,983) | (26,906) | *** | *** | *** | *** | *** | *** |
| Capital expenditures | 22,777 | 28,943 | 11,364 | 34,331 | 15,383 | 3,581 | *** | *** | *** | *** | *** | *** |
| Unit cost of goods sold | \$17.24 | \$16.10 | \$17.25 | \$18.30 | \$14.77 | \$15.75 | *** | *** | *** | *** | *** | *** |
| Unit operating income/(loss) | \$4.83 | \$4.05 | \$4.34 | (\$6.33) | (\$2.07) | (\$7.18) | *** | *** | *** | *** | *** | *** |
| Cost of goods sold/sales ¹ | 71.1 | 73.5 | 73.2 | 118.1 | 92.1 | 98.5 | *** | *** | *** | *** | *** | *** |
| Operating income or (loss)/sales ¹ | 19.9 | 18.5 | 17.8 | (40.8) | (12.9) | (44.9) | *** | *** | *** | *** | *** | *** |

¹ In percent.

Source: Data for 1990-92 and 1997-99 compiled from confidential staff report INV-XX-154, July 7, 2000, table I-3; and data for 2000-05 compiled from responses to Commission questionnaires and from official Commerce statistics.

Table I-4

Natural uranium hexafluoride: Summary data from the original investigations, first reviews, and current review, 1990-92 and 1997-2005

* * * * *

Table I-5

Enriched uranium hexafluoride: Summary data from the original investigations, first reviews, and current review, 1990-92 and 1997-2005

* * * * *

Table I-6

Enriched uranium oxides, nitrates, and metals: Summary data from the original investigations, first reviews, and current review, 1990-92 and 1997-2005

(Quantity=1,000 kilograms U; value=1,000 dollars; unit values, unit labor costs, and unit financial data are per kilogram)

| Item | 1990 | 1991 | 1992 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|------------------|------------------|------------------|----------|----------|----------|------|------|------|------|------|------|
| U.S. producers'-- Capacity quantity | 3,800 | 3,800 | 3,800 | 4,050 | 4,050 | 4,050 | *** | *** | *** | *** | *** | *** |
| Production quantity | 2,503 | 2,622 | 2,593 | 2,583 | 2,571 | 2,479 | *** | *** | *** | *** | *** | *** |
| Capacity utilization ¹ | 65.9 | 69.0 | 68.2 | 63.8 | 63.5 | 61.2 | *** | *** | *** | *** | *** | *** |
| U.S. shipments: Quantity | 1,943 | 2,058 | 2,325 | 1,790 | 1,887 | 1,869 | *** | *** | *** | *** | *** | *** |
| Value | (²) | (²) | (²) | 217,010 | 240,246 | 222,660 | *** | *** | *** | *** | *** | *** |
| Unit value | (²) | (²) | (²) | \$121.21 | \$127.28 | \$119.14 | *** | *** | *** | *** | *** | *** |
| Ending inventory quantity | 1,028 | 1,121 | 997 | 595 | 543 | 549 | *** | *** | *** | *** | *** | *** |
| Inventories/total shipments ¹ | 40.6 | 45.3 | 34.5 | 23.1 | 20.6 | 22.5 | *** | *** | *** | *** | *** | *** |
| Production workers | 678 | 693 | 741 | 722 | 732 | 670 | *** | *** | *** | *** | *** | *** |
| Hours worked (1,000 hours) | 1,833 | 1,899 | 1,990 | 1,557 | 1,584 | 1,433 | *** | *** | *** | *** | *** | *** |
| Wages paid (1,000 dollars) | 23,858 | 25,786 | 28,669 | 37,747 | 39,075 | 38,759 | *** | *** | *** | *** | *** | *** |
| Hourly wages | 13.01 | 13.58 | 14.40 | \$24.24 | \$24.67 | \$27.05 | *** | *** | *** | *** | *** | *** |
| Productivity (pounds per hour) | 1.3 | 1.4 | 1.3 | 1.7 | 1.6 | 1.7 | *** | *** | *** | *** | *** | *** |
| Net sales: Quantity | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Value | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit value | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Cost of goods sold | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Gross profit or (loss) | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Operating income or (loss) | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Capital expenditures | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit cost of goods sold | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Unit operating income or (loss) | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Cost of goods sold/sales ¹ | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Operating income or (loss)/sales ¹ | (²) | (²) | (²) | *** | *** | *** | *** | *** | *** | *** | *** | *** |

¹ In percent.

² Not available.

Source: Data for 1990-92 and 1997-99 compiled from confidential staff report INV-XX-154, July 7, 2000, table I-6; and data for 2000-05 compiled from responses to Commission questionnaires and from official Commerce statistics.

THE ORIGINAL INVESTIGATION

On November 8, 1991, a petition was filed with Commerce and the Commission alleging that an industry in the United States was materially injured by reason of dumped imports of uranium from the U.S.S.R. and each and every Republic that was a member of the U.S.S.R. on the filing date of the petition.⁴ On December 25, 1991, the U.S.S.R. dissolved, and shortly thereafter the United States recognized the former Soviet republics as independent countries. Commerce investigated each in turn and determined that imports of uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan were being, or were likely to be, sold in the United States at less than fair value (“LTFV”) (57 FR 2330, June 3, 1992). Accordingly, the Commission instituted final investigations Nos. 731-TA-539-A through F under section 735(b) of the Act (19 U.S.C. 1673d (b)).

On October 30, 1992, Commerce suspended its antidumping duty investigation on uranium from Russia.⁵ Accordingly, the Commission suspended its investigation. On October 20, 1992, before the Commission reached determinations on the subject countries, Commerce notified the Commission that it was entering into suspension agreements with all of the subject countries and was therefore suspending its investigations (57 FR 49220, October 30, 1992). The Commission suspended its final investigations immediately thereafter.

The suspensions remained in effect for all six subject countries until April 1993, when Commerce notified the Commission that its agreements with Tajikistan and Ukraine were terminated and its corresponding investigations were resumed (58 FR 21144, April 19, 1993; and 58 FR 29197, May 19, 1993). The Commission thereupon continued investigation Nos. 731-TA-539-D (Tajikistan) and 539-E (Ukraine), and made a negative determination with respect to Tajikistan and an affirmative determination with respect to Ukraine (58 FR 44853, August 25, 1993). Commerce’s final antidumping duty margin for Ukraine was 129.29 percent.

Commission activity on the remaining investigations remained suspended until January of 1999 when Commerce notified the Commission that it was resuming its antidumping investigation on Kazakhstan (64 FR 2877, January 19, 1999) as a result of the Government of Kazakhstan’s termination of its suspension agreement on uranium. Continuing this investigation, the Commission reached a negative determination on July 13, 1999 (*Uranium from Kazakhstan, Investigation No. 731-TA-539-A (Final)*, USITC Pub. 3213, July 1999). As noted previously, Commerce terminated its suspended investigation on Kyrgyzstan on November 3, 1999. The countries that remained under suspension agreements (Russia and Uzbekistan) and under an antidumping duty order (Ukraine) were those subject to the Commission’s first five-year reviews.

⁴ The petition was filed by counsel on behalf of the Ad Hoc Committee of Domestic Uranium Producers (“Ad Hoc Committee”) and the Oil, Chemical and Atomic Workers International Union. The names and addresses of the petitioners are as follows: Ferret Exploration Co., Inc., Denver CO; First Holding Co., Denver, CO; Geomex Minerals, Inc., Denver, CO; Homestake Mining Co., San Francisco, CA; IMC Fertilizer, Inc., Northbrook, IL; Malapai Resources Co., Houston, TX; Pathfinder Mines Corp., Bethesda, MD; Power Resources, Inc., Denver CO; Rio Algom Mining Corp., Oklahoma City, OK; Solution Mining Corp., Laramie, WY; Total Minerals, Corp., Houston, TX; Umetco Minerals Corp., Danbury, CT; Uranium Resources, Inc., Dallas, TX; and Oil, Chemical and Atomic Workers International Union, Denver, CO.

⁵ *Antidumping: Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan; Suspension of Investigations and Amendment of Preliminary Determinations*, 57 FR 49220, October 30, 1992.

THE FIRST FIVE-YEAR REVIEWS

The Commission instituted its first five-year reviews of the suspension agreements on Russia and Uzbekistan and antidumping duty order on Ukraine on August 2, 1999.⁶ On November 4, 1999, the Commission determined that full five-year reviews of the suspension agreements on uranium from Russia and Uzbekistan and the antidumping duty order on Ukraine should proceed.⁷ On March 3, 2000, Commerce found that revocation of the antidumping duty order on uranium from Ukraine would likely lead to continuation or recurrence of dumping at a weighted-average margin of 129.29 percent (65 FR 11552). On July 5, 2000, Commerce found that revocation of the antidumping duty suspension agreements on uranium from Russia and Uzbekistan would likely lead to continuation or recurrence of dumping at a weighted-average margin of 115.82 percent (65 FR 41439 and 41441). In August 2000, the Commission determined that termination of the suspended investigation concerning Uzbekistan and revocation of the antidumping duty order regarding the Ukraine would not be likely to lead to continuation or recurrence of material injury. The Commission further determined that termination of the suspended investigation concerning uranium from Russia would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.⁸ Commerce published notice of continuation of the suspended antidumping duty investigation concerning uranium from Russia on August 22, 2000.⁹

RELATED INVESTIGATIONS

On December 7, 2000, USEC filed a petition alleging that an industry in the United States was materially injured and threatened with material injury by reason of subsidized and LTFV imports of low enriched uranium ("LEU") from France, Germany, the Netherlands, and the United Kingdom. Commerce determined that LEU from Germany, the Netherlands, and the United Kingdom was not being sold at LTFV.¹⁰ The Commission found material injury to the domestic industry by reason of imports of LEU from France, Germany, the Netherlands, and the United Kingdom that were found by Commerce to be subsidized. The Commission also found injury to the domestic industry by reason of imports of LEU from France found by Commerce to be sold at LTFV.¹¹ Accordingly, on February 12, 2002, Commerce issued one antidumping and four countervailing duty orders.¹²

On July 7, 2006, Commerce determined that all programs found to have provided countervailable subsidies on LEU from Germany, the Netherlands, and the United Kingdom have been abolished for at least three consecutive years. Commerce found that continued application of these CVD orders is no

⁶ 64 FR 41965, August 2, 1999.

⁷ 64 FR 62691, November 17, 1999.

⁸ 65 FR 48734, August 9, 2000.

⁹ *Continuation of Suspended Antidumping Duty Investigation: Uranium From Russia*, 65 FR 50958, August 22, 2000.

¹⁰ *Notice of Final Determinations of Sales at Not Less Than Fair Value: Low Enriched Uranium from the United Kingdom, Germany, and the Netherlands*, 66 FR 65886, December 21, 2001.

¹¹ 67 FR 6050, February 8, 2002.

¹² *Notice of Amended Final Determination of Sales at Less Than Fair Value and Antidumping Duty Order: Low Enriched Uranium From France*, with antidumping duty margins of 19.95 percent *ad valorem* for Cogema/Eurodif and all others (67 FR 6680, February 13, 2002); and *Notice of Amended Final Determinations and Notice of Countervailing Duty Orders: Low Enriched Uranium From Germany, the Netherlands and the United Kingdom*, with subsidy rates in all three countries of 2.23 percent *ad valorem* for Ureco and all others (67 FR 6689, February 13, 2002), and *France*, with subsidy rates of 12.15 percent *ad valorem* for Eurodif/Cogema and all others (67 FR 6691, February 13, 2002).

longer warranted, and revoked the CVD orders on imports of LEU from Germany, the Netherlands, and the United Kingdom.¹³

COMMERCE'S RESULTS OF FULL REVIEW

On June 6, 2006, Commerce published its determination that termination of the Suspension Agreement on uranium from Russia would likely lead to continuation or recurrence of dumping at a weighted-average margin of 115.82 percent.¹⁴

COMMERCE'S ADMINISTRATIVE REVIEWS

There have been no completed administrative reviews of the Suspension Agreement on uranium from Russia.¹⁵

CONTINUED DUMPING AND SUBSIDY OFFSET ACT

As this second five-year review concerns a suspension agreement on uranium from Russia, there were no actual antidumping duties collected or disbursed under the Continued Dumping and Subsidy Offset Act of 2000.

THE SUBJECT PRODUCT

Commerce has defined the imported product subject to the suspended investigation under review as follows:¹⁶

natural uranium in the form of uranium ores and concentrates; natural uranium metal and natural uranium compounds; alloys, dispersions (including cermets), ceramic products, and mixtures containing natural uranium or natural uranium compound; uranium enriched in U235 and its compounds; alloys dispersions (including cermets), ceramic products and mixtures containing natural uranium or natural uranium compound; uranium enriched in U235 and its compounds; alloys dispersions (including cermets), ceramic products and mixtures containing uranium enriched in U235 or compounds or uranium enriched in U235; and any other forms of uranium within the same class or kind. The uranium subject to this investigation was provided for under subheadings 2612.10.0000, 2844.10.1000, 2844.10.2010, 2844.10.2025,

¹³ *Low Enriched Uranium from Germany, the Netherlands, and the United Kingdom: Final Results of Countervailing Duty Administrative Reviews and Revocation of Countervailing Duty Orders*, 71 FR 38626, July 7, 2006.

¹⁴ *Final Results of Five-Year Sunset Review of Suspended Antidumping Duty Investigation on Uranium From the Russian Federation*, 71 FR 32517, June 6, 2006.

¹⁵ Commerce initiated two administrative reviews of its suspension agreement with Russia. The review covering the period October 1, 1994 to September 30, 1995, was terminated at the request of the Ad Hoc Committee. On November 21, 2001, Commerce initiated an administrative review in response to a request from the Ministry of the Russian Federation for Atomic Energy ("MINATOM"). Commerce rescinded the review effective August 14, 2002, when MINATOM, the only party which requested the review, withdrew its request. 67 FR 52943, August 14, 2002.

¹⁶ *Final Results of Five-Year Sunset Review of Suspended Antidumping Duty Investigation on Uranium From the Russian Federation*, 71 FR 32518, June 6, 2006.

2844.10.2050,¹⁷ 2844.10.2055, 2844.10.5000, 2844.20.0010, 2844.20.0020, 2844.20.0030, and 2844.20.0050 of the Harmonized Tariff Schedule of the United States.

Scope Clarifications

In June 1992, Commerce preliminarily determined that highly-enriched uranium (“HEU”) is not within the scope of the investigation. On October 30, 1992, Commerce issued a suspension of the antidumping duty investigation of uranium from Russia and an amendment of the preliminary determination.¹⁸ The notice amended the scope of the investigation to include HEU.¹⁹

There were four amendments to the Suspension Agreement on Russian uranium. In particular, the second amendment to the Suspension Agreement, on November 4, 1996, permitted, among other things, the sale in the United States of Russian LEU derived from HEU and included within the scope of the Suspension Agreement Russian uranium which has been enriched in a third country prior to importation into the United States. According to the amendment, these modifications remained in effect until October 3, 1998.

On August 6, 1999, USEC, Inc. and its subsidiary, the United States Enrichment Corporation requested that Commerce issue a scope ruling to clarify that enriched uranium located in Kazakhstan at the time of the dissolution of the Soviet Union is within the scope of the Russian suspension agreement. Respondent interested parties filed an opposition to the scope request on August 27, 1999. That scope request is pending before Commerce at this time.²⁰

During the current five-year review, AHUG argued that uranium contained in fuel assemblies or rods is not within the scope of subject merchandise.²¹ In response to questions as to whether fabricated uranium pellets contained within the fuel assemblies are considered to be Russian enriched uranium if they were produced with Russian LEU-HF, and whether pellets or fuel assemblies produced in France or Sweden with Russian LEU-HF would be considered subject merchandise, Commerce indicated that:

*The questions you raise have not to date been placed before us in any formal scope review. Until such questions are officially raised with us on the record via a scope request, our position would be that all uranium products with a Russian component (including fuel assemblies) would be covered by the scope of the suspension agreement.*²²

Scope and Services

During the current five-year review, AHUG argued that sales of enrichment services are sales of services and not goods and that sales of separative work units (“SWU”) by USEC cannot be treated as sales of domestic like product. (Respondents AHUG argue that the Commission must focus on sales and potential sales of LEU as a whole (i.e., enriched uranium product (“EUP”) transactions) by the domestic industry and by foreign producers, citing the Federal Circuit ruling in Eurodif that sales of enrichment

¹⁷ Currently not a valid number under the Harmonized Tariff Schedule of the United States.

¹⁸ *Antidumping: Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan; Suspension of Investigations and Amendment of Preliminary Determinations*, 57 FR 49220, October 30, 1992.

¹⁹ *Ibid.* at 49235.

²⁰ *Final Results of Five-Year Sunset Review of Suspended Antidumping Duty Investigation on Uranium From the Russian Federation*, 71 FR 32518, June 6, 2006.

²¹ E-mail from Nancy Fischer, counsel to AHUG, March 20, 2006.

²² E-mail from Sally Gannon, Office of Antidumping Countervailing Duty Policy and Negotiations, Import Administration, U.S. Department of Commerce, March 22, 2006.

services are not sales of uranium, and that the antidumping law does not apply to imports of LEU under enrichment services contracts.) AHUG further argued that as the uranium industry is not vertically integrated, but rather operates as four distinct production segments, the Commission is required to analyze the effect or potential effect of imports on domestic sales of uranium in the four forms of uranium identified in the investigation.²³

USEC argued that enriched uranium produced pursuant to SWU contracts by USEC is like the subject merchandise even if the subject merchandise were limited to enriched uranium produced pursuant to EUP contracts. USEC asserted that material produced pursuant to SWU contracts meets every like product test: physically identical, interchangeable, used in exactly the same way for exactly the same purposes, sold to exactly the same customers, use exactly the same channels of distribution, is produced on the same machines by the same workers, and is universally recognized by both producers and consumers as the same thing. Therefore, USEC opined that enriched uranium produced under SWU contracts meets the like product tests.²⁴

Commerce's statement of the scope of products subject to the Suspension Agreement has not changed since the first five-year reviews and its position on scope is presented below:²⁵

"AHUG and Tenex maintain that the Eurodif I and Eurodif II decisions are binding legal precedent by which the Department must abide in this sunset review proceeding. As a result, they argue that the Department must remove all SWU transactions from the scope of this proceeding and from consideration in its analysis of the likely volume of future imports and the magnitude of the margin likely to prevail if the suspension agreement were terminated. AHUG further argues that the Department should have noted in its preliminary results that it would direct CBP, upon issuance of the final results, to allow entry of LEU imported from Russia pursuant to enrichment services contracts.

We disagree with AHUG's and Tenex's contentions with respect to the Eurodif I and Eurodif II decisions, which were issued in the context of litigation pertaining to the antidumping duty order on LEU from France. As the Department noted in its preliminary results, the litigation related to these rulings has not been completed, and the Department is continuing to actively pursue all avenues in the litigation process. This case was once again remanded to the Department on May 18, 2006. In addition, the appeals process is not complete, and the CAFC's ruling is not binding unless and until such rulings are final and conclusive. Therefore, this litigation has no effect on the Suspension Agreement or this sunset review of the Suspension Agreement, and AHUG's arguments are not valid in this context. . . .

Furthermore, we agree with USEC's argument that it would be entirely premature to attempt to apply these rulings to this sunset review proceeding when their specific impact has not yet reached finality even for the proceeding from which they arose. As previously stated, since the appeals process is not yet complete, the impact of the Eurodif I and Eurodif II decisions on the LEU from France antidumping duty order is not yet complete or final. Therefore, these rulings are not binding precedent in this sunset review of the Suspension Agreement, an entirely different and separate proceeding. In addition, as noted by USEC, there has been no evidence placed on this record regarding SWU transactions that might take place in the future in the absence of the Suspension Agreement, including whether or not such SWU transactions would be

²³ AHUG's posthearing brief, pp. 11-12.

²⁴ Hearing transcript, pp. 75-77 (Cunningham).

²⁵ Commerce's *Issues and Decision Memorandum for the Sunset Review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation; Final Results*, June 6, 2006, pp. 14-15.

identical to the SWU transactions examined in the LEU from France proceeding. Therefore, even if appropriate without the finalization of the litigation process, any attempt by the Department to make associations between the LEU from France transactions and future Suspension Agreement transactions would be entirely speculative and inappropriate in this sunset review proceeding.

Moreover, as USEC correctly pointed out, the Eurodif decisions covered LEU only, whereas the scope of the subject merchandise in this review includes a broad class or kind of merchandise that covers a wide variety of uranium products, including natural uranium. Therefore, in determining the likelihood of future dumping and effect on U.S. market prices, the Department will base its likelihood determination on the scope of the merchandise in this sunset review, which includes enriched as well as natural uranium.

Finally, we agree with PRI's and Crow Butte's contention that the Department as a matter of policy does not evaluate scope issues or revise the scope of a proceeding in the context of a sunset review. Rather, issues with respect to scope are raised by interested parties via scope inquiries under Section 351.225 of the Department's regulations."

U.S. Tariff Treatment

Imports of the subject uranium products are classifiable under Harmonized Tariff Schedule of the United States (“HTS”) subheadings 2612.10.00, 2844.10, and 2844.20.00 as set forth in table I-7.

**Table I-7
Uranium: Tariff rates, 2006**

| HTS provision | Article description | General ¹ | Special ² | Column 2 ³ |
|---------------|---|-------------------------------------|--|-----------------------|
| | | Rates (<i>percent ad valorem</i>) | | |
| 2612.10.00 | Uranium ores and concentrates | Free | | Free |
| 2844.10 | Natural uranium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing natural uranium or natural uranium compounds: | | | |
| 2844.10.10 | Uranium metal | 5% | Free ⁴ 1.2% ⁵ | 45% |
| 2844.10.20 | Uranium compounds | Free | | Free |
| 2844.10.20.10 | Oxide | | | |
| 2844.10.20.25 | Hexafluoride | | | |
| 2844.10.20.55 | Other | | | |
| 2844.10.50.00 | Other | 5% | Free ⁶ 1.2% ⁵ | 45% |
| 2844.20 | Uranium enriched in U235 and its compounds; plutonium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing uranium enriched in U235, plutonium or compounds of these products | Free | | Free |
| | Uranium compounds: | | | |
| 2844.20.00.10 | Oxide | | | |
| 2844.20.00.20 | Fluorides | | | |
| 2844.20.00.30 | Other | | | |
| 2844.20.00.50 | Other | | | |

¹ Normal trade relations, formerly known as the most-favored-nation duty rate.
² General note 3(c)(i) lists the special tariff treatment programs indicated in this column. Goods must meet eligibility rules set forth in other general notes, and importers must properly claim such treatment.
³ Applies to imports from a small number of countries that do not enjoy normal trade relations duty status.
⁴ Applies to eligible imports under Generalized System of Preferences (“GSP”); and eligible imports under free trade agreements from Australia, Canada, Chile, Israel, Jordan, Morocco, and Mexico. Duty-free treatment also applies to eligible imports from countries eligible for preferential treatment pursuant to the Andean Trade Preference Act and the Caribbean Basin Economic Recovery Act. Russian products are eligible for GSP benefits under 2844.10.10.
⁵ Applies to eligible imports under the United States-Singapore Free Trade Agreement; rate will be reduced in stages to free.
⁶ Applies to eligible imports under programs listed in footnote 4 and eligible imports under the African Growth and Opportunity Act. GSP imports are limited to products of least-developed GSP suppliers (not Russia).

Source: Harmonized Tariff Schedule of the United States (2006).

THE DOMESTIC LIKE PRODUCT

Description²⁶

Uranium (U) is a heavy, naturally radioactive, metallic element (atomic number 92). Uranium is one of over 100 basic chemical elements, or types of atoms, known to occur in nature. Each element is defined by the number of its atoms' protons, one of the atom's three building blocks along with electrons and neutrons. The uranium atom has 92 protons and thus ranks 92nd among the elements. Although the number of protons and electrons in the element's atoms is equal and consistent, the number of neutrons can vary, resulting in different "isotopes" of the same element, each with slightly different properties. Natural uranium has three principal isotopes, U^{238} , U^{235} , and U^{234} , which constitute 99.285 percent, 0.71 percent, and 0.005 percent, respectively, of the element's weight in its natural elemental state. U^{235} is the only naturally occurring fissionable nuclide, i.e., when bombarded by neutrons, the U^{235} atom disintegrates creating a self-perpetuating chain reaction with the release of energy. It is the fissionable property of the U^{235} isotope that is important for uranium's principal uses - primarily as a fuel to generate electricity in nuclear power plants and secondarily as a fuel to propel naval vessels and as an active ingredient in atomic weaponry.

The half-lives of U^{235} and U^{238} are 7.13×10^8 and 4.51×10^9 years, respectively. Because of these slow rates of radioactive decay, natural uranium is only mildly radioactive.

Elemental uranium (uranium metal) is highly reactive chemically. A fresh surface of elemental uranium is silvery gray in color, but rapidly oxidizes to black oxide in air at room temperature. Chips and powder of uranium are highly pyrophoric (igniting spontaneously when exposed to air), and the metal is a strong reducing agent.

Uranium is one of the less common elements but its compounds are readily soluble and widely distributed in many mineral and rock types throughout the world. Most of the large economic deposits have a uranium content greater than 0.10 percent triuranium octoxide (U_3O_8). Uranium does not occur in nature in the elemental state but in chemical combinations with other elements. It is an important constituent in 155 minerals and a measurable constituent in nearly 500 minerals. Therefore, as a first step, natural uranium is mined or recovered from naturally occurring mineral deposits.

"Yellowcake" is the term often applied to the concentrate produced at uranium mills. The exact chemical composition of uranium concentrate is variable and the industry generally includes purified natural uranium oxides in its definition of uranium concentrate. In the United States, the terms uranium concentrate, yellowcake, and natural uranium oxides are used interchangeably in the industry. The uranium industry has adopted the practice of expressing the natural uranium content of uranium concentrates in terms of U_3O_8 equivalent. Most uranium concentrates contain a minimum of 75 percent U_3O_8 , and average 80 to 85 percent U_3O_8 .

"Enriched uranium" is uranium in which the concentration of isotope U^{235} has been increased (i.e., the product has been "enriched in U^{235} ") relative to the natural state. Uranium enrichment is essentially taking a feedstock consisting of a mixture of U^{235} and U^{238} and increasing the relative amount of U^{235} in one batch while necessarily reducing the relative amount of U^{235} in a second batch. The first batch is the product, the enriched uranium, whereas the second batch which contains less U^{235} than in the feedstock is referred to as "depleted uranium" or "tails" and is often considered a waste product.

U^{235} is indispensable to the nuclear energy industry because it is the only isotope existing in nature, to any appreciable extent, that is fissionable by thermal neutrons. Enrichment of uranium fuel lowers the size of the "critical mass" assemblies of "light-water" nuclear reactors and, therefore, lowers

²⁶ Technical information on the product and process was obtained from a number of sources including *Uranium and Uranium Compounds*, in Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley & Sons, 2006, located at <http://www.mrw.interscience.wiley.com/kirk/articles/uranclar.a01/sect11-fs.html> and references cited in this section.

capital cost requirements for the reactors. Enriched uranium for use by commercial power plants in the United States generally has 3 to 5 percent U^{235} by weight. Depleted uranium usually contains between about 0.2 percent to 0.35 percent U^{235} but there are exceptions to this rule.

The industry has accepted a basic unit of quantity derived from thermodynamics to measure the effort needed to enrich a given amount of uranium from the initial enrichment level to a higher enrichment level. This unit of measurement is referred to as SWU. As is intuitively obvious, the amount of SWU required is proportional to the amount of uranium to be enriched and increases (but not linearly) the greater the level of enrichment. In other words, it requires more SWU to enrich a given amount of natural uranium (containing about 0.7 percent U^{235}) to 5 percent U^{235} than to enrich the same amount of natural uranium to 3 percent U^{235} .

Uranium is enriched by gaseous-diffusion or gas-centrifuge technology. In order to use these processes, the uranium must be present in a compound that can be easily converted to a gas. For a number of technical reasons, uranium hexafluoride is well suited for this purpose. Uranium hexafluoride (UF_6) is a white solid at ambient temperature and pressure and is obtained by the chemical treatment of uranium concentrate or oxides. UF_6 forms a vapor at temperatures above 56 degrees Centigrade and is the form of uranium used for the enrichment process. Consequently, two types of UF_6 are of commercial significance: "natural" and "enriched."

After enrichment in U^{235} , the uranium hexafluoride is converted to a fuel form for use in the manufacture of nuclear fuel assemblies. These forms include the oxides (usually enriched UO_2), or metals, alloys, carbides, nitrides, and salt solutions of enriched uranium. Pelletized ceramic UO_2 is the most common fuel form used in light-water reactors, which are the type of reactors used by utilities in the United States. Enriched uranium is then encapsulated in protective metal sheaths to produce a "fuel rod." Fuel rods are then assembled into the required configuration for use in a power plant's nuclear reactor.

Uses

Nuclear fuel for commercial power reactors for the generation of electricity is the predominant commercial application for uranium. Other uses include government-sponsored nuclear programs, including weapons, propulsion (particularly nuclear powered submarines and aircraft carriers), underground tests, research and development, and space applications.

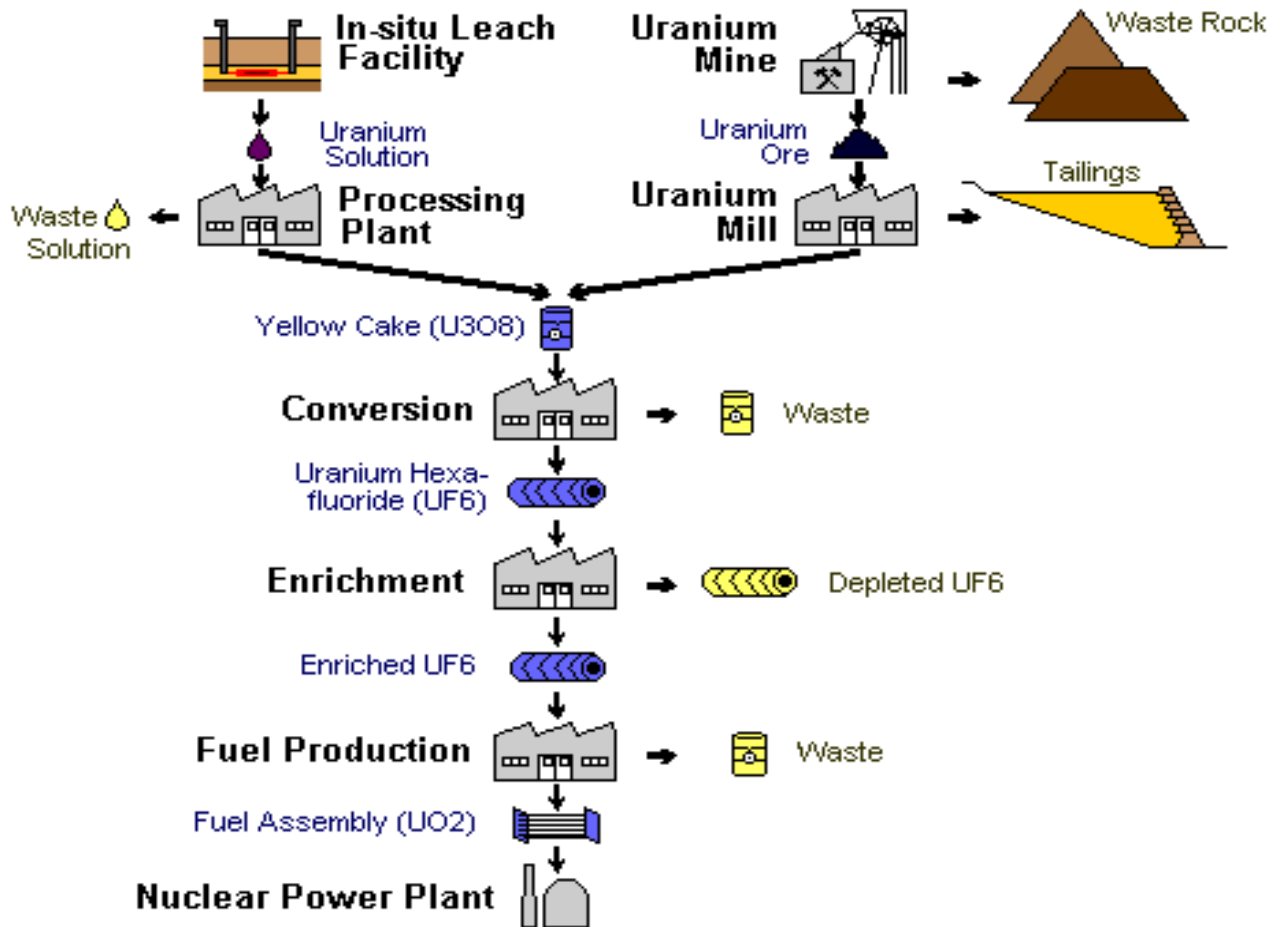
Relatively small quantities of uranium, depleted in U^{235} , are used in specialized non-energy applications, principally for military ordnance. Depleted uranium readily forms alloys with other metals, has a very high density, and is easy to fabricate, which makes it useful for some applications.

Production Processes

Uranium is generally found in molecular combination with another element, oxygen, embedded in various concentrations in rock formations, known as uranium ores, throughout the world. To bring it to usable form, four successive processes by four types of generally independent producers are required, each resulting in a different uranium product and each successive product being closer to the product required for actual use (the various steps in converting uranium ore to nuclear fuel suitable for use in light water reactors are shown in figure I-1). The producers and products include:

- (1) Concentrators--natural uranium concentrate--mining and concentrating the uranium into the molecular form U_3O_8 (3 atoms of uranium combined with 8 atoms of oxygen);
- (2) Converters--natural uranium hexafluoride--converting the U_3O_8 , into UF_6 ;

Figure I-1
Nuclear fuel production chain for light water reactors



Source: WISE, *Uranium Project Nuclear Fuel Chain Calculators*. Retrieved at <http://www.wise-uranium.org/nfp.html>.

(3) Enrichers--enriched uranium hexafluoride--enriching the UF₆ by increasing the proportion of U²³⁵ in its constituent uranium; and

(4) Fabricators--Enriched uranium oxides, nitrates, and metals--fabricating the enriched uranium for final use.

Uranium Concentrate

For the most part, “conventional” uranium mining involves large earthmoving equipment for open pit operations and standard underground mining equipment for underground mines. In the United States, stripping of overburden for open pit mining is generally done by tractors with rippers, rubber-tired scrapers and tractor-pushers, diesel power shovels, and large truck fleets. Drilling and blasting are often not necessary.

“Unconventional uranium mining” includes various leaching methods and byproduct operations. For example, uranium is leached from the ore slime by either alkaline treatment (sodium carbonate or sodium bicarbonate) or acid treatment (usually sulfuric acid). In both techniques, oxidation is necessary

to convert uranium to the soluble form. Uranium in leach solutions is recovered and purified by solvent extraction or ion exchange. Uranium is precipitated as uranium concentrate that is then filtered, dried, and packaged for shipment. Uranium concentrate is chemically stable and is usually stored and shipped in 55-gallon steel drums.

In-situ and heap leaching are employed to recover uranium from deposits that may not be economically recoverable by conventional mining methods. The in-situ method involves leaching uranium from mineralized ground in place and is also referred to as “solution mining.” The leaching solution is generally a carbonate, and an oxidant, such as oxygen, is added to improve leaching. In-situ leach is a very cost-effective method of production because of the low capital and labor costs compared with the costs of a conventional mine. However, not all uranium deposits are geologically suitable for in-situ mining. Uranium concentrates are also produced as a byproduct of phosphoric acid production; from gold, copper, and other minerals mining; and from mine water.

Natural Uranium Hexafluoride

Conversion of uranium concentrate to natural uranium hexafluoride (UF_6) is not done in the United States at the mills but is done by “converters.” Several processes have been used to convert uranium concentrate to UF_6 . In one such process, uranium concentrate is dissolved in nitric acid, the solution is purified by solvent extraction, the uranium is removed with a dilute nitric acid solution, and the resulting uranium nitrate solution is subjected to heat and decomposed to an oxide. The oxide is then reacted with hydrofluoric acid and fluorine to produce UF_6 . The natural UF_6 is then held in inventory until instructions are issued for shipment to an enrichment plant. UF_6 is a highly reactive chemical and is stored and transported in heavy-wall steel cylinders.

Enriched Uranium Hexafluoride

Before uranium can be used as a fuel in most nuclear power plants, the proportion of its U^{235} isotope must be increased relative to that of its other isotopes.²⁷ In the enrichment process, the proportion of U^{235} of the uranium in natural UF_6 is increased from 0.71 percent to about 3-5 percent by weight of UF_6 in LEU.²⁸ Most nuclear utilities operating in the world today require LEU fuel with a U^{235} concentration in this 3-5 percent range for use in generating electricity.

The industry uses a standard of measure of effort or service employed in the uranium enrichment industry known as SWUs. It is a measure of the effort that is required to transform a given amount of natural uranium feed stock (UF_6) into two streams of uranium, one enriched in the U^{235} isotope and the other depleted in the U^{235} isotope.

There are two principal methods of uranium enrichment: gaseous-diffusion enrichment and gas-centrifuge (centrifuge) enrichment.²⁹ Gaseous diffusion involves the passage of UF_6 in a gaseous form through thousands of barriers or cascades, containing millions of microscopic holes, until the desired assay is reached. Because U^{235} is lighter than U^{238} , the U^{235} passes through the barriers more readily than the U^{238} . At the end of the gaseous diffusion process, there are two UF_6 streams, both of which contain

²⁷ Most of the world’s and all of the United States’ nuclear power plants are so-called “light-water” reactors and require enriched uranium for fuel; however, there are a small number of others, known as “heavy-water” reactors, that are capable of using natural uranium.

²⁸ Uranium containing 20 percent or more U^{235} is known as HEU. It is used in nuclear weapons and nuclear propulsion. The production of HEU requires additional processing and special considerations. U.S. stockpiles of HEU are currently sufficient to meet defense needs for some time to come.

²⁹ Extensive research and development on enrichment technologies employing lasers has been conducted and is discussed later.

primarily U²³⁸, but one stream contains a higher concentration of U²³⁵. The stream with the higher concentration of U²³⁵ is LEU; the other is the depleted UF₆. The centrifuge method of enrichment employs rapidly spinning cylinders containing UF₆ under high pressure to separate the U²³⁵ (which, being a lighter isotope, moves at a greater velocity in the centrifuge) from the U²³⁸.

Regardless of the technology used, the enriched UF₆ that results from either process is chemically and functionally identical. The gaseous diffusion process is more energy-intensive, requiring significant amounts of electricity to push the UF₆ through the diffusion barriers, whereas the centrifuge process is significantly less energy intensive. Both methods of LEU production come with a relatively high level of capital costs, although producers employing the gaseous diffusion enrichment process, such as USEC, have lower fixed costs per unit of LEU than centrifuge producers. The nature of the gaseous diffusion enrichment process is such that an enrichment facility must be run at least at a minimum production level to achieve commercial assay product, whereas centrifuge enrichment facilities which have high capital and low margin of operating costs, normally produce at full capacity.³⁰

As an illustrative example, the following table included in a report issued in 1990 provides an estimate of power usage and power cost for diffusion, centrifuge, and the related laser enrichment technologies, atomic vapor laser isotope separation (“AVLIS”) and separation of isotopes by laser excitation (“SILEX”).³¹

| Technology | Power usage | Power cost |
|-------------------|---|------------------------------|
| | <i>(Kilowatt-hour electric per SWU)</i> | <i>(per SWU)¹</i> |
| Diffusion | 2,400 | \$60.00 |
| Centrifuge | 50 | 1.25 |
| AVLIS/SILVA | 100 | 2.50 |

¹ Assuming 25 mills per kilowatt-hour.

Gaseous-diffusion enrichment technology originated in the United States in connection with development of the atomic bomb during World War II and was the only enrichment technology developed on a large commercial scale until about 1975. Gaseous diffusion operates on the principle that the average velocities of gas molecules at a given temperature depend on the molecular mass. The lighter molecules will more frequently contact the walls of a porous containment vessel which contains hundreds of millions of submicroscopic openings per square inch through which the molecules are diffused. The degree of enrichment in a single diffusion stage is very small, but the desired enrichment level is achieved by repeating the process through hundreds or thousands of stages arranged in cascades. The gaseous-diffusion process requires enormous amounts of electricity to run the compressors that force the gaseous UF₆ through the cascades; therefore, the search for more energy-efficient processes led to the development of gas-centrifuge technology.

Enrichment by gas centrifuges is based on the principle that a partial separation of the components of a gaseous mixture results when the gas is subjected to a pressure gradient. The isotopic separation of UF₆ is effected by the high-speed rotation in centrifuges in which the lighter U²³⁵ isotope moves at a greater velocity in the pressure gradient in the centrifuges. The UF₆ gas is spun in a series of centrifuges; the heavier U²³⁸ tends to move toward the outer walls of the centrifuge whereas the lighter

³⁰ *The Global Nuclear Fuel Market: Supply and Demand 2005-2030*, World Nuclear Association (“WNA”), 2005 (hereinafter “*The Global Nuclear Fuel Market*, WNA, 2005”), p. 153.

³¹ Edison Electric Institute, *EI Enrichment Handbook*, 1990, pp. 8-13.

U²³⁵ tends to remain near the center.³² The gas centrifuge plants use substantially less electricity than gaseous-diffusion plants; however, the savings in electricity are partially offset by higher capital costs for gas-centrifuge plants. However, centrifuge technology enjoys other advantages including a modular design which allows for incremental expansion of capacity and production and a higher effective operating capacity that approaches the nameplate capacity.³³ On balance, the global enrichment industry is moving toward a consensus that state-of-the-art centrifuge technology is superior to gaseous diffusion technology.

Enriched Uranium Oxide

Enriched uranium hexafluoride from an enrichment plant must be converted to uranium compounds or uranium metal for use in reactor applications.³⁴ LEU conversion is generally done by fuel fabricators as one step in the production of fuel rods and fuel assemblies to be used in commercial nuclear reactors. Fuel fabricators react uranium hexafluoride with water and hydrogen to obtain uranium dioxide (UO₂) that is used to make fuel rods and assemblies.

Channels of Distribution

Unlike other industries where the end user purchases the product in final or near final form, nuclear utilities in the United States tend to purchase uranium/nuclear fuel directly from the primary uranium producer and the value-added processing directly from the converter, the enricher, and the fabricator, respectively. A utility can purchase a final or near final product, such as EUP, but such a purchase is the exception rather than the rule. A trend that has recently occurred, in 2005, is a sharp increase in the volume of utility purchases of primary uranium under long-term contracts. This reflects, in part, an increased concern by utilities for security of supply but according to an industry observer, perhaps more importantly, reflects the ability of uranium producers to set terms in an increasingly tight market. According to this observer, the duration of long-term contracts which typically had been three to five years has increased to up to ten years and beyond.³⁵

DOMESTIC LIKE PRODUCT ISSUES

In its 1991 preliminary determination for the original investigation of uranium from the U.S.S.R. and the 1993 final determination in uranium from Ukraine, the Commission found a single domestic like product encompassing all four forms of uranium.³⁶ The Commission found that (1) uranium concentrate

³² *The Global Nuclear Fuel Market*, WNA, 2005, pp. 89 and 92.

³³ *Ibid.*, p. 156.

³⁴ LEU is most often converted from uranium hexafluoride to uranium oxide for use in commercial nuclear reactors, whereas HEU is generally reduced from uranium hexafluoride to uranium metal for use in nuclear weapons or small nuclear reactors.

³⁵ Jeff Combs, *Comments on the Global Nuclear Fuel Market*, Nuclear News, March 2006, pp. 30-31,

³⁶ *Uranium from the U.S.S.R., Inv. No. 731-TA-539 (Preliminary)*, USITC Publication 2471, December 1991, p. 8; and *Uranium from Tajikistan and Ukraine, Inv. Nos. 731-TA-539-D and E (Final)*, USITC Publication 2669, August 1993, p. 12. In its semi-finished product analysis, the Commission considered the following factors: (1) the necessity for, and costs of, further processing; (2) the degree of interchangeability of articles at different stages of production; (3) whether the article at an earlier stage of production is dedicated to use in the finished article; (4) whether there are significant independent uses or markets for the finished and unfinished articles; and (5) whether the article at an earlier stage of production embodies or imparts to the finished article an essential characteristic or

(continued...)

must undergo both conversion and enrichment, and natural uranium hexafluoride must undergo enrichment, to be used as nuclear fuel, and that conversion does not add substantial value to the product, but that enrichment does; (2) the four forms of uranium are not interchangeable either in use or in the production process; (3) all forms of uranium are dedicated for use in enriched uranium, the only commercial use for any form is as an input in the nuclear fuel cycle, markets for the various forms do not operate independently from each other but focus on electric utilities which purchase uranium concentrates and arrange themselves for conversion and enrichment services; and (4) the essential characteristic of uranium is the presence of U₂₃₅ which exists in all forms of uranium and the enrichment process only increases its concentration.³⁷

In its 2000 determination for the first five-year reviews, the Commission found a single domestic like product consisting of all forms of uranium coextensive with the scope of the reviews.³⁸ The Commission found that “(t)he record indicates that the product itself has remained essentially unchanged since the original 1991 preliminary investigation of Uranium from the U.S.S.R. and the original 1993 final investigation of Uranium from Ukraine.”³⁹ The Commission noted that “the traditional production stages and successive forms of uranium in the LEU fuel cycle remain the same” and “(w)hile there has been a significant new alternative source of supply of LEU-HF produced directly by blending down HEU, and thus eliminating for this new source the first three stages of the fuel cycle, the dominant process by which electric utilities obtain LEU remains the 4-stage uranium fuel cycle.”⁴⁰ There have been no material changes in the product, production processes, or distribution channels since those determinations.

In considering whether articles at different stages of processing should be included in the same like product, the Commission uses a semi-finished products analysis, and currently examines: (1) whether the upstream article is dedicated to the production of the downstream article or has independent uses; (2) whether there are perceived to be separate markets for the upstream and downstream articles; (3) differences in the physical characteristics and functions of the upstream and downstream articles; (4) differences in the costs or value of the vertically differentiated articles; and (5) significance and extent of the processes used to transform the upstream into the downstream articles.⁴¹

During this second five-year review, domestic interested parties indicated support for the Commission’s definitions of the domestic like product and domestic industry as presented in the notice of institution.⁴² Domestic interested parties argue that the domestic like product is essentially unchanged from the prior proceedings in which the Commission found a single like product coextensive with the scope and that “there have been no material changes in the product, production processes, or distribution

³⁶ (...continued)

function. *Uranium from Tajikistan and Ukraine, Inv. Nos. 731-TA-539-D and E (Final)*, USITC Publication 2669, August 1993, p. 10, fn. 24.

³⁷ *Uranium from the U.S.S.R., Inv. No. 731-TA-539 (Preliminary)*, USITC Publication 2471, December 1991, pp. 7-8; and *Uranium from Tajikistan and Ukraine, Inv. Nos. 731-TA-539-D and E (Final)*, USITC Publication 2669, August 1993, pp. 10-12.

³⁸ *Uranium from Russia, Ukraine, and Uzbekistan (Inv. Nos. 731-TA-539-C, E and F (Review))*, USITC Publication 3334, August 2000, p. 10.

³⁹ *Ibid.*

⁴⁰ *Ibid.*, fn. 34 and 35.

⁴¹ In 1994 the Commission reconsidered and revised the factors considered in its semi-finished product analysis to remedy any overlap, inconsistency, vagueness, or subjectivity in the factors. *Stainless Steel Bar from Brazil, India, Italy, Japan, and Spain, Invs. Nos. 731-TA-678 through 682 (Preliminary)*, USITC Publication 2734, February 1994, pp. I-11 - I-12.

⁴² Responses to the Commission’s notice of institution, August 22, 2005: PRI/Crow Butte, p. 34; USEC, p. 54; and the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied-Industrial and Service Workers International Union, AFL-CIO, CFC (“USW”), p. 4.

channels since those determinations.” USEC asserts that as in the prior investigations and review, all forms of uranium are still dedicated for use in the production of nuclear fuel, all forms still share the same essential characteristic, the presence of fissionable U²³⁵, and there continue to be no independent markets for the various forms of uranium.⁴³ PRI/Crow Butte argue that the four basic forms of uranium – concentrate, natural uranium hexafluoride, enriched uranium hexafluoride, and uranium oxides, nitrates, and metals – are separately produced and traded in the marketplace, yet are all intermediate products, each successively contained in the other, and ultimately contained in an end product; nuclear fuel for commercial power reactors remains the only significant commercial application for uranium; the market segments do not operate independently of each other and “nuclear utilities continue to purchase uranium from primary uranium producers and value-added processing from the converter, enricher, and the fabricator, respectively. PRI/Crow Butte concede that the physical characteristics of uranium at its various stages of the nuclear fuel cycle clearly differ, but their ultimate function as nuclear fuel does not.⁴⁴ PRI/ Crow Butte noted that while there are relative differences in the price of uranium at different stages of the fuel cycle, enrichment continues to add substantial value to the product.

Respondent interested party, Nukem, urged the Commission to re-examine its definition of the domestic like product and industry and determine that either enriched uranium is a separate like product from natural uranium (i.e., ores, concentrates (U₃O₈), natural uranium hexafluoride (UF₆), or other forms of unenriched uranium), or each of the four basic forms of uranium constitute a separate like product.⁴⁵

Electric utilities represented by AHUG argued that because the Commission’s semifinished product analysis and facts have changed since the Commission’s original preliminary determination, the Commission should find that each segment of the uranium fuel cycle comprises a separate domestic product.⁴⁶ AHUG asserts that although the four uranium products are technically interrelated through the nuclear fuel cycle, they are each independent inputs into producing fuel for nuclear reactors and the four separate uranium products have separate and distinct markets. The utilities point to uranium fuel industry publications that discuss the markets of each uranium product separately due to their unique conditions. AHUG asserted that each uranium product has separate markets (with “juniors” and speculators as new entrants in the uranium concentrates market), entirely different physical characteristics and functions, value, and production processes, and that each type of uranium producer or service provider has its own distinct production facility and process of production. AHUG noted that each uranium product has very different values and accounts for different percentages of the total value of fabricated fuel than in the first review due to the dramatic increases in the price of concentrate. Each product is substantially advanced from the previous product in the fuel cycle, and the significant differences in values reflects those modifications.⁴⁷

⁴³ USEC’s prehearing brief, pp. 15-18.

⁴⁴ PRI/Crow Butte’s posthearing brief, app., pp. 31-34.

⁴⁵ Nukem’s response to the Commission’s notice of institution, August 22, 2005, pp. 13-14; and Nukem’s prehearing brief, pp. 2-6. Nukem cited the Commission’s determination in its 2001 investigations concerning European LEU to include only low enriched uranium in the domestic like product and industry. Nukem’s response to the Commission’s notice of institution, August 22, 2005, p. 14.

⁴⁶ AHUG’s prehearing brief, pp. 39-46.

⁴⁷ AHUG’s posthearing brief, pp. 12-13 and exh. 1, pp. 16-24.

Value Added by Segment

Information gathered during this second five-year review regarding the costs of processing for the various stages of the front end of the nuclear fuel cycle is presented in the following tabulation:

| Item | Share of subject nuclear fuel costs (<i>percent</i>) | | | |
|---------------------------------------|--|-------------------|----------------------------------|--------------------------|
| | 2000 ¹ | 2006 ¹ | 2006 delivery value ² | 2004 Urenco ³ |
| Concentrates | 31.0 | 47.1 | *** | 32.0 |
| Conversion | 3.0 | 5.4 | *** | 6.0 |
| Enrichment | 59.0 | 31.6 | *** | 44.0 |
| Fabrication (converting, pelletizing) | 7.0 | 15.8 | *** | 18.0 |
| Total, front end | 100.0 | 100.0 | 100.0 | 100.0 |

¹ Based on published market prices for the individual line items (default values) as used in the Wise Nuclear Fuel Cost Calculator (found at <http://www.wise-uranium.org/nfcc.html>). 2000 shares were presented in *Uranium from Russia, Ukraine, and Uzbekistan, Inv. Nos. 731-TA-539-C, E, and F (Review)*, USITC Publication. 3334, August 2000, at 8-9 (footnotes, 25, 26, 27, and 30) and I-6-I-9. 2006 shares are based on Wise information last updated on March 12, 2006.

² Based on USEC's revised valuations to reflect commercial considerations (e.g., long-term contract values) in the U.S. market. USEC's posthearing brief, exh. 5, pp. 19-20.

³ Based on a presentation in Urenco's Eurobond offering of November 2005 (found at <http://www.urengo.com/investors/index.aspx>, retrieved on June 2, 2006). USEC's posthearing brief, exh. 5, pp. 20-21.

USEC argued that enrichment produces the substantial majority of the value of the finished product and requires a substantial investment and a large production workforce.⁴⁸ USEC asserted that the change in relative cost shares since 2000 in large part reflects the recent rapid increase in the market price for uranium concentrate associated with new transactions for future deliveries. However, given the prevalence of long-term contracts in the uranium market, current delivery values probably provide a more accurate assessment of the relative costs of the components of the nuclear fuel being consumed today and are more representative of the current relative cost shares, which when used in the Wise model, and a 4.4 percent product assay, generates results similar to the Urenco 2004 graphic presentation.⁴⁹ PRI and Crow Butte generally agreed with the shares of front end nuclear fuel costs for 2006 from the Wise Calculator, yet noted that these percentages are relevant to fuel procured today at current market prices. Fuel being delivered to utilities under preexisting contracts will largely reflect earlier prices for fuel components, so that the relative percentages will differ accordingly, with uranium concentrate being a smaller share of cost.⁵⁰ AHUG noted that while costs vary by company, the Wise percentages “are generally reasonable,” except that the data for fabrication may be overstated to the extent that they include fabrication services as a whole rather than just conversion and pelletizing.⁵¹

⁴⁸ Hearing transcript, pp. 76-77 (Cunningham).

⁴⁹ USEC's posthearing brief, exh. 5, pp. 17-21.

⁵⁰ PRI/Crow Butte's posthearing brief, app., p. 39.

⁵¹ AHUG's posthearing brief, exh. 1, p. 22, fn. 70.

AGREEMENTS REGARDING IMPORTS OF URANIUM FROM THE RUSSIAN FEDERATION⁵²

The Russian Suspension Agreement

The Agreement to suspend the antidumping duty investigation on uranium from the Russian Federation was signed on October 16, 1992.⁵³ Under this Agreement, the Russian Federation Ministry for Atomic Energy agreed to restrict the volume of direct or indirect exports to the United States of uranium products from all producers and exporters of such products in Russia subject to the agreement's terms.⁵⁴

The Agreement's basic provision for controlling imports was an export quota expressed in pounds U₃O₈ equivalent and kilograms uranium (kgU) and enforced through export licensing and certification.⁵⁵ Commerce semi-annually determined the market price for subject uranium in the United States and the corresponding quota level. The market price was based on the weighted average of the spot market and long-term contract prices.⁵⁶ The Agreement permits re-export of uranium from Russia for processing in the United States only where such imports are not for sale or consumption in the United States and where re-exports will take place within 12 months of entry.⁵⁷

There have been four amendments to the Agreement suspending the antidumping duty investigation on Russian uranium. The first amendment, effective March 11, 1994, was made "to restore the competitive position of the U.S. industry" by introducing the concept of matched sales between the U.S. and Russian producers.⁵⁸ These matched imports, through which quota amounts of uranium from Russia could be imported into the United States provided that a U.S. partner with an equivalent form and quantity of domestically produced uranium was also party to the sale or contractual arrangement and that the Russian material was priced such that the price of the U.S. component could be greater than the average price to the customer.⁵⁹ The amendment also provided for matched import ratios, 50-50 in the first year to be adjusted thereafter based on the level of U.S. production.⁶⁰ On July 31, 1998, Commerce announced a change to the administration of matched sales. Previously, Commerce used a delivery year quota of April 1 through March 31. At the request of Nuclear Energy Institute members, Commerce switched to a calendar year of January 1 through December 31 to conform with the members' other internal tracking systems (*i.e.* budgeting, requests for quotes, deliveries).⁶¹

⁵² Copies of the Agreements are presented in app. E.

⁵³ *Antidumping; Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan; Suspension of Investigations and Amendment of Preliminary Determinations*, 57 FR 49221 (October 30, 1992).

⁵⁴ *Ibid.* at 49325.

⁵⁵ *Ibid.*

⁵⁶ The market price determinations and quota calculations were to be made semi-annually on October 1 and April 1 of each year with the exception of the first period which began on October 16, 1992, *Ibid.* at 49236.

⁵⁷ *Ibid.* at 49237.

⁵⁸ *Amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation*, 59 FR 15373-15374 (April 1, 1994).

⁵⁹ *Uranium From Russia, Ukraine, and Uzbekistan, Invs. Nos. 731-TA-539 C, E, and F (Review)*, USITC Publication 3334, August 2000, p. I-9.

⁶⁰ *Amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation*, 59 FR 15376 (April 1, 1994).

⁶¹ *Amendment Suspending the Antidumping Investigation on Uranium From the Russian Federation*, 63 FR 40879 (July 31, 1998).

In April 1996, Congress passed the USEC Privatization Act, transferring the ownership interests of the United States in USEC to the private sector.⁶² To make the Russian Suspension Agreement consistent with this Act, the second amendment to the Agreement, effective October 3, 1996, provided for the sale in the United States of feed associated with imports of LEU derived from HEU.⁶³ According to the amendment, these modifications would remain in effect until October 3, 1998.⁶⁴

Substantial quantities of uranium products produced from Russian ore and not subject to the Suspension Agreement began to undermine the Agreement's effectiveness. To address this situation, the third amendment, also effective on October 3, 1996, covered Russian uranium which had been enriched in a third country within the terms of the Suspension Agreement, for a period of two years from the effective date of the amendment. The third amendment also restored previously unused quotas for SWUs.⁶⁵

The fourth amendment, effective on May 7, 1997, was signed to encourage processing in the United States of uranium products from Russia. The amendment doubles the amount of Russian-origin uranium which may be imported into the United States for further processing prior to re-exportation. In addition, it lengthens the period of time uranium may remain in the United States for such processing from 12 months to up to three years.⁶⁶

The Russian HEU Agreement

The *Agreement Between the Government of the United States and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons* ("HEU Agreement") was signed February 19, 1993. The HEU Agreement facilitates the conversion of HEU extracted from Russia's nuclear weapons, into LEU for use as fuel in commercial nuclear reactors.⁶⁷ This Agreement was reached to further the objectives of broader arms control agreements, in particular the Treaty on the Non-Proliferation on Nuclear Weapons of July 1, 1968.⁶⁸ The HEU Agreement provides that the United States will purchase from Russia 500 metric tons of HEU converted to LEU over 20 years (1993-2013).⁶⁹ These purchases are made by USEC as the executive agent of the U.S. Government under a 1994 HEU contract with the Russian state-owned corporation, Tenex.

⁶² See H 3931, §3103, Title III Rescissions and Offsets, Chapter 1, Energy and Water Development, Subchapter A- United States Enrichment Corporation Privatization, April 25, 1996.

⁶³ *Amendments to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation*, 61 FR 56665 (November 4, 1996). HEU feed refers to the natural uranium feed associated with the LEU (derived from HEU), which is imported pursuant to the Agreement Between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons, signed February 18, 1993.

⁶⁴ *Ibid.* at 5667.

⁶⁵ *Amendments to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation*, 61 FR 56665 (November 4, 1996). A separative work unit is a unit of measurement of the effort needed to separate the U²³⁵ and U²³⁸ atoms in natural uranium in order to create a final product that is richer in U²³⁵ atoms, found at http://www.usec.com.v2001_02/HTML/Aboutusec_swu.asp, retrieved April 5, 2006.

⁶⁶ *Amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation*, 62 FR 37879 (July 15, 1997).

⁶⁷ Russian-U.S. HEU Agreement, found at <http://www.nti.org/db/nisprofs/russia/fulltext/heudeal/heufl.htm>, retrieved April 5, 2006.

⁶⁸ *Ibid.* at preamble.

⁶⁹ *Effect of U.S./Russia Highly Enriched Uranium Agreement, 1999*, Report to Congress Under Section 3112(b)(10) of the United States Enrichment Corporation Privatization Act, Introduction, found at <http://www.ne.doe.gov/reports/HEUCongress1999.pdf>, retrieved April 4, 2006.

A listing of the HEU Agreement milestones is presented in the tabulation below.⁷⁰

| | |
|--------------------|--|
| February 18, 1993 | The HEU Agreement was signed. |
| January 14, 1994 | Executive Agents for the United States and Russia (USEC and Tenex) executed the Implementing Contract to the HEU Agreement. |
| June 1995 | The first delivery of LEU that was derived from HEU arrived in the United States. |
| April 26, 1996 | The USEC Privatization Act P.L. 102-486 was signed by President Clinton. This Act in part established the annual amount of natural uranium that can be imported for sale within the United States. |
| October 21, 1998 | President Clinton signed P.L. 105-277 that in part provided for the United States to purchase for up to \$325 million the unsold natural uranium associated with the 1997 and 1998 deliveries of Russian LEU. |
| March 24, 1999 | The Transfer of Source Material Agreement was signed by the United States and Russian Governments. In addition the Western Consortium and Tenex signed a Commercial Feed Agreement. These agreements were instrumental in introducing the natural uranium component into the market in a nondisruptive manner. |
| November 16, 2001 | The Western Consortium and Tenex signed an amendment to the Commercial Feed Agreement that exercised the Western Consortium's options to purchase the natural uranium for the period 2002 through 2013. |
| June 19, 2002 | The U.S. and Russian Governments approved the latest amendment to the contract between USEC and Tenex that implements the HEU Agreement. Under this new amendment a market-based pricing structure for the SWU is used for the remaining term of the HEU Agreement. |
| June 16, 2004 | The Western Consortium and Russia announced an amendment to the Commercial Feed Agreement that ensures there is sufficient natural uranium in Russia to blend down the HEU to commercially usable LEU through the remaining term of the Agreement. |
| September 2004 | Deliveries of LEU reach the equivalent level of 9,000 nuclear warheads eliminated. |
| August 2005 | LEU down blended from 250 MT of HEU was delivered to the United States. This represents one half of the 500 MT of HEU and is equivalent to 10,000 nuclear warheads eliminated. |
| September 30, 2005 | The U.S. Departments of State and Energy and the Russian Federation Ministry of Foreign Affairs and the Federal Atomic Energy Agency issued a joint statement marking the successful midpoint of the implementation of the HEU Agreement. |

Under the terms of the USEC Privatization Act and the USEC-Tenex Implementing Agreement, only the SWU component is to be purchased by USEC, the U.S. executive agent for the HEU agreement. To carry out this procedure, USEC takes delivery and title of the LEU downblended from HEU in St. Petersburg, Russia and then delivers the natural uranium component of the LEU, in the form of natural UF₆, from its stockpiles in the United States to Tenex, the authorized Russian agent for the HEU

⁷⁰ *Report on the Effect the Low Enriched Uranium Delivered Under the Russian HEU Agreement Between the Government of the United States and the Government of the Russian Federation Has on the Domestic Uranium Mining, Conversion, and Enrichment Industries, and the Operation of the Gaseous Diffusion Plant, DOE (hereinafter "DOE Report to Congress on the HEU Agreement"), 2005, p. 3.*

agreement.⁷¹ The UF₆ returned to Russia, referred to as HEU feed, is considered Russian material and cannot be sold in the United States unless it meets U.S. quota restrictions under the USEC Privatization Act. Physically, the LEU is delivered to a U.S. fabricator which is then delivered to utilities after fabrication.⁷² Figure I-2 graphically depicts the transaction process under the HEU Agreement and USEC Privatization Act.

In March 1999, to better enable the HEU feed to enter the U.S. market in a nondisruptive manner, an agreement was signed, referred to as the Commercial Feed Agreement, that allowed Western companies, Cameco, Cogema/Areva, and Nukem to purchase some of the feed material from Tenex and to resell this material including to the United States provided that quota restrictions were not exceeded. However, the Western companies are not required to sell the UF₆ purchased from Tenex to U.S. customers even if quota requirements are not filled.⁷³ Additional amendments were added modifying this agreement in 2001, 2002, and 2004.

Currently, Tenex is entitled to receive 30 percent of the feed; the rest going to the three Western companies; of this amount, Tenex is authorized to fill about 40 percent of the HEU quota; the rest going to the three Western companies.⁷⁴ A fourth Russian-owned company, Global Nuclear Services and Supply, Ltd. (“GNSS”), was to acquire the balance of the quota not taken by the Western companies, but Tenex terminated its relationship with GNSS in 2003 and is continuing to supply the former customers of GNSS.⁷⁵ The feed component not purchased by the Western companies is authorized to be returned to Russia. Other than a limited quantity used for maintaining the HEU blend stock, the remainder of the returned uranium is placed in a stockpile monitored by both the U.S. and Russian governments. If this stockpile exceeds 22,000 metric tons U, Russia can sell the excess into supply contracts that were in place in 1999.⁷⁶

In 2002, to address concerns that USEC’s purchases of SWU from Russia were unprofitable for Tenex, the contract between USEC and Tenex that implements the HEU Agreement was amended to provide for a market-based pricing structure for the SWU for the remaining term of the HEU Agreement.⁷⁷ According to a report issued by the DOE, this contract is characterized by “...a fixed discount from a weighted average of international and U.S. indices, including long-term and spot market prices for uranium enrichment services over the previous three years.”⁷⁸

According to an announcement recently made by a Tenex official, Russia will not enter into a second HEU deal after the current HEU deal expires after 2013.⁷⁹

⁷¹ USEC website, found at http://www.usec.com/v2001_02/HTML/megatons_stepbystep.asp, retrieved June 5, 2006.

⁷² AHUG’s posthearing brief, p. 8.

⁷³ PRI/Crow Butte’s posthearing brief, p. 43.

⁷⁴ AHUG’s posthearing brief, p. 12.

⁷⁵ USEC’s posthearing brief, exh. 28, p. 91.

⁷⁶ *The Global Nuclear Fuel Market*, WNA, 2005, p. 135.

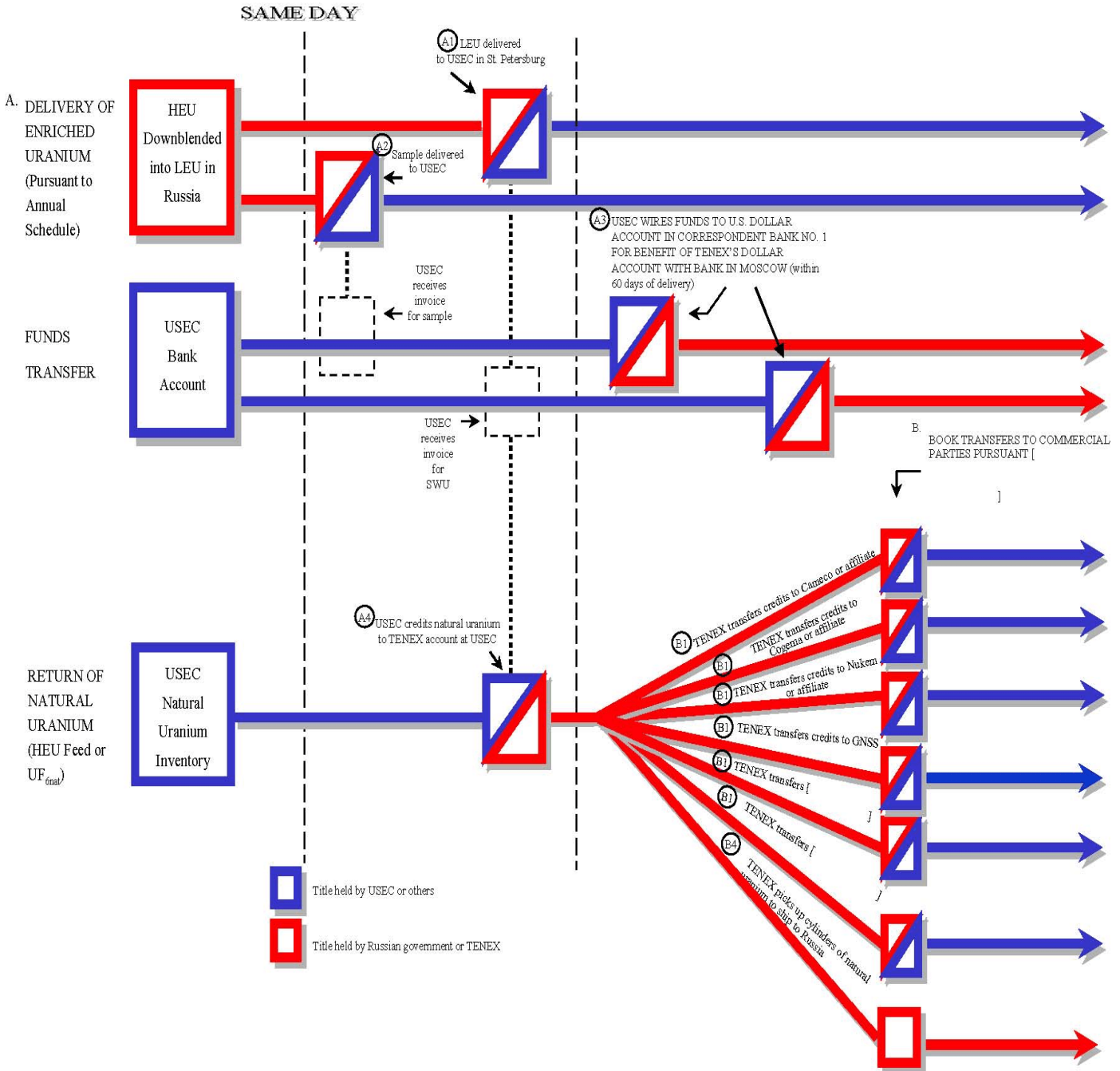
⁷⁷ USEC. *Megatons to Megawatts, FAQ’s*, located at http://www.usec.com/v2001_02/HTML/Megatons_FAQ.asp.

⁷⁸ *DOE Report to Congress on the HEU Agreement*, 2003, p 5.

⁷⁹ Ux Consulting Weekly, June 5, 2006.

Figure I-2

Basic Transactions Under HEU Agreement



Source: Nukem's posthearing brief, exh. 13.

Current Status of the Agreements

Reportedly, the most significant source of trade under the Suspension Agreement today is the importation of Russian LEU derived from HEU and delivered to the U.S. Executive Agent (USEC) pursuant to the HEU Agreement. Except as provided for under the Agreement's re-exportation provision, no other form of Russian LEU may be imported at this time for consumption in the United States under the Suspension Agreement.⁸⁰

Under the frequently used re-exportation provision of the Suspension Agreement, parties may ship material, subject to quota availability, into the United States for re-processing and re-export within either 12 or 36 months. Currently, approximately 4 million pounds of U₃O₈ equivalent product has entered the United States under this provision, out of a total quota available of 6 million pounds.⁸¹ Other provisions of the Agreement which, at various times during its life, allowed for a price-tied quota, matched sales of SWUs and natural uranium, and sales under Appendix C "grandfathered" contracts and the "Bridge" contract are now inoperative.⁸²

Table I-8 presents data regarding deliveries of LEU to date and projected totals for the remainder of the HEU Agreement. Table I-9 presents information relating to activity under the Suspension Agreement and HEU Agreement, by provisions.

⁸⁰ *Fact Sheet on Russian Uranium Suspension Agreement*, presented by Joseph A Spetrini, WNA Annual Symposium, September 8-10, 2004.

⁸¹ Speech by Joseph A. Spetrini, Nuclear Energy Institute ("NEI") Nuclear Fuel Supply Forum, January 24, 2006.

⁸² *Fact Sheet on Russian Uranium Suspension Agreement*, presented by Joseph A Spetrini, WNA Annual Symposium, September 8-10, 2004.

**Table I-8
Uranium: Status of LEU deliveries under the HEU Agreement**

| Contracted year | Estimated dismantled warheads ¹ | HEU (MT) ² | LEU (MT) | Natural UF ₆ uranium concentrates component (million pounds U ₃ O ₈ (E)) | Natural UF ₆ conversion services component (million kgU) | Uranium enrichment services component (million SWU) |
|---------------------------------------|--|-----------------------|----------|---|---|---|
| 1995 | 244 | 6.1 | 186.0 | 4.8 | 1.9 | 1.1 |
| 1996 | 479 | 12.0 | 370.9 | 9.5 | 3.7 | 2.2 |
| 1997 | 534 | 13.4 | 358.5 | 10.2 | 3.9 | 2.4 |
| 1998 | 764 | 19.1 | 571.5 | 15.0 | 5.8 | 3.5 |
| 1999 | 970 | 24.3 | 718.7 | 19.0 | 7.3 | 4.5 |
| 2000 | 1,462 | 36.6 | 1,037.8 | 28.3 | 10.9 | 6.7 |
| 2001 | 1,201 | 30.0 | 904.3 | 23.7 | 9.1 | 5.5 |
| 2002 | 1,201 | 30.0 | 879.0 | 23.5 | 9.0 | 5.5 |
| 2003 | 1,203 | 30.1 | 906.0 | 23.7 | 9.1 | 5.5 |
| 2004 | 1,202 | 30.1 | 891.0 | 23.6 | 9.1 | 5.5 |
| 2005 | 1,203 | 30.1 | 846.0 | 23.3 | 9.0 | 5.5 |
| Total delivered through 2005 | 10,466 | 261.8 | 7,669.7 | 204.6 | 78.8 | 47.9 |
| Total expected over life of Agreement | 20,000 | 500.0 | 15,258.6 | 395.8 | 152.2 | 92.1 |

¹ Based on IAEA's definition of significant quantities.

² The HEU Agreement allowed for up to 30 MTU of HEU to be blended down to LEU for delivery in 1999. However, only 21.3 MTU (14.7 MTU in CY 1999 and 6.6 NTU in CY 2000) of the 1999 order was actually delivered. The remaining 8.7 MTU of HEU will be scheduled for delivery in future years.

Source: DOE Report to Congress on the HEU Agreement, 2005.

**Table I-9
Uranium: Provisions and activities under Agreements, 1995-2013**

| Year | HEU (MT) ² | Natural UF ₆ uranium feed component (million pounds U ₃ O ₈ (E)) | Direct quota to U.S. end users (million pounds U ₃ O ₈) | | Russian matching schedule (million pounds U ₃ O ₈) | | Russian matching schedule (million SWU) | | Re-export provisions (million pounds U ₃ O ₈) ¹ | |
|---------------------------------------|-----------------------|---|--|-------------------|---|------|---|------|---|------------------|
| | | | Schedule | Used | Schedule | Used | Schedule | Used | Schedule | Used |
| 1993 | | | | | | | | | 3.0 | (⁹) |
| 1994 | | | | | 6.6 ⁴ | *** | 2.0 ⁴ | *** | 3.0 | *** |
| 1995 | 6.1 | 4.8 | | | 6.6 ⁵ | *** | 2.0 ⁵ | *** | 3.0 | *** |
| 1996 | 12.0 | 9.5 | | | 1.9 ⁶ | *** | 1.6 ⁸ | *** | 3.0 ¹⁰ | *** |
| 1997 | 13.4 | 10.2 | | | 2.7 | *** | | | 6.0 | *** |
| 1998 | 19.1 | 15.0 | 2.0 | 2.0 | 3.6 | *** | | | 6.0 | *** |
| 1999 | 24.3 | 19.0 | 4.0 | 3.6 | 4.0 | *** | | | 6.0 | *** |
| 2000 | 36.6 | 28.3 | 6.0 | 5.0 | 4.2 | *** | | | 6.0 | *** |
| 2001 | 30.0 | 23.7 | 8.0 | 5.4 | 4.0 | *** | | | 6.0 | *** |
| 2002 | 30.0 | 23.5 | 10.0 | 7.7 | 4.9 | *** | | | 6.0 | *** |
| 2003 | 30.1 | 23.7 | 12.0 | 8.2 | 4.3 ⁷ | *** | | | 6.0 | *** |
| 2004 | 30.1 | 23.6 | 14.0 | 12.4 | | | | | 6.0 | *** |
| 2005 | 30.1 | 23.3 | 16.0 | 10.7 ³ | | | | | 6.0 | *** |
| 2006 | 30.0 | 24.0 | 17.0 | | | | | | | |
| 2007 | 30.0 | 24.0 | 18.0 | | | | | | | |
| 2008 | 30.0 | 24.0 | 19.0 | | | | | | | |
| 2009 | 30.0 | 24.0 | 20.0 ² | | | | | | | |
| 2010 | 30.0 | 24.0 | 20.0 | | | | | | | |
| 2011 | 30.0 | 24.0 | 20.0 | | | | | | | |
| 2012 | 30.0 | 24.0 | 20.0 | | | | | | | |
| 2013 | 30.0 | 24.0 | 20.0 | | | | | | | |
| Total through 2005 | 261.8 | 204.6 | | 44.3 | 23.4 | *** | 5.6 | *** | 63.0 | *** |
| Total expected over life of Agreement | 501.8 | 396.6 | 206.0 | | | | | | | |

Footnotes on next page.

Footnotes to table.

¹ The re-export quota is a rolling quota (i.e., material moves into and out of the United States within a certain time period) and had an initial ceiling of 3 million pounds U₃O₈ equivalent.

² The USEC Privatization Act and HEU procedures specify a quota of 20 million pounds U₃O₈ equivalent in “2009 and each year thereafter” (without specifying an end date).

³ This total is for nine months (through September 30, 2005) only; the full year 2005 total is not yet available.

⁴ This quota period was effective from April 1, 1994 to March 30, 1995.

⁵ This quota period was effective from April 1, 1995 to March 30, 1996.

⁶ This quota period was effective from April 1, 1996 to December 31, 1996.

⁷ This quota period was effective from January 1, 2003 to March 31, 2004.

⁸ This quota period was effective from October 3, 1996 to October 2, 1998 and restored SWU quota unused from the first two periods.

⁸ A [small amount] of [sample material] was imported under this provision in 2003 ([410] pounds U₃O₈ equivalent).

¹⁰ On July 15, 1997, Commerce published an amendment which increased the re-export quota from three million to six million pounds U₃O₈ equivalent (see 62 FR 37879).

Source: *DOE Report to Congress on the HEU Agreement*, information dated December 31, 2005; and letter from Joseph Spetrini, Deputy Assistant Secretary for Policy and Negotiations, U.S. Department of Commerce, July 7, 2006.

U.S. MARKET PARTICIPANTS

U.S. Producers

As previously discussed, there are four basic forms of subject uranium manufactured (concentrate, natural UF₆, enriched UF₆, and enriched dioxides, nitrates, and metals) and each form is accounted for by a discrete set of producers. The producers of each form of subject uranium are discussed separately below.

Concentrate Producers

The first step in transforming uranium ore into a usable form is to mine it from the earth and extract the uranium in a concentrated form of U₃O₈. Most uranium concentrates, otherwise known as “yellowcake,” contain a minimum of 75 percent, and usually 80-85 percent, U₃O₈. During the original investigation there were at least 15 separate firms producing concentrate.⁸³ Consolidations and closings substantially reduced the number of operating concentrate producers in the United States to seven firms during the first review, and two of the seven ceased production during the current period of review.⁸⁴ Further restructuring of the concentrate production segment of the U.S. uranium industry post-1999 left five firms producing uranium concentrate during the current period of review, all of which reported data used in the compilation of this report. The U.S. uranium producers, their plant locations, their positions

⁸³ The firms producing concentrate in the United States during the 1989-91 period of investigation were Chevron Resources Co., Energy Fuels, Ltd., Everest Exploration, Inc., Ferret Exploration Co., Inc., First Holding Co., Freeport Uranium Recovery Co., Geomex Minerals, Inc., Homestake Mining Co., IMC Fertilizer, Inc., Malapai Resources Co., Pathfinder Mines Corp., Power Resources, Inc., Rio Algom Mining Corp., Rio Grande Resources Corp., Total Minerals Corp., Umetco Minerals Corp., Uranium Resources, Inc., and Uranerz U.S.A., Inc. *Inv. Nos. 731-TA-539 A through F (Final), Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan—Prehearing Report*, October 5, 1992, p. I-19.

⁸⁴ The firms producing concentrate in the United States during the 1997-99 period of review were COGEMA, Inc., a subsidiary of COGEMA; Power Resources, a subsidiary of Cameco; Rio Algom, one of the original petitioners; International Uranium; Cotter; Uranium Resources, which ceased producing concentrate in 1999; and IMC Global, which produced concentrate as a by product of its phosphoric acid production and also ceased producing concentrate in 1999. *Uranium from Russia, Ukraine, and Uzbekistan, Inv. Nos. 731-TA-539-C, E, and F (Review)*, USITC Publication 3334, August 2000, p. 1-7.

on continuation of the suspension agreement, and their shares of 2005 U.S. uranium production are set forth in table I-10.

Table I-10
Uranium: U.S. producers, plant locations, positions on continuation of the Suspension Agreement, and shares of U.S. production in 2005

| Firm | Plant location(s) | Position on continuation | Share of 2005 U.S. production (percent) |
|---|--|--------------------------|---|
| Concentrators | | | |
| Areva NC Inc. ¹ | Shirley Basin, WY | *** | *** |
| Cotter Corp. | Canon City, CO | *** | *** |
| Power Resources, Inc./Crow Butte Resources, Inc. ² | Douglas, WY Crawford, NE | support | *** |
| Uranium Resources Inc. | Louisville, TX | *** | *** |
| Converter | | | |
| ConverDyn | Metropolis, IL | *** | 100.0 |
| Enricher | | | |
| USEC Inc. ³ | Paducah, KY Portsmouth, OH ² | support | 100.0 |
| Fabricators | | | |
| Areva NP Inc. | Lynchburg, VA Richland, WA | *** | *** |
| Global Nuclear Fuel | Wilmington, NC | *** | *** |
| Westinghouse Electric Co. LLC | Columbia, SC | *** | (⁴) |
| ¹ ***. ² PRI and Crow Butte are separate sister companies, both wholly owned subsidiaries of Cameco Corp., Saskatoon, Saskatchewan, CA; however, their data were reported together in one concentrators' questionnaire response. ³ USEC ceased production of enriched UF ₆ at the Portsmouth, OH gaseous diffusion plant in June 2001. ⁴ ***. | | | |
| Source: Compiled from data submitted in response to Commission questionnaires. | | | |

Areva NC Inc.

Areva ***.⁸⁵ As of March 1, 2006, Cogema became Areva NC and Framatome ANP became Areva NP. Areva NC also markets enrichment services from enricher Eurodif in France.⁸⁶

⁸⁵ Areva's concentrate producers' questionnaire, section I-4.

⁸⁶ Areva NC website, www.aveva-nc.com, retrieved May 2, 2006.

Cotter Corp.

Cotter was acquired by and became a wholly owned subsidiary of General Atomics Corp. (“GA”) of San Diego, CA, in early 2000. Cotter is also a sister company to Nuclear Fuels Corp. (“NFC”), a long-term contract supplier to both U.S. and foreign utilities and actively participates in uranium trading. NFC is the marketing representative for other GA affiliates, such as Heathgate Resources (the owner and operator of the Beverley Uranium Mine in northern South Australia) and Cotter Corporation.⁸⁷

Crow Butte Resources, Inc.

Crow Butte is a wholly owned subsidiary of Cameco Corp. of Saskatoon, Saskatchewan, Canada, the world’s largest uranium producer⁸⁸ which is also a U.S. importer of uranium. Cameco Corp. submitted an importers’ questionnaire response.

Power Resources, Inc.

PRI is also a wholly owned subsidiary of Cameco Corp. of Saskatoon, Saskatchewan, Canada.

Uranium Resources, Inc.

URI is 33-percent owned by the investment firm Zesiger Capital Group.⁸⁹

U.S. Converter

The next step in the process is converting the concentrate into a compound that can be readily turned into a gas, in this case natural UF₆, to facilitate the enrichment process that follows. ConverDyn is now, and was during the original investigation and the first review, the sole converter in the United States.⁹⁰ ConverDyn owns and operates a single conversion facility in Metropolis, IL. The company functions basically as a toll producer, converting the utilities’ concentrate into natural UF₆. ConverDyn’s ownership is as follows: Allied Signal Energy Services, Inc.;⁹¹ ***.⁹²

U.S. Enricher

The U.S. Government created USEC in 1992 as a step toward the privatization of its enrichment activities then under the control of DOE. Its enabling legislation intended USEC to operate independently as a market-oriented business, but it was not allowed to be fully divested of Government

⁸⁷ General Atomics: Affiliated Companies, www.ga.com/affiliates.php, retrieved April 21, 2006.

⁸⁸ “Crow Butte Uranium Mine Receives ISO 14001: 2004 Certification,” www.cameco.com/media_gateway/news_releases/2006/news_release.php?id=136, retrieved April 21, 2006.

⁸⁹ “Uranium Resources, Inc.: Company Profile,” <http://bizyahoo.com/ic/17/17101.html>, retrieved April 21, 2006.

⁹⁰ There are only a handful of converters worldwide, including Cameco in Canada and Minatom in Russia.

⁹¹ Allied Signal merged with Honeywell Inc. in 1999 to form Honeywell. “Honeywell Specialty Materials: Our History,” www.honeywell.com, retrieved April 21, 2006.

⁹² ConverDyn’s converters’ questionnaire response, sections I-4, I-6, and I-7.

ownership and become a publicly held corporation until July 1998. During the period of the first review, USEC ***.⁹³

In addition to enriching uranium in the United States, USEC is required to import large quantities of Russian enriched UF₆ (LEU blended down from Russian HEU) and purchase the SWU component thereof pursuant to a special agreement between the governments of Russia and the United States known as the Russian HEU Agreement. The details of this agreement and its relationship to the Russian Suspension Agreement were discussed in earlier sections. ***.⁹⁴

USEC supports the continuation of the suspension agreement currently in place for uranium from Russia. ***, produces uranium and imports uranium into the United States from Russia. ***.⁹⁵

U.S. Fabricators

The final process in producing nuclear fuel for electricity generation, i.e., fabrication, involves converting the enriched UF₆ to enriched uranium oxides (primarily UO₂), nitrates, and metals, pelletizing this material, encapsulating the pellets into protective metal sheaths, called “fuel rods,” and then assembling the rods into the specific configuration the nuclear power facility requires. Several fabricators are located throughout the world, with four in the United States.⁹⁶

Areva NP Inc.

Areva NP is a ***.⁹⁷

Global Nuclear Fuel

GNF was jointly established by General Electric Co. (“GE”) of America and Hitachi, Ltd. and Toshiba Corp. of Japan in January 2000 as an incorporated entity of GE’s fuel plant. GNF took over GE’s light-water reactor fuel business (including marketing, design, development and sales, and the Wilmington, NC manufacturing plant). GNF does ***.⁹⁸

U.S. Importers

The Commission sent questionnaires to nine firms that were believed to be importers of uranium from Russia since 2000. Two firms, the U.S. enricher USEC and the importer Nukem, together accounted for the major portion of subject imports from Russia. Importers of subject uranium from Russia, their geographic locations, U.S. and foreign producer affiliations, and shares of subject imports in 2005 are presented in table I-11.

⁹³ USEC’s enrichers’ questionnaire response, section II-3.

⁹⁴ USEC’s enrichers’ questionnaire response, section I-4.

⁹⁵ USEC’s enrichers’ questionnaire response, sections I-3, I-5, I-6, and I-7.

⁹⁶ ***.

⁹⁷ Areva NP’s fabricators’ questionnaire response, sections I-3, I-5, I-6, and I-7.

⁹⁸ GNF’s fabricators’ questionnaire response, sections I-3, I-5, I-6, and I-7 and “GE, Hitachi and Toshiba to Form Global Nuclear Fuel,” www.hitachi.com/New/cnews/E/2000/000106B.html, retrieved April 14, 2006.

Table I-11**Uranium: U.S. importers from Russia, geographic locations, U.S. and foreign producer affiliations, and shares of value of U.S. imports in 2005**

| Importer | Location | U.S. and foreign producer affiliations | Share of 2005 subject import value (percent) |
|--|-----------------------------|--|--|
| Cameco Corp. | Saskatoon, Saskatchewan, CA | Power Resources, Inc. (subsidiary) Crow Butte Resources, Inc. (subsidiary) Inkai, Almaty, Kazakhstan (joint venture) | *** |
| Global Nuclear Services and Supply (GNSS), Ltd. | Bethesda, MD | *** | *** |
| RWE Nukem Inc. | Danbury, CT | RWE Nukem GmbH Alzenau, Germany (parent) | *** |
| USEC Inc. | Bethesda, MD | United States Enrichment Corp. (subsidiary) | *** |
| Westinghouse Electric Co. LLC | Columbia, SC | *** | *** |
| ¹ Not applicable. | | | |
| Source: Compiled from data submitted in response to Commission questionnaires. | | | |

U.S. Purchasers

The geographical distribution of responding purchasers was as follows: Alabama, Arizona, California (2), Florida, Illinois, Indiana, Kansas, Maryland, Michigan (3), Missouri, Montana, Nebraska (2), New Jersey, North Carolina (2), Ohio, Pennsylvania, South Carolina, Tennessee, Texas (2), Virginia, Washington, and Wisconsin (2). As discussed in greater detail in Part II of this report, the purchasers responsible for the largest volumes of U.S.-produced and imported uranium during 2000-05 were identified as the end users of uranium in the nuclear fuel cycle.

APPARENT U.S. CONSUMPTION AND MARKET SHARES

Because of the complexity of marketing natural and enriched uranium, the Commission's usual approach for computing apparent consumption from shipment data is difficult to apply in this five-year review. Further, trade in natural uranium cannot be simply added to trade in enriched uranium to obtain a meaningful statistic, except possibly by value. U.S. consumption data on a value basis compiled from responses to the Commission's questionnaires are presented in table I-12. In addition, as an indicator of apparent consumption, figure I-3 graphically depicts U.S. nuclear power reactor purchases of uranium during 1990-2005. The data indicate increasing U.S. apparent consumption during 2000-05, with U.S. producers losing market share principally to nonsubject import sources.

Table I-12
Uranium: U.S. market data on a valuation basis, and market shares, 2000-05

| Item | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--|-----------|---------|-----------|-----------|-----------|-----------|
| Value of imports and sales from U.S. production: Amount | *** | *** | *** | *** | *** | *** |
| Producers' share ¹ | *** | *** | *** | *** | *** | *** |
| Importer's share: ¹ | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** |
| Covered LEU ² | *** | *** | *** | *** | *** | *** |
| FSU ³ | *** | *** | *** | *** | *** | *** |
| Other | *** | *** | *** | *** | *** | *** |
| All other sources ¹ | *** | *** | *** | *** | *** | *** |
| Total imports ¹ | *** | *** | *** | *** | *** | *** |
| Value of U.S. imports from-- | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** |
| Covered LEU ² | 507,338 | 472,401 | 668,193 | 1,179,965 | 1,062,694 | 1,226,718 |
| FSU ³ | 32,085 | 60,035 | 104,254 | 97,189 | 46,263 | 81,142 |
| Other | 333,600 | 432,316 | 430,077 | 484,034 | 350,778 | 637,203 |
| All other sources | 873,023 | 964,753 | 1,202,524 | 1,761,188 | 1,459,736 | 1,945,063 |
| Total imports | *** | *** | *** | *** | *** | *** |
| Sales from U.S. production: | | | | | | |
| U.S. sales | *** | *** | *** | *** | *** | *** |
| Exports | *** | *** | *** | *** | *** | *** |
| Total sales | 1,110,163 | 735,070 | 816,100 | 693,912 | 663,076 | 682,654 |

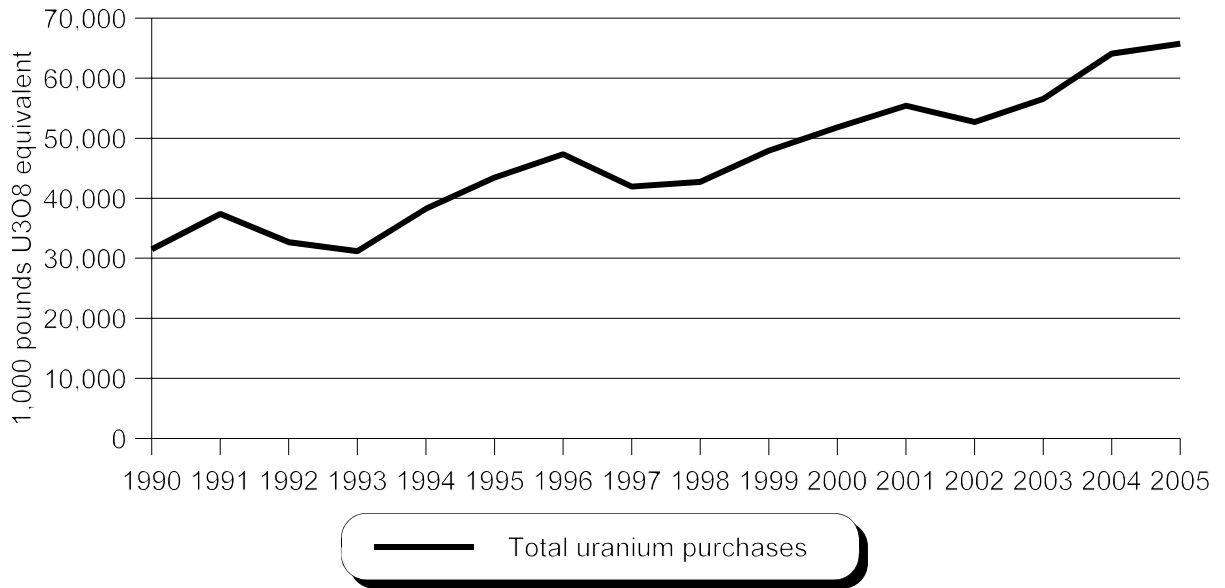
¹ In percent.

² Countries covered by the antidumping duty orders on LEU during the period of review include: France, Germany, the Netherlands, and the United Kingdom.

³ Countries of the former Soviet Union ("FSU") include: Kazakhstan and Uzbekistan. There were no subject imports from other FSU countries Kyrgyzstan, Tajikistan, and Ukraine during the period of review.

Source: Import data for Russia compiled from responses to Commission questionnaires, and data for total for all sources compiled from official Commerce statistics (HTS statistical reporting numbers 2612.10.0000, 2844.10.2010, 2844.10.2025, 2844.20.0010, 2844.20.0020, 2844.20.0030, and 2844.20.0050). Data for all other import sources do not include HTS statistical reporting numbers 2844.10.1000 (uranium metal), 2844.10.2055 (other), and 2844.10.5000 (other) as the contents of these reporting numbers are unclear.

Figure I-3
Uranium: U.S. nuclear power reactor purchases, 1990-2005



Source: *Uranium Marketing Annual Report*, Energy Information Administration ("EIA"), DOE (Table 3, 2002-05), *Uranium Industry Annual Report*, EIA, DOE (table 12, 1994-99; table 35, 1990-93).

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

CHARACTERISTICS OF THE U.S. AND GLOBAL INDUSTRY

Types of Uranium and the Uranium Fuel Cycle

Uranium is consumed commercially throughout the world primarily in its low-enriched state as fuel for nuclear reactors producing electricity;¹ enrichment for this use ranges from 3 to 5 percent in the U²³⁵ isotope.² The traditional production stages required to produce LEU are called the uranium fuel cycle, where electric utilities have typically purchased the uranium concentrates, contracted with converters and enrichers to toll produce the natural uranium hexafluoride (natural UF₆) and low-enriched uranium hexafluoride (LEU-HF), and then contracted with fabricators both to toll-produce the LEU-HF into low-enriched uranium dioxide (LEU-DO), pelletize this latter product, and construct the fuel assemblies. Based on 2004 data, the total value of the front end of the final uranium product, uranium concentrates account for about *** percent, natural conversion accounts for about *** percent, enrichment accounts for about *** percent, and conversion and fabrication of the enriched uranium account for about *** percent.³

Although the LEU fuel cycle remains the dominant process by which electric utilities obtain LEU, a significant alternative source of supply is LEU-HF produced directly by blending down HEU. Blended-down LEU-HF in the U.S. market derives largely from the Russian HEU Agreement with the United States;⁴ ***.^{5 6} In the future, USEC is committed to purchasing 5.5 million SWUs annually during 2006-13 pursuant to the Russian HEU Agreement. Electric utilities will purchase the entire LEU-HF product (enrichment and feedstock, which is referred to as enriched uranium product), or any of the other processed uranium products, when the total price is less than the costs of obtaining uranium via the fuel cycle. In general, purchases of EUP have reportedly declined during the period under review.⁷

¹ In Canada, natural uranium is used as fuel in heavy water reactors to produce electricity (U.S. utilities use LEU as their reactor fuel). In addition, some electric utilities in Japan and several European countries use a hybrid nuclear reactor fuel called MOX or mixed oxide fuel. According to purchaser questionnaire responses of U.S. electric utilities, a number of U.S. reactors are capable of using MOX, however, ***.

² In the United States, the enrichment level is typically between *** percent.

³ These figures are based on a 4.0 percent product assay, a 0.3 percent tails assay, and data from the publication *Trade Tech*. USEC's enricher questionnaire, attachment 1. These numbers do include additional fabrication costs associated with fuel rods and assemblies, however.

⁴ In 1994, the U.S. Government (with USEC as its executive agent) and the Russian Government (with TENEX as its executive agent) agreed that by 2014 the United States would buy 500 metric tons of bomb-grade Russian HEU (from dismantled nuclear weapons) that were blended-down to LEU-HF in Russia. Under the agreement, acceptable LEU-HF enrichment assays are 3.6, 4.0, 4.4, or 4.95 percent, which most closely match requirements of USEC's customers. As a rule of thumb, 1 unit of 90 percent HEU equals about 30 units of 4.4 to 4.9 percent LEU-HF (assumes a blend-stock assay of 1.5 percent and tails assay of 0.3 percent); ***.

⁵ ***.

⁶ Based on annual U.S. reactor requirements for LEU-HF that average about 12 million SWUs, the Russian LEU-HF sold to U.S. electric utilities during 2003-05 averaged *** percent of total U.S. reactor requirements during this period. U.S. reactor requirements for 2006 and beyond are predicted to be over 13 million SWU. *The Global Nuclear Fuel Market*, WNA, 2005, table IV-1. This is a recent study by the World Nuclear Association (formerly the Uranium Institute), a uranium trade association located in the United Kingdom.

⁷ ***.

Inventories

Large worldwide inventories of uranium are principally held as uranium concentrates and natural UF₆; the latter product is also a potential source of processed uranium that could be sold and, thereby, act to bypass a portion of the uranium fuel cycle. These inventories, sometimes referred to as pipeline material, are stored at producers/processors' locations worldwide and are owned by electric utilities, uranium producers/processors, and traders.⁸ Many electric utilities, particularly in Western Europe and Asia, have typically maintained strategic inventories of uranium to cover their reactor requirements, sometimes up to 3 years or more, and excess (smaller) inventories for an additional margin of safety, sometimes referred to as "non-strategic inventory."⁹ This non-strategic inventory can have an impact on the market, as it could be sold, lent, swapped, or consumed.¹⁰ The WNA reported that 2004 year-end natural uranium inventories held by electric utilities in Europe and East Asia amounted to 65,000 metric tons U of strategic inventories and 27,000 metric tons U of excess inventories.¹¹ In addition, domestic utilities held 21,680 metric tons U, though most of it is likely strategic or pipeline inventory.¹²

Additionally, governments can maintain uranium inventories. However, the Russian and U.S. governments are the only two countries whose uranium stockpiles may have a market impact over the next 20 years.¹³ The US DOE has reported its inventories *** from *** pounds U₃O₈ equivalent at the end of 2002 to the equivalent of *** pounds U₃O₈ at the end of 2005, some of which is scheduled to be sold to the extent that it does not disrupt the market.¹⁴ The majority of this uranium is to be held out of the market until at least 2009.¹⁵ Surplus downblended U.S. HEU is unlikely to reach the market before 2010.¹⁶ The size of the Russian government's inventory is unknown, though it is now believed a limited amount is unused natural uranium.¹⁷ About 2,000 metric tons of uranium was sold via a "matched sales" provision of the HEU Agreement, whereby U.S. uranium production was matched with Russian imports of similar magnitude. Downblended HEU has been delivered in increasing amounts to the United States since 1995 via the HEU Agreement, with the equivalent of 152,000 metric tons U with an enrichment component of 92 million SWU scheduled to be delivered. The maximum deliveries to the United States

⁸ Safety and nuclear proliferation concerns have led most governments, including the U.S. Government, to license commercial firms in their countries to produce, store, or use uranium. In the United States, the miners/concentrators, converter, enricher, and fabricators are essentially the only firms licensed to store the uranium products; the electric utilities are licensed to use the uranium. Regardless of ownership title, inventories of uranium concentrates are usually held by converters (some are also held by the concentrators), inventories of natural UF₆ are usually held by the enrichers, and inventories of LEU-HF and LEU-DO are usually held by the enrichers and fabricators. Concentrators may also hold inventories of mined uranium ore. This inventory pattern is worldwide and facilitates the use of swaps and loans that minimize the physical movement of uranium once it is at the various inventory locations. In addition, because uranium inventories are located primarily at downstream processing locations, shipments (deliveries) often involve a book transfer of ownership title rather than the physical movement of uranium.

⁹ *The Global Nuclear Fuel Market*, WNA, 2005, p. 130.

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² *Ibid.*

¹³ *Ibid.*, p. 133.

¹⁴ Staff telephone interview with ***.

¹⁵ Presentation by Linda Gunter, DOE, at WNA Nuclear Symposium, September 7, 2005.

¹⁶ *The Global Nuclear Fuel Market*, WNA, 2005, p. 134.

¹⁷ *Ibid.*

of this uranium in 2006 are scheduled to be 6,540 metric tons U equivalent, increasing steadily to 7,690 metric tons U equivalent in 2009, and continuing at that level until 2012.

Supply

Primary world uranium production increased between 2002 and 2004 by approximately 11.7 percent.¹⁸ Australia, Canada, Kazakhstan, and Namibia accounted for the majority of this increase. Primary uranium supply filled only about 60 percent of world reactor requirements in 2004, which is an increase from 55 percent during 2000-03, but still demonstrates the large amount of uranium supplied by secondary sources such as inventories and recycling and reprocessing of uranium and other fissile materials.¹⁹ Though reprocessed spent fuel and re-enriched tails are not used as sources of nuclear fuel in the United States as they are in some countries, the volume and impact on the market is not likely to be very large.²⁰

Based on questionnaire responses, domestic production of concentrates decreased by *** percent in 2001, but has since increased *** in 2005. Conversion of uranium increased irregularly by *** percent from 2000 to 2005. Enrichment services declined by *** percent, driven by the closing of an enrichment facility. Market supply uncertainties continue, however, as cutbacks in uranium mining/recovery production and postponements in bringing on new production facilities have recently occurred in Australia, Canada, and the United States.²¹

During the period of review, the United States had a program in place that restricted imports of uranium from at least some countries of the former USSR. Consequently, the uranium that is considered “restricted,” i.e., able to enter the restricted markets, sells for a higher price than “unrestricted” uranium, i.e., that which can only be sold in markets without restrictions.²²

A majority of electric utilities’ purchases of uranium and uranium processing are based on long-term contracts; in the United States, these contracts run 3 to 7 years or longer with primary producers and processors.²³ Long-term contracts provide for a secure future supply of uranium and reflect the need to accommodate long lead times in the fuel cycle and a concern to maintain reactor operations. Spot purchases make up the balance of a utility’s total uranium purchases.²⁴ Utilities try to decrease the share

¹⁸ Ibid., p. 102.

¹⁹ Ibid., p. 103.

²⁰ Ibid., p. 137.

²¹ The WNA reported that world production of uranium concentrates fluctuated during 2002-04, first decreasing by 1 percent but increasing by 13 percent overall, from 36,025 metric tons of natural elemental uranium (U) (94.1 million pounds of U₃O₈) in 2002 to 40,251 metric tons of natural U (105.2 million pounds of U₃O₈) in 1999 (Ibid., p. 102).

²² This two-tiered price structure began shortly after the start of the Suspension Agreement. However expressed, the price data indicate that prices of uranium from Russia are generally lower than prices of uranium not subject to the Suspension Agreement.

²³ Based on questionnaire responses of U.S. uranium concentrators, the converter, the enricher, and the fabricator.

²⁴ Although electric utilities generally contract for conversion and enrichment on a long-term basis, their spot purchases of a completed uranium product, such as natural UF₆ or LEU-HF, sometimes involve both a transfer of the physical equivalent of the natural uranium component of the purchased product from the utility to the seller and a separate payment for the conversion or enrichment service component of the purchased product. This payment for conversion or enrichment constitutes a spot purchase of the service. In the case of LEU-HF, utilities can also purchase the feed requirement portion of the LEU-HF. This can also be called EUP. USEC noted in its enricher questionnaire response that ***. Sales of EUP are small, but have increased by approximately *** percent over the

(continued...)

of spot purchases when uranium prices are high and increase spot purchases when uranium prices are low relative to the contractual obligations.²⁵ Most contracts typically include some quantity flexibility, thus allowing utilities somewhat greater purchasing flexibility.

Reliance on long-term contracts to meet the majority of reactor requirements suggests that purchases in the current period are largely for the long-term future and to a lesser degree for consumption in the current period or near-term future.²⁶ Most uranium products were purchased using long-term contracts. Further information is contained in table II-1.

Table II-1

Uranium: Share of purchases of uranium products/services by spot purchases and long-term contract purchases by weight and SWU, as reported by purchasers, 2000-05

| Item | Spot purchases | | Long-term contract purchases | |
|---|----------------|-----|------------------------------|-------|
| | Weight | SWU | Weight | SWU |
| <i>(Percent)</i> | | | | |
| Direct product purchases | | | | |
| Uranium concentrates | 14.4 | -- | 85.6 | -- |
| Natural UF ₆ | 20.1 | -- | 79.9 | -- |
| Low-enriched UF ₆ | 27.5 | 6.7 | 72.5 | 93.3 |
| Low-enriched UO ₂ | 0.0 | -- | 100 | -- |
| Processing services | | | | |
| Conversion to natural UF ₆ | 9.3 | -- | 90.7 | -- |
| Enrichment to low-enriched UF ₆ | 1.1 | 6.1 | 98.9 | 93.9 |
| Conversion to UO ₂ | 0.0 | 0.0 | 100.0 | 100.0 |
| Note.— Excludes uranium products obtained through toll conversion or toll enrichment. | | | | |
| Source: Compiled from data submitted in response to Commission questionnaires. | | | | |

In addition, purchasers were asked if their spot purchases of uranium and uranium products had increased, decreased, or remained the same. For all products, most purchasers reported that their spot purchases were unchanged, however for each product, more decreased spot purchases than increased spot purchases. Some purchasers responded only for the products that they purchased. The following tabulation summarizes their responses:

²⁴ (...continued)

period of review, based on data presented in part V.

²⁵ Spot purchases of uranium at low prices enable utilities to obtain at least some of their uranium requirements at the least cost. If uranium prices were high, utilities would likely use more of their inventories to cover current uranium needs that were not met by long-term supply agreements instead of making spot purchases, provided their inventories are large enough.

²⁶ Conversely, prices of the majority of uranium and uranium services consumed in the current period were based on past decisions that involved expectations about current market conditions. As a result, prices currently paid for previously contracted material/services may be substantially different from spot and long-term prices negotiated in the current period.

| Spot purchases | Uranium concentrates | Natural UF ₆ | Low-enriched UF ₆ | Low-enriched UO ₂ | Conversion to natural UF ₆ | Enrichment to LEU-HF | Conversion to LEU-DO |
|----------------|----------------------|-------------------------|------------------------------|------------------------------|---------------------------------------|----------------------|----------------------|
| Unchanged | 15 | 15 | 19 | 16 | 18 | 17 | 16 |
| Decreased | 10 | 8 | 3 | 1 | 4 | 5 | 1 |
| Increased | 0 | 2 | 0 | 0 | 1 | 2 | 0 |

Future reactor demand for uranium is divided between covered demand and uncovered demand.²⁷ Because of the length of the fuel cycle, uncovered future demand up to about 2 years may be considered spot-market demand in the uranium market.²⁸

Purchasers were asked if they had solicited or had been solicited to negotiate contingent contracts for Russian-sourced uranium products or services. Sixteen²⁹ of the 29 responding firms reported that they had. Sixteen purchasers gave information on these negotiations, 12 of these reported discussions with Tenex or about Russian material, three reported on discussions concerning non-Russian material, and one reported that security of supply was a major concern but did not report the source of material discussed. Purchasers were asked for more detail about these contracts, negotiations, and contacts. These data are contained in tables II-2 to II-5.

Table II-2
Uranium: Contingent contracts reported for conversion to UF₆

* * * * *

Table II-3
Uranium: Contingent contracts reported for natural UF₆

* * * * *

Table II-4
Uranium: Contingent contracts reported for enrichment services

* * * * *

Table II-5
Uranium: Contingent contracts reported for enriched EUP

* * * * *

²⁷ Expected future reactor requirements that are to be filled by long-term contracts and planned inventory drawdowns are considered covered demand; the remaining future reactor requirements are uncovered demand.

²⁸ *The Uranium Institute Market Report 1998*, "The Global Nuclear Fuel Market: Supply and Demand 1998-2020," 1998, p. 31.

²⁹ One of the firms reporting contingent contracts reported that the contract was for ***. This firm's responses are not included in the following discussion. Another firm, upon further research, did not have a contingent contract as was specified in its purchaser's questionnaire.

BUSINESS/MARKET CYCLES

Uranium consumption is highly dependent on the number of operating nuclear reactors producing electricity and on the level at which each utility is operating.³⁰ Demand for electricity, in turn, depends on economic growth, particularly in developing countries,³¹ and on population growth. Utility operating levels and, hence, uranium consumption are subject to business cycles to a small degree.³²

MARKET SEGMENTS/CHANNELS OF DISTRIBUTION

As mentioned earlier, the traditional uranium fuel cycle is still the primary way in which U.S.-produced uranium is sold in the U.S. market. Except for the producers of uranium concentrates, the uranium producers at the other stages in the uranium cycle typically provided toll services to further process uranium. The converter prices its toll services based on the number of kilograms of uranium in the converted uranium, while USEC prices its toll service based on the SWUs required to enrich the natural uranium.³³ In the case of EUP, USEC also charges utilities for the feedstock. On the other hand, the fabricators toll process uranium into LEU-DO and pelletize this product as part of the total contract agreement to produce fuel-rod assemblies; U.S.-produced LEU-DO or its toll conversion is generally not sold separately by U.S. uranium producers. USEC now also sells, or has available for sale, natural and low enriched UF₆; however, USEC sells only the SWU component of LEU-HF it imports through the Russian HEU Agreement, while the natural UF₆ feed component of this imported LEU-HF is sold separately under provisions of the USEC Privatization Act and the Russian HEU Agreement.³⁴ Uranium may also be obtained through swaps and loans, which involve both physical uranium products and conversion and enrichment services. Swaps and loans generally permit greater efficiency in the transfer and consumption of uranium, but they could also be used to facilitate the export of restricted uranium by changing the uranium's country-of-origin designation through flag swaps.³⁵

Purchasers were asked if the use of swaps and loans/leases had increased, decreased, or remained the same since January 1, 2000. Most firms reported that they did not use swaps or loans/leases either

³⁰ Uranium consumption in any one period is also affected by the length of the reload cycle (the length of time between refuelings of nuclear reactors, typically 18 or 24 months in the United States). Technical operating considerations and the level of reactor operations reportedly are the key factors that determine the length of the reload cycle.

³¹ Mature market economies are predicted to increase residential energy use by 1.3 percent per year between 2002 and 2005, 3.0 percent for transitional economies, and 4.8 percent for emerging economies. Commercial electricity demand is expected to grow at 1.9 percent in mature economies, 2.0 percent in transitional economies, and 4.3 percent in emerging economies over the same time period. "International Energy Outlook 2005," EIA, DOE, July 2005, found at <http://www.eia.doe.gov/oiaf/ieo/enduse.html>, retrieved April 26, 2006.

³² Annual real GDP in the United States grew continuously during 2000-05 by 13.4 percent. U.S. Bureau of Economic Analysis, found at <http://www.bea.gov/bea/dn/gdp/lev.xls>, retrieved April 26, 2006. World real GDP grew during this period by a cumulative 21.7 percent. "World Economic Outlook 2006," International Monetary Fund, April 2006, Chart 1.2, found at http://www.imf.org/external/pubs/ft/weo/2006/01/chp1data/fig1_2.csv, retrieved April 26, 2006.

³³ ***. The number of SWUs required to enrich uranium varies by the product and tails assays and the amount of LEU-HF required. Higher product assays and/or lower tails assays require more SWUs.

³⁴ USEC buys only the SWU (enrichment) component of the Russian LEU-HF. USEC transfers natural UF₆ from its inventory to Tenex for the natural feed component and pays Tenex for the SWU (enrichment) component of the Russian product. ***.

³⁵ The suspension agreement prohibits swaps and loans of the uranium imported from Russia. Swaps and loans are discussed in more detail in Part V.

before or after January 1, 2000. Four of the 25 responding purchasers reported increased swaps, two reported decreased use of swaps, and the remaining 19 purchasers reported swaps were unchanged. Three of the 24 responding purchasers reported increased use of leases/loans, two reported decreased use of lease/loans, and 19 reported leases/loans use were unchanged. Some firms reported that tightness of supply had caused firms to increase use of swaps and leases/loans.

SUPPLY AND DEMAND CONSIDERATIONS

Both supply and demand are frequently measured by the weight of uranium and the number of SWUs, reflecting the stages in the uranium fuel cycle.³⁶ The multiple measures for supply and demand are difficult to estimate, especially for future supply and demand. Long supply lead times are required at each stage of the fuel cycle and are accompanied by long-term purchase contracts. In addition, the production of LEU-HF blended down from HEU has increased. These factors complicate efforts to estimate supply and demand. Further complicating estimates is the use of two alternative concepts of uranium demand: nuclear-reactor uranium requirements or the volume of uranium purchases. Due to long-term purchase contracts and the ability to hold varying amounts of inventory, purchased quantities of uranium can be very different from reactor requirement quantities during a particular period. In terms of SWUs, overfeeding and underfeeding by enrichers based on current and expected input pricing can complicate efforts to measure supply and demand.³⁷ In addition, the existence of natural UF₆ and EUP as purchasing options tend to complicate supply and demand calculations.³⁸ According to purchaser data from Commission questionnaires, EUP purchases first increased from 100,000 kilograms of uranium in 2000 to 143,000 kilograms of uranium in 2002, but subsequently declined, reaching 35,000 kilograms of uranium in 2005.

³⁶ The quantity of uranium concentrates is expressed in pounds of U₃O₈ or kgs/metric tons of U in the U₃O₈; conversion to produce natural UF₆ is frequently expressed in kgs/metric tons of U; and conversion to produce natural uranium dioxide (UO₂) and low-enriched UO₂ is expressed in metric tons of U of heavy metal (THM)--the weight of uranium in the natural or LEU uranium compound. Sometimes, however, a collective measure of all the uranium products is reported in pounds of equivalent U₃O₈ or kilograms/metric tons of equivalent U as natural uranium. Enrichment services are expressed in units of SWUs.

³⁷ USEC reportedly uses less natural uranium feed (i.e., underfeeds) and more SWU to achieve a given enrichment level when its power costs are low relative to prices of the feed; USEC keeps as its inventory the excess natural uranium from that shipped by the utilities for the enrichment. On the other hand, USEC uses natural uranium feed from its vast inventory of natural UF₆, in addition to that shipped to it by utilities for the enrichment (i.e., overfeeds), to achieve a given enrichment level when its power costs are high relative to prices of the feed. In the first example, the "operational" tails assay would be less than the "transactional" tails assay specified in the contract, while, in the second example, the tails assay would be higher than that specified in the contract. For a given amount of natural uranium feed, more SWUs are required to achieve higher product assays.

³⁸ Most enriched uranium purchased by U.S. electric utilities is bought by paying for the SWU content and transferring the natural feed component.

U.S. Supply

Based on available information, U.S. producers in the uranium fuel cycle have a significant ability to change their supply quantities in response to changes in demand for uranium. This is based largely on excess capacity and significant uranium inventories, particularly natural UF₆.³⁹ The U.S. enricher and fabricators have sufficient total capacity to supply total annual U.S. nuclear reactor requirements at their respective stages in the fuel cycle.⁴⁰ In addition, USEC imports LEU-HF under the Russian HEU Agreement and ***.⁴¹

Domestic uranium production is discussed below by the four main stages in the nuclear fuel cycle—mining and concentration, conversion, enrichment, and fabrication. A discussion of foreign supply follows the discussion of domestic supply, again with respect to the four main product stages.

Domestic Production⁴²

U.S. Concentrators

The United States is estimated to have 382,000 metric tons of natural U ore reserves, with 56,000 metric tons of class I, low-cost, reserves (recovery costs less than \$40.00 per kilogram of uranium). This latter figure represents about 4.2 percent of total world class I, low-cost, uranium reserves.⁴³ Production first decreased from 2000 to 2001, due to low uranium concentrate prices, and increased from 2003 to 2005 as uranium concentrate prices rose.⁴⁴

Industry capacity--Average annual U.S. production capacity and production of uranium concentrates fluctuated during 2000-05, such that capacity utilization fell from *** percent in 2000 to *** percent in 2001, but then increased, returning to *** percent in 2005.

One concentrator estimated that the costs to open or increase the size of a mine or mill are estimated to be *** now than in 2000, and would include a *** wait time for permits from the involved regulatory agencies due to decreased staffing. One concentrator noted that ***. Another concentrator reported that permit licence and public participation increase lead times while public opposition/litigation increase time, costs, and risks.

Inventory levels--U.S. concentrators generally produce uranium concentrates to meet their sales commitments, such that the bulk of their inventories as reported in Parts I and III are not likely to be available as additional supply.

³⁹ U.S. uranium producers all along the uranium fuel cycle reported in their U.S. producer questionnaire responses during this five-year review investigation that they were not able to produce other products on the equipment and with the labor used to produce the subject uranium products.

⁴⁰ On the other hand, total production of U.S. concentrate would only cover a small percentage of annual U.S. demand (about *** percent in 2005) and production of the U.S. converter equals *** of annual U.S. demand. These figures are based on production for 2005 reported in the May 2006 DOE *Domestic Uranium Production Report*.

⁴¹ USEC imports additional LEU-HF from Russia under provisions of the Russian Suspension Agreement. Because it also has large inventories of natural UF₆, it can also act as a supplier of this product as well.

⁴² Data and information on U.S. production, capacity, capacity utilization, inventories, and exports of uranium are shown in detail in Parts I and III. Such information is briefly summarized in this section.

⁴³ *The Global Nuclear Fuel Market*, WNA, 2005, p. 115.

⁴⁴ Questionnaire data describe an increase in shipments of *** percent in 2002, though other industry sources such as the EIA report that production was below 2001 levels.

Export markets--U.S. producers' export value of uranium concentrates fluctuated from *** percent of their total sales value in 2000 with *** in 2002 and a peak of *** percent in 2003; this ratio was *** percent in 2005. One U.S. concentrator reported in its questionnaire response that ***.

U.S. Converter

ConverDyn, the sole U.S. converter, processes U_3O_8 into natural UF_6 on a toll basis. U.S. utilities typically have their uranium concentrates converted to natural UF_6 by ConverDyn or by Cameco in Canada. ConverDyn added that it is noticing a trend ***.

Industry capacity--Steady average annual U.S. natural uranium conversion capacity and fluctuating conversion output resulted in fluctuating capacity utilization. In 2000 through 2003 capacity utilization was between *** and *** percent, in 2003 and 2004 it fell to *** and *** percent respectively before rising to *** percent in 2005.

Expansion of natural uranium conversion capacity is very expensive and would take more than one year to complete. ***. ***.

Inventory levels--ConverDyn produces natural UF_6 on a toll basis only, such that its inventories of this product reported in Part I meet its toll-service commitments. As a result, these inventories would not be a source of additional supply. ***. Tenex reportedly has significant and increasing holdings of natural UF_6 in the U.S. market that result largely from sales of the Russian LEU-HF blended down from HEU. In addition, ***.⁴⁵

Export markets--ConverDyn's export value of its toll-converted natural UF_6 increased from *** percent in 2000 to *** percent of its total toll-conversion sales value of this product during 2005. ConverDyn indicated in its questionnaire response that ***.

U.S. Enricher

USEC is the only U.S. enricher of uranium. Although traditionally USEC had produced LEU-HF for electric utilities almost exclusively on a toll basis, it has increasingly also become a supplier of EUP based primarily on its domestic production.

Industry capacity--***.

Expansion of uranium enrichment capacity is very expensive and takes several years to complete. ***.

Inventory levels--USEC's U.S. inventories of its U.S.-produced LEU-HF, as a ratio of its total SWU sales, ***. Some of these inventories represent ***;⁴⁶ ***.

Export markets--USEC exported *** percent of its U.S.-produced SWUs in 2000 and exports fluctuated between *** and *** percent of its total shipments between 2001 and 2005. USEC indicated in its questionnaire responses that ***.

⁴⁵ ***.

⁴⁶ As noted in the first review, ***.

U.S. Fabricators

Four U.S. firms operate nuclear fuel-rod assembly fabrication facilities that include the conversion processing and pelletizing of low-enriched uranium.⁴⁷ Based on responses of the three responding fabricators in the first review, uranium processing at the fabrication stage represents about *** percent of the total fabrication costs to produce the completed fuel-rod assemblies. The U.S. Suspension Agreement may put U.S. fabricators at a competitive disadvantage vis-a-vis their foreign competitors, although fabricators in the EU must contend with EU import quota restrictions on uranium from countries of the former USSR.

Industry capacity—Unchanged average annual U.S. nuclear fuel-rod fabrication capacity and irregularly rising output resulted in increased capacity utilization during 2000-05. Capacity utilization increased from *** percent in 2000 to *** percent in 2005.

Expansion of low-enriched uranium processing capacity in connection with nuclear fuel-rod assembly production is very expensive and would take more than one year to complete. The fabricators reported in their questionnaire responses that ***.

Inventory levels--U.S. fabricators' process LEU-HF into LEU-DO primarily on a toll basis, such that their inventories of this product reported in Part I would not be a source of additional supply. In converting and processing LEU-HF into LEU-DO and pelletizing this latter compound, U.S. fabricators typically need to adjust the enrichment of the low-enriched feed. As a result, they frequently borrow some feed of one utility that they hold in inventory to adjust the enrichment of another utility's feed that they are currently converting and pelletizing. This type of flexibility is prohibited for the uranium subject to the Suspension Agreement.

Export markets--U.S. fabricators' export value of their processed LEU in the fuel assemblies ranged from *** to *** percent of their total processed LEU in their sales of fuel-rod assemblies during 2000-05. The U.S. fabricators' ability to shift processing of LEU between domestic and foreign sales of fuel-rod assemblies face the same legal constraints as those mentioned for USEC's sales of its U.S.-produced LEU-HF. Long-term contracts for fuel rod assemblies, which involve the processing of LEU, typically run about 4 to 5 years and also constrain shifting sales to foreign customers.

World Supply

Major foreign world producers of uranium at all of the major production and processing stages of the fuel cycle are important suppliers of these products to the U.S. market. Sixteen countries exported uranium products and services to the United States during 2000-05. Although swaps and loans may mask somewhat the full extent of the foreign uranium in the U.S. market, official U.S. import statistics may be indicative of foreign uranium used by U.S. electric utilities.⁴⁸ The total value of U.S. imports of uranium concentrates, natural UF₆, enriched UF₆, and fabricated uranium products was roughly *** percent of

⁴⁷ In addition, they frequently make small adjustments to the enrichment assay of the uranium to fit their customers' needs.

⁴⁸ As indicated in Part I, official U.S. import statistics for uranium may contain significant classification errors by products and countries.

uranium product/service sales in the United States in 2005. Across all of these products, the value of imports increased nearly *** percent in 2005 compared with 2004.⁴⁹

Russia

The value of U.S. imports of all uranium products from Russia, based on questionnaire responses, in general decreased from 2000 to 2003, then increased until 2005. The large majority of imports were in the form of ***. Uranium imported from Russia accounted for *** percent of the total value of all U.S. imports of uranium during 2005. There were no imports of uranium concentrates from Russia in 2005. The landed duty-paid value of imported Russian natural UF₆ accounted for *** percent of total U.S. imports of this product during 2005, while the value of imported Russian LEU-HF accounted for *** percent of total U.S. imports of this uranium product in 2005.

Concentrates

Russia produces uranium concentrates and has both natural uranium conversion capacity and fabrication facilities. The former Soviet Union has about 30 percent of the world's class 1 uranium concentrate reserves, or about 1.4 million metric tons U.⁵⁰ The World Nuclear Association reports that Russia averaged 3,083 metric tons of natural U production (8.0 million pounds of U₃O₈) annually during 2003-05 and estimates annual production of 3,500 metric tons of natural U (9.1 million pounds of U₃O₈) during 2005-07.⁵¹ This production comes from an underground mine in Russia. There are also two additional ISL mines expected to start full production in 2008 and 2012. These have a capacity of 1,000 metric tons each. The actual 2004 production of these two mines was 200 metric tons combined.⁵² Russia noted that it does not produce enough uranium to fulfill its own demand.⁵³

Conversion

Russia has 24 percent of the world's annual natural UF₆ conversion capacity, but limited amounts of natural UF₆ are exported to Western facilities; instead, most uranium is sold as enriched UF₆.⁵⁴

⁴⁹ These import trends were based on official U.S. import statistics of Commerce and questionnaire data for Russian imports. Additional information regarding world production and consumption is presented in Part IV of this report.

⁵⁰ Class 1 reserves are ore bodies where uranium can be recovered at a cost of less than \$80 per kilogram of natural uranium, *The Global Nuclear Fuel Market*, WNA, 2005, p. 113.

⁵¹ *The Global Nuclear Fuel Market*, WNA, 2005, pp. 102 and 123.

⁵² *The Global Nuclear Fuel Market*, WNA, 2005, p. 119.

⁵³ *Information Provided by Rosatom to the International Trade Commission Review of the Suspended Antidumping Investigation of Russian Uranium* (hereinafter "Rosatom submission"), June 8, 2006, p. 3.

⁵⁴ Russia's annual natural uranium conversion capacity is estimated to be 15,000 metric tons of U compared to 14,000 metric tons of capacity in the United States. *The Global Nuclear Fuel Market*, WNA, 2005, pp. 147 and 150.

Enrichment

It is believed that Russia has capacity to produce all the uranium products, including re-enrichment of uranium tails and reprocessing of spent nuclear fuel.⁵⁵ Although Russia's home market demand for uranium enrichment was estimated to have averaged about 4.5 million SWUs annually during 2003-05, it is estimated to have annual enrichment capacity of 20 million SWUs.⁵⁶ Russia reportedly uses some of its enrichment capacity to re-enrich uranium tails in its inventory as well as some from Europe, providing another source of uranium.⁵⁷ However, in the first review, Russia reported that its enrichment capacity is fully utilized, including 41 percent of this capacity used for its Russian-designed reactors (at home and in other countries).⁵⁸ Some of the enrichment capacity is used to enrich depleted uranium tails.⁵⁹ Russia also noted in this review that its enrichment capacity is largely committed.⁶⁰

Fabrication

Russia has 13 percent of the world's annual light-water-reactor conversion to LEU-DO capacity, and 11 percent of worldwide pelletizing capacity.⁶¹

Inventories

The extent of inventories of uranium concentrates, natural UF₆, and LEU-HF located in Russia are not precisely known, although reportedly the Russian Government held 770 metric tons of HEU in addition to the 500 metric tons designated as part of the HEU agreement with the United States.⁶² Despite reports of vast inventories, the Russians testified at the hearing during the first review that they needed some of the natural UF₆ obtained from the blended-down Russian LEU-HF sold in the United States to continue blending down their HEU into LEU-HF.⁶³ In addition, the Russians reportedly have been using reprocessed uranium to allow further use in reactors. However, Russia has not yet developed any capacity to use MOX fuel, and has only used reprocessed uranium and fueled fast reactors. The displacement of natural uranium due to using reprocessed uranium amounts to about 500 metric tons of

⁵⁵ The potential to divert shipments from third-country markets, however, may be constrained by long-term contracts.

⁵⁶ *The Global Nuclear Fuel Market*, WNA, 2005, pp. 91 and 152.

⁵⁷ It was estimated that the world inventory of uranium tails at the end of 2005 stood at 1.5 million metric tons of U, with Russia holding about 36 percent of the total. This total is expected to grow at about 35,000 to 70,000 metric tons U annually (*The Global Nuclear Fuel Market*, WNA, 2005, p. 144). The enrichment capacity taken up by the enrichment of depleted tails is estimated to demand about one-third of Russian capacity. The United States holds almost 47 percent of the world tails.

⁵⁸ Rosatom's posthearing brief in the first five-year review, app. A.

⁵⁹ *The Global Nuclear Fuel Market*, WNA, 2005, p. 145.

⁶⁰ Rosatom submission, June 8, 2006, p. 4.

⁶¹ Russia's annual light water reactor conversion capacity of 1,700 metric tons of heavy metal compares to that in the United States of 3,600 metric tons. Russia's 1,400 metric tons of heavy metal pelletizing capacity compares to the capacity in the United States of 3,300 metric tons. *The Global Nuclear Fuel Market*, WNA, 2005, p. 160.

⁶² The additional 770 metric tons of Russian HEU reportedly *** (*Uranium from Russia (Inv. No. 731-TA-539-C (Review))*), USITC Publication 3334, August 2000, p. II-24).

⁶³ *Uranium from Russia (Inv. No. 731-TA-539-C (Review))*, USITC Publication 3334, August 2000, p. II-24.

uranium per year.⁶⁴ In addition, some Western uranium can be recycled in Russian enrichment plants to take advantage of surplus enrichment capacity there. It is believed that since 1997-98, when Western companies started delivering depleted tails to Russia, 10,000 to 15,000 metric tons have been delivered. This is believed to produce LEU and equivalent natural uranium (ENU) of a few thousand metric tons U.⁶⁵ Despite high current uranium prices, it is unlikely that accumulated world stockpiles of depleted uranium will be drawn down much if Russia needs its enrichment capacity for other purposes. Furthermore, the high current prices are driving the tails assays lower than previously, thus leaving less uranium in the tails.⁶⁶

Nonsubject Imports⁶⁷

Uranium concentrates

The two largest sources of U.S. imports of uranium concentrates during 2000-05, in descending order of importance by value, were Canada and Australia.

Worldwide uranium reserves (in the ground) amount to approximately 3.4 million metric tons, with about 55 percent of these classified as class 1 reserves (well-proven reserves) and 70 percent of these latter reserves in the low-cost category (recovery costs estimated to be under \$40 per kilogram of natural uranium).⁶⁸ These well-proven reserves represent over 20 years of world reactor requirements at the current rate of consumption. Australia has the world's most extensive uranium reserves, amounting to 1.2 million metric tons or 36 percent of total world uranium reserves.⁶⁹ Canadian uranium reserves are also extensive and account for about 13 percent of world reserves; however, a substantial portion of the Canadian uranium reserves are high grade, they have about 20 percent of the world's low-cost reserves. The United States currently has total uranium reserves that account for about 4.3 percent of the world's total uranium reserves. Canada, Australia, Kazakhstan, Niger, Russia, and Namibia, in descending order of output, accounted for about 82 percent of total world production of uranium concentrates during 2004.⁷⁰

Natural UF₆

The largest foreign source of natural UF₆ shipped to the U.S. market during 2000-05 was Canada, accounting for 59.4 percent of the total quantity of U.S. imports of this product during this period.

Annual world nameplate conversion capacity for processing uranium concentrates into natural UF₆ equals about 62,590 metric tons of natural U. However, it is impossible to run at 100 percent of nameplate capacity all the time, so 61,500 metric tons U is more likely the upper limit. This is slightly less than current world annual reactor requirements of about 65,000 metric tons U. Russia, France, the

⁶⁴ *The Global Nuclear Fuel Market*, WNA, 2005, p. 143.

⁶⁵ *Ibid.*, p. 146.

⁶⁶ *Ibid.*

⁶⁷ The following discussion of U.S. imports of the major uranium product categories is accompanied by a short discussion of world production capacity. This latter information is based primarily on information reported in *Ibid.*, pp. 97-162.

⁶⁸ Another estimate of world total reserves puts the figure about 4 percent higher. *Ibid.*, p. 116.

⁶⁹ Of Australia's total uranium reserves, 28 percent are called class 1 reserves and all of these are considered low-cost reserves totaling about 484,000 metric tons of natural uranium. *Ibid.*, p. 115.

⁷⁰ *Ibid.*, p. 119.

United States, and Canada, in descending (but near equal) order of capacity, together account for almost 89 percent of the total world conversion capacity to produce natural UF₆.

Low-enriched UF₆

The top sources of nonsubject U.S. imports of LEU-HF during 2005, in descending order of importance by value, were France, the United Kingdom, Germany, and the Netherlands. Together these countries accounted for 56.8 percent of all U.S. imports of LEU-HF.

Annual world capacity for processing natural UF₆ into LEU-HF equals about 52 million SWUs, which exceeds estimated annual world enrichment requirements of 45 million SWUs. Russia, the United States, and France, in descending order of capacity, together account for about 81 percent of total world enrichment capacity. The Georges Besse II program in France is set to replace the gaseous diffusion enrichment plant with a gaseous centrifuge plant. It intends to construct a 7.5 million SWU enrichment plant beginning in 2007, but not reaching full capacity until 2016. An additional 3.5 million SWU of capacity was requested in the license application.⁷¹

Low-enriched uranium oxides

The top source of nonsubject U.S. imports of uranium oxides during 2005 was Australia, which accounted for 72.3 percent of all U.S. imports of uranium oxides.

Annual world conversion capacity for conversion to LEU oxides for light-water reactors is 12,730 metric tons of heavy metal (tHM). The United States, Kazakhstan, Russia, Japan, and France account for more 76 percent of this capacity (in descending order). Pelletizing capacity is a bit higher at 12,894 tHM, and the same countries are the largest pelletizers.⁷²

New Suppliers

Purchasers were asked if they expected new suppliers of uranium products/toll services to enter the market in the near future, 23 of the 28 responding purchasers responded affirmatively. New potential suppliers included: Louisiana Energy Services, that has entered the market as a supplier of enrichment services with product available in 2008 or 2010 and possibly another unnamed firm; for concentrates, new mines were expected in Kazakhstan, Namibia, and South Africa; new uranium sources from Mestena (Texas), Namibia, Kazakstan, Canada, and Australia; and conversion services possibly from Tenex.

When purchasers were asked if they were aware of any new uranium suppliers that have entered the market since 2000, 20 of 28 responding purchasers reported that they had knowledge of new suppliers. These new suppliers included: Louisiana Energy Services, Paladin, Kazatomprom, URZ, Cotter, Camico, Heathgate, Uranium Resouceres, Itochu, Areva, Mestra, and UrAsia.

⁷¹ Ibid., p. 155.

⁷² World capacity for fuel rod/assembly is slightly lower, at 10,784 tHM. This exceeds worldwide light-water reactor fuel requirements by about 54 percent. There are additional, non-light-water reactors in other countries that have requirements of 2,000 to 3,000 tHM each year, but those are generally produced in a dedicated plant within than country. Capacity for those reactors is greater than 4,000 tHM. Ibid., pp. 160-1.

Purchasers' Views

Availability of Supply

Purchasers were asked if there had been any significant changes in the availability of imports of uranium products/services since 2000. Seventeen of the 28 responding purchasers reported that there had been changes; most of these reported that supply availability had decreased for a number of reasons.

Although no purchasers reported that they had to alter their reload schedules between January 2000 and December 2005 as a result of allocations, purchase limitations, shortfalls, or delays in uranium deliveries, a number of purchasers did report being on allocation and other supply problems. In total, 10 purchasers reported they were placed on allocation, with 19 reporting no allocation. Purchasers were asked if any suppliers had been unable to supply uranium products or services in a timely manner at prevailing market prices. Six of the 29 responding purchaser reported these difficulties. Problems reported include: the shutdown of the Honeywell Metropolis conversion facility which resulted in ConverDyn suspending deliveries; Tenex's announcement that it would no longer honor its contracts with GNSS causing GNSS to suspend deliveries; GNSS's inability to deliver in 2005-07; as a result of the initiation of the LEU trade case by USEC against European enrichers, Cogema indicated it could not fulfill its contract; difficulties obtaining enrichment bids for delivery in 2007 to 2009; and general difficulties with deliveries. In total, 10 purchasers reported they were placed on allocation. In addition to the problems reported above, purchasers reported delays caused by the Cameco McArthur River mine flood, Heathgate not meeting its commitments, difficulties getting natural uranium from almost all major suppliers, and quotas as a result of limited quantity of Russian origin UF₆.

Price leadership

Purchasers were asked if any firms were price leaders and in which sections of the uranium products market they were price leaders. Eighteen reported one or more price leaders in one or more sections of the market. The most common response was that Cameco was a price leader, which was reported by 17 purchasers; USEC was reported to be a price leader by 11 purchasers; Urenco by four; Areva, Cogema, and ConverDyn two each; and Nukem and GNSS, one each.

U.S. Demand

The traditional uranium fuel cycle involves four major elements of U.S. electric utility's nuclear-reactor demand for uranium: the amount of uranium concentrates, conversion to produce natural UF₆, enrichment to produce LEU-HF, and conversion and pelletizing to produce LEU-DO and the uranium pellets. U.S. electric utilities are still able to bypass portions of the fuel cycle by purchasing directly the processed products, especially natural UF₆ and EUP.

U.S. electric utilities have purchased a majority of the natural uranium and processing required for the final uranium product used in fuel-rod reloads largely through long-term contracts, i.e., three or more years prior to use of the purchased product/service. Reload cycles for U.S. utilities are typically 18 to 24 months. Each reload typically refuels about one-third to two-fifths of the total number of a utility's fuel cells and averages about a month to complete. During this period the entire plant is shut down and the utility usually purchases at least some electricity to supply its customers, while also using electricity output from any other plants owned by the utility. While the plant is shut down, the utilities also undertake routine maintenance and repair.

Annual reload requirements, expressed as the quantity of uranium and the number of SWUs required, appear to be widely used measures of uranium demand. Numerous trade reports forecast annual reload requirements for individual countries and for the world based on the quantity of uranium

and the number of SWUs required. Uranium demand in the United States for 2005 is estimated to be around 51 to 52 million pounds U₃O₈ equivalent (around 20,000 metric tons U) according to the World Nuclear Association and the U.S. Department of Energy, respectively.⁷³ In addition, the EIA reports U.S. uranium purchases (in pounds of U₃O₈ equivalents) in its annual reports of the U.S. uranium industry.⁷⁴ Long-term purchase contracts negotiated each year for uranium as reported by EIA increased irregularly from 51.8 million pounds of U₃O₈ equivalent in 2000 to 58.8 million pounds in 2005.⁷⁵

U.S. nuclear reactor requirements in metric tons of natural uranium and enrichment SWUs during 2003 and 2004, and estimates/forecasts (reference case) for 2005-10 are shown in the following tabulation.⁷⁶

| Year | Metric tons of uranium | SWU (in thousands) |
|--|------------------------|--------------------|
| 2003 | 22,099 | 11,320 |
| 2004 | 20,754 | 12,129 |
| 2005 | 19,583 | 12,783 |
| 2006 | 19,715 | 12,732 |
| 2007 | 20,050 | 13,265 |
| 2008 | 20,183 | 13,215 |
| 2009 | 20,315 | 13,621 |
| 2010 | 20,395 | 13,536 |
| Source: <i>The Global Nuclear Fuel Market</i> , WNA, 2005, Tables II.1 and IV.1. | | |

⁷³ Ibid., p. 80, and “Report on the Effect the Low Enriched Uranium Delivered Under the HEU Agreement Between the Government of the United States and the Government of the Russian Federation has on the Domestic Uranium Mining, Conversion, and Enrichment Industries and the Operation of the Gaseous Diffusion Plant 2005,” DOE, April 2006, p. 5.

⁷⁴ The quantity of uranium and toll processing purchased annually and typically negotiated in the form of long-term contracts, but also including some spot contracts, also represents uranium demand. This measure of demand is principally for reload requirements in the future and, therefore, is based on perceptions, in the current period, of distant future demand and supply conditions. Because of different contract lengths, such demand is a mix of several future time periods and this mix can change from contract year to contract year; such a change in mix could by itself lead to apparent changes in demand even when underlying perceptions of future demand remain unchanged. In addition, it is not clear when or where long-term contract purchases of uranium/processing would actually be consumed; electric utilities could choose to increase their inventories when deliveries occur and purchase their requirements in the spot market, they could sell the contracted uranium/processing to draw down their inventories, and/or they could swap or loan the contracted uranium/processing. Due to the uncertainties resulting from this disconnect between the period of purchase and the period of actual consumption, purchases represent a more ambiguous basis to measure demand than reactor requirements.

⁷⁵ These figures represent contract purchases negotiated in the specified year for deliveries in subsequent years.

⁷⁶ The link between uranium requirements and enrichment requirements is not one-to-one. Although most factors affecting uranium demand and enrichment work in the same direction, as indicated earlier, tails assays work in the opposite direction in terms of the impact on demand for uranium and enrichment. As a result, sometimes small changes in uranium requirements in one direction will be associated with changes in enrichment requirements in the opposite direction.

The WNA provided three estimate/forecast scenarios, low, middle (reference), and high. The estimates/forecasts for 2003-10 shown in the tabulation are based on its reference scenario.⁷⁷

U.S. electric utilities' historical deliveries of uranium feed for enrichment by delivery year, 2000-05, and U.S. electric utilities' anticipated uranium market requirements by delivery year, 2000-02, are shown in table II-6 (the estimates for 2006-11 are as of December 31, 2005).

Table II-6

Uranium: U.S. electric utilities' historical deliveries of uranium feed for enrichment by delivery year, 2000-05, and U.S. electric utilities' anticipated uranium market requirements by delivery year, 2006-11

| Year | Million pounds of U ₃ O ₈ equivalent | Year | Million pounds of U ₃ O ₈ equivalent | | | |
|------|--|------|--|------------------------|------------------------------|---------------------------------------|
| | | | Uranium under contract | Uranium of open origin | Unfilled market requirements | Anticipated total market requirements |
| 2000 | 47.8 | 2006 | 55.3 | 41.4 | 3.7 | 57.0 |
| 2001 | 47.3 | 2007 | 47.4 | 35.7 | 5.7 | 53.1 |
| 2002 | 54.7 | 2008 | 33.3 | 29.3 | 11.3 | 44.6 |
| 2003 | 49.3 | 2009 | 16.0 | 15.1 | 35.5 | 51.5 |
| 2004 | 53.4 | 2010 | 8.9 | 10.9 | 41.9 | 50.8 |
| 2005 | 52.9 | 2011 | 7.4 | 9.1 | 38.9 | 46.3 |

Note.— Uranium of open origin may be larger than uranium under contract due to purchasers knowing that they will not specify a country of origin on those contracts.

Source: *Uranium Marketing Annual Report*, EIA, DOE, for historical data, and responses to the Commission's purchaser questionnaire for projective data. The EIA also supplied projective data for shipments of feed for enrichment that follow the same pattern, albeit at about 10 percent higher levels, yet was based on 2005 projections.

The quantity of uranium under contract, estimated for 2006-11, includes the minimum required under the contracts. Estimates are based on purchaser questionnaire data for uranium that will be purchased in the future.⁷⁸ Some uranium may be of any country's origin. This is denoted as "open origin" and is the amount of demand that is not already designated to come from a certain country.

Another measure of anticipated demand that the EIA at the DOE keeps is the maximum anticipated market requirements, and these are presented in table II-7. During 2007-09, anticipated market requirements are less than enrichment feed deliveries, indicating that nuclear power owners and operators are intending to use uranium that is in their inventories to use as feedstock for enrichment and

⁷⁷ The reference scenario is based on the following 4 assumptions: (1) Slight improvement in the relative economics of nuclear power generation compared to alternative power generation such as coal and natural gas; (2) concerns regarding global warming fail to pass enough of the external costs of fossil-fuel based electricity generation through to the prices of this electricity to achieve a major shift in the mix of energy sources; (3) gradual restructuring and liberalization of electricity sectors continues; and (4) public wariness toward nuclear projects continues.

⁷⁸ Estimates of unfilled requirements and enrichment feed deliveries that are more than a few years into the future are often subject to revisions.

eventual incorporation into fuel rods and assemblies. In other years, however, the maximum anticipated market requirements are larger than planned enrichment feed deliveries, suggesting an increase in uranium inventories held by owners and operators of nuclear power plants.⁷⁹

Table II-7

Uranium: Maximum anticipated uranium market requirements of owners and operators of U.S. civilian nuclear power reactors, in thousand pounds U₃O₈, 2006-2015, as of December 31, 2005

| Year | Maximum under purchase contracts | Unfilled requirements | Maximum anticipated market requirements | Enrichment feed deliveries |
|------|----------------------------------|-----------------------|---|----------------------------|
| 2006 | 62,507 | 1,585 | 64,092 | 56,214 |
| 2007 | 44,904 | 6,093 | 50,996 | 53,462 |
| 2008 | 28,932 | 6,636 | 35,568 | 43,193 |
| 2009 | 11,853 | 28,631 | 40,484 | 51,153 |
| 2010 | 8,474 | 41,847 | 50,321 | 51,474 |
| 2011 | 6,412 | 38,418 | 44,830 | 45,624 |
| 2012 | 1,906 | 54,942 | 56,848 | 55,997 |
| 2013 | 1,906 | 49,845 | 51,751 | 50,976 |
| 2014 | 1,906 | 44,888 | 46,794 | 46,624 |
| 2015 | 1,921 | 55,137 | 57,059 | 56,058 |

Source: EIA: Form EIA-858, *Uranium Marketing Annual Survey*, 2005.

The derived nature of demand for uranium indicates that the level of U.S. demand for uranium depends on the level of U.S. demand for electricity, the number of operating U.S. nuclear power plants fueled by uranium, and the capacity utilization (load factor) of these nuclear power plants, enrichment level, burnup/fuel design, and contracted tails assay. Most purchasers, 22 of 28 responding, reported that the average enrichment level in their core designs for their nuclear fuel had changed between January 2000 and December 2005, which enables longer fuel cycles, increased capacity (load) factor, reduce cost and/or derive more power. Eleven purchasers reporting changes reported that enrichment levels generally vary with each reload or depends on power production plans, 10 reported that they had changed enrichment levels in order to increase efficiency of production. In addition, most of the responding purchasers reported either current or predicted increased reactor power, reduced tails assay,⁸⁰ and increased capacity factor. In addition, 10 of 26 reported increased fuel design/burnup. The following tabulation summarizes the responses.

⁷⁹ Staff telephone interview with ***, June 13, 2006.

⁸⁰ Two purchasers that reported tails assays were unchanged also reported that tails changed with the price of uranium and enrichment services. Of the four firms that did not report how or if they had changed tails assay, two firms reported that they changed their tails assays with the prices of uranium and enrichment services; one reported that it was analyzing its tails levels due to the increased price of uranium; and one reported its tails assays varied but did not report why or how these levels changed over time.

| Parameters | Capacity factor | Tails Assay | Fuel design/burnup | Reactor power |
|------------|-----------------------------------|-------------|--------------------|---------------|
| | Number of firms responding | | | |
| Unchanged | 10 | 3 | 15 | 9 |
| Increased | 14 | 1 | 10 | 17 |
| Decreased | 2 | 18 | 1 | 0 |

Purchasers were also asked if U.S. and world demand had changed since January 2000. Twenty-one⁸¹ of the 22 responding purchasers reported that U.S. demand had increased, one reported demand was unchanged. Additionally, purchasers were asked if they anticipated future changes in demand, 12 reported that they expected demand to increase both in the United States and the rest of the world, five reported expecting increased demand but did not state if this was just for the United States or for both the United States and the rest of the world, three reported that they expected demand to be unchanged in the United States, but to increase in the rest of the world, two expected demand would be unchanged but did not report where, and one reported that it expected demand in the United States to increase. World energy consumption has been growing at around 2 percent per year.⁸² Electricity demand in the OECD countries is expected to grow at an average annual rate of about 1.3 percent per year, but in faster-growing countries such as China and India, growth could be as high as 4.4 percent.

The number of U.S. operating nuclear power plants and their level of electricity output are affected by a number of factors, including competition with other types of power plants, public concern for safety and political concern regarding nuclear proliferation, and the age and physical condition of the existing nuclear power plants. In addition, ongoing U.S. deregulation of electricity generation and distribution will continue to affect the makeup of U.S. power generation.

U.S. nuclear power plants compete principally with power plants fueled by other means.⁸³ In 2004, nuclear power generated just over 20 percent of domestic electricity needs.⁸⁴ Nuclear-fuel plants use a much smaller volume of fuel compared to the other types of power plants. This advantage allows stockpiling of uranium to meet several years of fuel requirements, leading to energy independence and security of supply. As such, nuclear-powered generating plants tend to be less exposed to large swings in prices, supply disruptions, and currency fluctuations.

U.S. nuclear power plants are aging, and some have approached their operating lifetime of 40 years.⁸⁵ No new nuclear reactor has come online since 1996, and no new reactors are likely to come

⁸¹ Firms reporting increased demand include one firm that reported demand was unchanged except for small increases in capacity factors and power uprates.

⁸² *The Global Nuclear Fuel Market*, WNA, 2005, p. 12.

⁸³ During 2004, about 50 percent of the electricity produced in the United States was generated by coal-fueled power plants, 20 percent was by uranium-fueled nuclear power plants, 9 percent by renewable energy/hydroelectric plants, 18 percent by natural-gas fueled power plants, and 3 percent by oil-fueled power plants. *Electric Power Generation by Fuel Type (2004)*, EIA, DOE, found at <http://www.eia.doe.gov/fuelelectric.html>, retrieved April 26, 2006.

⁸⁴ *The Global Nuclear Fuel Market*, WNA, 2005, p. 26.

⁸⁵ U.S. regulatory agencies have developed procedures for nuclear power plants to qualify for extensions of their operating licences beyond the 40-year period. Thirty-five nuclear units in power plants have already sought and been granted 20-year operating license extensions. Fourteen others were being reviewed as of September, 2005. Twenty-eight more have announced their intentions to file for renewal in the next seven years. *Annual Energy Outlook 2006*, EIA, DOE, p. 79.

online until 2012.^{86 87} In the DOE's Annual Energy Outlook, it is reported that nuclear capacity is expected to increase from 99.6 gigawatts in 2004 to 108.8 gigawatts in 2030. Part of this is due to EPACT 2005 tax incentives of 1.8 cents per kwh for 8 years for new plants generating up to 6 gigawatts built before 2021. All existing nuclear plants are expected to continue operating through 2030.⁸⁸

The price sensitivity of U.S. uranium demand depends on the availability of substitutes for uranium and the cost share of uranium to the total costs to produce electricity. There are effectively no substitutes for the final uranium product used in U.S. nuclear power plants. As indicated earlier, MOX is an alternative nuclear fuel, which uses some uranium, in some foreign power plants. Although MOX is being considered for use by U.S. nuclear power plants and some plants would be able to use MOX, there is no schedule for introduction and it is not clear how much investment may be required to alter U.S. nuclear reactors to permit the use of this alternative nuclear fuel.⁸⁹ Duke Energy has nominated one of its reactors to be the trial case and the first four assemblies are generating power. If the trial succeeds, MOX could be used in 20 to 40 percent of the cores at two of its reactors starting in 2008 or 2009.⁹⁰ Excess inventories of natural UF₆ and availability of LEU-HF act as substitutes for the mining/production of uranium concentrates and natural UF₆ conversion services.⁹¹ The largest source of imported LEU-HF in the U.S. market are the imports of LEU-HF from blended-down HEU that are controlled by the Russian HEU Agreement. Partial bypass of the nuclear fuel cycle also occurs due to some re-enrichment of uranium tails by Russia.

Purchasers were asked whether or not substitutes exist for six uranium products. The following tabulation summarizes the responses:

| Spot purchases | Uranium concentrates | Natural UF ₆ | Low-enriched UF ₆ | Low-enriched UO ₂ | Uranium pellets | Uranium fuel rods |
|----------------|-----------------------------------|-------------------------|------------------------------|------------------------------|-----------------|-------------------|
| | Number of firms responding | | | | | |
| Substitutes | 11 | 12 | 7 | 4 | 3 | 3 |
| No substitutes | 18 | 17 | 21 | 20 | 25 | 25 |

Most purchasers reported no substitutes for each of the products listed. The only substitutes reported were either among the subject uranium products or between these and mixed oxide fuels (MOX). The firms report, however, that there were significant barriers to the use of MOX technology.

Uranium itself accounts for a small share of the cost of producing electricity, as there are very high initial capital costs in constructing a nuclear power plant. Along the fuel cycle, the cost of each

⁸⁶ *Nuclear Timeline*, DOE, EIA, found at <http://www.eia.doe.gov/cneaf/nuclear/page/nuclimeline.html>, retrieved April 21, 2006.

⁸⁷ The United States has the largest number of nuclear power plants of any single country and accounts for about 27 percent of world annual operating capacity, or 97,553 megawatts of electricity (MWe). There is one reactor under construction or to be restarted, with the ability to generate another 1,065 MWe. (WNA, *Global Nuclear Fuel Market*, 2005, p. 28).

⁸⁸ *Annual Energy Outlook 2006*, EIA, DOE, p. 79.

⁸⁹ One purchaser noted that it would take ***.

⁹⁰ Uranium Information Centre, U.S. Nuclear Power Industry Briefing #58, March 2006, found at <http://www.uic.com.au/nip58.htm>, retrieved April 21, 2006.

⁹¹ In addition, utilities substitute natural uranium feed for SWU, depending on the relative product prices. ***. As indicated earlier, USEC also substitutes between SWU and natural uranium feed depending on its power costs relative to the feed value by under- or overfeeding.

uranium feed product varies as a percentage of the final cost of the next stage in the cycle. Purchasers were asked the cost share of uranium products/services in the cost of downstream products. The following tabulation summarizes the responses:

| Item | Percent |
|--|---------|
| Cost share of Uranium concentrates of total cost to produce natural UF ₆ : | 77.7 |
| Cost share of Conversion services of total cost to produce natural UF ₆ : | 12.2 |
| Cost share of Natural UF₆ of total cost to produce LEU-HF: | 39.8 |
| Cost share of Enrichment services of total cost to produce LEU-HF: | 56.3 |
| Cost share of LEU-HF of total cost to produce LEU-DO: | 85.3 |
| Cost share of Conversion services of total cost to produce LEU-DO: | 12.8 |
| Cost share of LEU-DO of total cost to produce low-enriched uranium pellets: | 53.9 |

One of the more recent developments in the demand for uranium is the entrance of hedge funds and/or financial speculators into the market, solely for the purpose of making a profit by buying and selling uranium. Recently, these agents accounted for a large portion of uranium purchases. In 2005, hedge funds were responsible for 10 million of the 29 million pounds of uranium purchased.⁹² These investors have helped push the price of uranium higher than it likely would have gone without their participation. According to the EIA at the DOE, year-end inventories for brokers and traders increased from 2004 to 2005 by more than 3 million pounds U₃O₈ equivalent, as seen in table II-8.

Table II-8
Uranium: Inventories by purchaser type, in U₃O₈ equivalents, end of year 2000-05

| Purchaser | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--|---|--------|--------|------|--------|--------|
| | (1,000 pounds U ₃ O ₈ equivalent) | | | | | |
| Owners and operators of U.S. civilian nuclear plants | 54,804 | 55,636 | 53,269 | n/a | 57,665 | 64,811 |
| U.S. brokers and traders | 5,595 | 2,185 | 4,445 | n/a | 9,090 | 12,095 |
| U.S. producers, converter, enricher, and fabricators | 50,860 | 45,962 | 43,431 | n/a | 28,454 | 16,864 |
| Source: EIA: Form EIA-858, <i>Uranium Marketing Annual Survey</i> , 2002-05, table 23; and <i>Uranium Industry Annual</i> , EIA, DOE, table 33, 2000-01. | | | | | | |

U.S. brokers, i.e., hedge funds and financial speculators, account for *** of the quantities in the U.S. brokers and traders line above in 2005.⁹³ One industry analyst is predicting that prices will likely reach \$50 to \$55 per pound U₃O₈ within three years, and then fall to around \$30 per pound U₃O₈ three years later as speculators sell off their reserves, eventually reaching a price of over \$40 per pound U₃O₈.⁹⁴ During a June 2006 presentation to the World Nuclear Fuel Association, an executive from American

⁹² Interview with Gene Clark, CEO of TradeTech, LLC (a group that has been covering the uranium industry for 35 years), April 2006. Found at http://www.stockinterview.com/Article_pdf_files/tradetech-clark.pdf, retrieved May 2, 2006.

⁹³ Email from ***, June 13, 2006.

⁹⁴ Ibid.

Fuel Resources presented some data showing that, to date, hedge funds have bought 12 million pounds of U_3O_8 (all on the spot market), while, in total, 60 million pounds have been bought on the spot market and 340 million pounds via long-term contracts during the same period.⁹⁵

SUBSTITUTABILITY ISSUES

U.S.-produced uranium and imported uranium are generally physically interchangeable from the electric utilities' perspective in meeting product requirements of their U.S. nuclear power plants. Worldwide regulation and monitoring of uranium production, distribution, inventories, and waste/spent-fuel disposal have led to a world market where spot and long-term contract price indicators for uranium and the toll-processing services are published, usually on a monthly basis and typically on a restricted and unrestricted market basis.

Factors Affecting Purchasing Decisions

Purchase Factors

Twenty-eight U.S. electric utilities operating nuclear power plants responded to a request in the purchaser questionnaires to rank 23 purchase factors shown in table II-9 as very important (VI), somewhat important (SI), and not important (NI). Some of the electric utilities responded for all uranium products/processing services combined, while others reported for individual uranium products/ processing services. The total number of responses is shown separately for each purchase factor.⁹⁶ Across nearly all products, availability and reliability of supply were the factors most often considered very important, with lowest price, quality, and escalation provisions not far behind.⁹⁷ This is in contrast to the first review, which noted purchasers rating lowest price, reliable supply, availability, and product quality as the most important factors (in descending order). Only three firms responded for EUP and LEU-DO, so responses for EUP and LEU-DO are in the table but not discussed.

Availability of supply was the most frequently listed very important factor for uranium concentrates (24), natural UF_6 (22), and LEU-HF (14). Reliability of supply was the second-most frequently listed very important factor for these three products as well. Lowest price was the third most frequently listed factor for uranium concentrates (19) and natural UF_6 (20). For LEU-HF, lowest price was considered very important by the same number of firms as delivery times, product quality, and escalation provisions. Other factors listed by the largest number of firms for these three products were, delivery times and product quality for all three; escalation provisions for natural UF_6 and LEU-HF; and diverse source of supply and delivery terms for uranium concentrates.

Similar to these three products, the most important purchase factors for conversion were: availability (24), reliability of supply (22), lowest price (18), diverse source of supply (16), delivery times (15), escalation provisions (14), delivery terms (13), and product quality (13). For enrichment services, the most important factors were also similar: reliability of supply (26), availability (25), lowest price (21), and diverse source of supply (20), delivery times (16), escalation provisions (15), delivery terms (14), and product quality (13). For fabrication services, most important purchase factors, as noted by the number of firms reporting each purchase factor as very important were: reliability of supply (17), product quality (17), product consistency (14), delivery times (14), and availability (13).

⁹⁵ *WNFM: Sleeping Giants Awaken in Seattle*, Ux Weekly, June 12, 2006, pp. 1-2.

⁹⁶ Every responding electric utility did not necessarily report for every purchase factor listed.

⁹⁷ For conversion services, not many factors were considered somewhat or very important by purchasers.

Table II-9
Uranium: Importance of purchase factors, as reported by purchasers

| Factor | Uranium concentrates | | | Natural UF ₆ | | | LEU-HF | | |
|--|-----------------------------------|----|----|-------------------------|----|----|--------|----|----|
| | VI | SI | NI | VI | SI | NI | VI | SI | NI |
| | <i>Number of firms responding</i> | | | | | | | | |
| Availability | 24 | 2 | 0 | 22 | 3 | 0 | 14 | 0 | 0 |
| Delivery terms | 14 | 11 | 0 | 0 | 0 | 0 | 7 | 6 | 1 |
| Delivery times | 15 | 9 | 1 | 14 | 11 | 1 | 9 | 5 | 0 |
| Discounts offered | 11 | 11 | 3 | 10 | 12 | 3 | 6 | 6 | 2 |
| Diverse source of supply | 17 | 8 | 0 | 0 | 0 | 0 | 6 | 7 | 1 |
| Lowest price | 19 | 5 | 1 | 20 | 5 | 1 | 9 | 3 | 2 |
| Min quantity requirements | 7 | 14 | 4 | 6 | 14 | 5 | 5 | 8 | 1 |
| Packaging | 2 | 7 | 15 | 2 | 9 | 14 | 1 | 7 | 6 |
| Product consistency | 8 | 11 | 4 | 7 | 15 | 3 | 7 | 6 | 1 |
| Product quality | 13 | 8 | 3 | 12 | 10 | 3 | 9 | 4 | 1 |
| Product range | 3 | 10 | 9 | 2 | 9 | 13 | 2 | 1 | 7 |
| Reliability of supply | 21 | 3 | 1 | 21 | 5 | 0 | 13 | 1 | 0 |
| Technical support/service | 5 | 9 | 10 | 5 | 8 | 12 | 2 | 7 | 5 |
| Transportation network | 6 | 6 | 9 | 5 | 11 | 8 | 1 | 3 | 5 |
| U.S. transportation costs | 2 | 12 | 9 | 3 | 11 | 11 | 1 | 8 | 4 |
| Escalation provisions | 0 | 0 | 0 | 14 | 11 | 1 | 9 | 4 | 1 |
| Amendment to existing contracts | 1 | 16 | 8 | 1 | 16 | 9 | 2 | 9 | 3 |
| Payment terms | 8 | 13 | 3 | 8 | 14 | 4 | 4 | 9 | 1 |
| Feed delivery terms | 5 | 7 | 2 | 7 | 9 | 2 | 4 | 6 | 1 |
| LEU delivery terms | 5 | 6 | 2 | 6 | 8 | 2 | 4 | 6 | 1 |
| Tails assay option | 7 | 6 | 2 | 7 | 7 | 3 | 5 | 4 | 2 |
| Discounts on conversion of uranium concentrates | 6 | 7 | 7 | 6 | 11 | 4 | 2 | 3 | 4 |
| Delivery of U ₃ O ₈ in lieu of UF ₆ | 3 | 5 | 9 | 3 | 6 | 10 | 0 | 2 | 8 |

Table continued on next page.

Table II-9—Continued
Uranium: Importance of purchase factors, as reported by purchasers

| Factor | EUP | | | LEU-DO | | |
|--|-----------------------------------|----|----|--------|----|----|
| | VI | SI | NI | VI | SI | NI |
| | <i>Number of firms responding</i> | | | | | |
| Availability | 2 | 0 | 0 | 3 | 0 | 0 |
| Delivery terms | 1 | 1 | 0 | 0 | 3 | 0 |
| Delivery times | 1 | 1 | 0 | 2 | 1 | 0 |
| Discounts offered | 2 | 0 | 0 | 1 | 1 | 1 |
| Diverse source of supply | 2 | 0 | 0 | 2 | 1 | 0 |
| Lowest price | 2 | 0 | 0 | 2 | 1 | 0 |
| Min quantity requirements | 1 | 1 | 0 | 1 | 2 | 0 |
| Packaging | 0 | 1 | 0 | 1 | 1 | 1 |
| Product consistency | 1 | 1 | 0 | 2 | 1 | 0 |
| Product quality | 2 | 0 | 0 | 3 | 0 | 0 |
| Product range | 0 | 1 | 0 | 1 | 0 | 2 |
| Reliability of supply | 2 | 0 | 0 | 3 | 0 | 0 |
| Technical support/service | 0 | 1 | 0 | 1 | 2 | 0 |
| Transportation network | 0 | 0 | 0 | 2 | 0 | 1 |
| U.S. transportation costs | 0 | 1 | 0 | 1 | 2 | 0 |
| Escalation provisions | 2 | 0 | 0 | 2 | 1 | 0 |
| Amendment to existing contracts | 0 | 2 | 0 | 0 | 2 | 1 |
| Payment terms | 2 | 0 | 0 | 1 | 2 | 0 |
| Feed delivery terms | 2 | 0 | 0 | 2 | 0 | 0 |
| LEU delivery terms | 2 | 0 | 0 | 0 | 1 | 0 |
| Tails assay option | 2 | 0 | 0 | 1 | 1 | 0 |
| Discounts on conversion of uranium concentrates | 1 | 1 | 0 | 1 | 1 | 0 |
| Delivery of U ₃ O ₈ in lieu of UF ₆ | 2 | 0 | 0 | 0 | 0 | 2 |

Table continued on next page.

Table II-9--Continued
Uranium: Importance of purchase factors, as reported by purchasers

| Factor | Conversion services | | | Enrichment services | | | Fabrication services | | |
|--|-----------------------------------|----|----|---------------------|----|----|----------------------|----|----|
| | VI | SI | NI | VI | SI | NI | VI | SI | NI |
| | <i>Number of firms responding</i> | | | | | | | | |
| Availability | 24 | 1 | 0 | 25 | 2 | 0 | 13 | 5 | 0 |
| Delivery terms | 13 | 12 | 0 | 14 | 13 | 0 | 11 | 7 | 0 |
| Delivery times | 15 | 9 | 1 | 16 | 9 | 2 | 14 | 3 | 1 |
| Discounts offered | 11 | 9 | 4 | 9 | 12 | 5 | 8 | 8 | 2 |
| Diverse source of supply | 16 | 9 | 0 | 20 | 7 | 0 | 7 | 8 | 3 |
| Lowest price | 18 | 6 | 1 | 21 | 6 | 0 | 11 | 7 | 0 |
| Min quantity requirements | 7 | 13 | 4 | 7 | 14 | 5 | 7 | 7 | 4 |
| Packaging | 2 | 9 | 13 | 2 | 11 | 13 | 3 | 11 | 4 |
| Product consistency | 9 | 13 | 2 | 9 | 10 | 6 | 14 | 3 | 1 |
| Product quality | 13 | 9 | 2 | 13 | 8 | 4 | 17 | 1 | 0 |
| Product range | 2 | 8 | 12 | 3 | 12 | 11 | 4 | 10 | 4 |
| Reliability of supply | 22 | 3 | 0 | 26 | 1 | 0 | 17 | 1 | 0 |
| Technical support/service | 6 | 9 | 9 | 6 | 12 | 8 | 11 | 7 | 0 |
| Transportation network | 7 | 8 | 7 | 5 | 12 | 8 | 1 | 11 | 4 |
| U.S. transportation costs | 2 | 9 | 12 | 2 | 12 | 12 | 0 | 11 | 6 |
| Escalation provisions | 14 | 10 | 1 | 15 | 11 | 1 | 9 | 8 | 1 |
| Amendment to existing contracts | 1 | 14 | 10 | 2 | 15 | 10 | 2 | 12 | 4 |
| Payment terms | 8 | 13 | 4 | 9 | 14 | 4 | 8 | 9 | 1 |
| Feed delivery terms | 8 | 13 | 3 | 11 | 14 | 1 | 7 | 5 | 2 |
| LEU delivery terms | 6 | 5 | 1 | 10 | 12 | 2 | 6 | 7 | 2 |
| Tails assay option | 7 | 3 | 3 | 10 | 14 | 1 | 3 | 3 | 4 |
| Discounts on conversion of uranium concentrates | 9 | 10 | 3 | 6 | 5 | 4 | 2 | 3 | 4 |
| Delivery of U ₃ O ₈ in lieu of UF ₆ | 4 | 5 | 7 | 3 | 6 | 8 | 1 | 3 | 5 |

VI= very important, SI=somewhat important, NI=not important

Note: Not all firms responded for all questions.

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

Comparison of U.S.-Produced, Subject, and Nonsubject Uranium

U.S.-produced and subject imported uranium are both purchased by U.S. electric utilities for their nuclear generating plants. Purchaser questionnaire responses indicated that all of the responding electric utilities generally purchased their uranium products and toll processed on an open-country basis,⁹⁸ subject to the uranium being legally acceptable in the U.S. market.⁹⁹

Purchasers were asked if uranium products from the United States, Russia, and nonsubject countries were interchangeable. The majority of the purchasers reported that all uranium product and services except fabrication services from each of the country pairs were always interchangeable (table II-10). The majority of purchasers reported that U.S. and Russian fabrication services were not interchangeable.

Table II-10
Uranium: Purchasers' perceived degree of interchangeability of products produced in the United States, Russia, and nonsubject countries¹

| Products | United States vs Russia | | | | United States vs nonsubject | | | | Russia vs nonsubject | | | |
|-------------------------|----------------------------|---|---|---|-----------------------------|---|---|---|----------------------|---|---|---|
| | A | F | S | N | A | F | S | N | A | F | S | N |
| | Number of firms responding | | | | | | | | | | | |
| Uranium Concentrates | 14 | 2 | 3 | 1 | 17 | 1 | 0 | 0 | 14 | 0 | 4 | 2 |
| Natural UF ₆ | 17 | 1 | 2 | 0 | 19 | 0 | 0 | 0 | 15 | 0 | 2 | 2 |
| LEU-HF | 7 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 6 | 0 | 0 | 0 |
| EUP | 10 | 0 | 2 | 0 | 11 | 0 | 0 | 0 | 9 | 0 | 1 | 0 |
| LEU-DO | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Conversion | 12 | 1 | 4 | 0 | 19 | 0 | 0 | 0 | 11 | 0 | 3 | 3 |
| Enrichment | 15 | 1 | 2 | 0 | 18 | 0 | 0 | 0 | 13 | 0 | 1 | 1 |
| Fabrication services | 2 | 0 | 0 | 3 | 2 | 3 | 1 | 1 | 1 | 3 | 0 | 0 |

¹ Purchasers were asked if uranium products/services produced in the United States and in other countries are used interchangeably.

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

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

Purchasers were also asked if there were differences other than price between uranium products from the United States, Russia, and nonsubject countries. Almost the same number of purchasers

⁹⁸ Open-country essentially means that the purchaser will accept uranium from any country; generally implicit in the open-country designation is that the uranium is legally acceptable.

⁹⁹ Although most movements of uranium are tracked by country of origin and ownership title with meticulous record keeping and accountability to U.S. and international monitoring agencies, the product is physically commingled across country of origin and ownership at the various processing stages due to its highly fungible nature. As a result, U.S. electric utilities cannot guarantee that their uranium inventories are physically those of the recorded country of origin.

reported that there were always, sometimes, and never differences between U.S. and Russian uranium concentrates, natural UF₆, LEU-HF, EUP, and enrichment. On the other hand, the same number of purchasers reported that there were always differences between U.S. and Russian conversion as reported that there were sometimes and never differences. Lastly, all responding purchasers reported differences between U.S. and Russian fabrication services. For more detail, see table II-11.

Table II-11
Uranium: Purchasers' perceived significance of differences other than price between U.S.-produced and imported product¹

| Products | United States vs Russia | | | | United States vs nonsubject | | | | Russia vs nonsubject | | | |
|-------------------------|----------------------------|---|---|---|-----------------------------|---|---|---|----------------------|---|---|---|
| | A | F | S | N | A | F | S | N | A | F | S | N |
| | Number of firms responding | | | | | | | | | | | |
| Uranium Concentrates | 6 | 0 | 5 | 5 | 6 | 0 | 6 | 4 | 7 | 0 | 3 | 4 |
| Natural UF ₆ | 7 | 0 | 6 | 5 | 6 | 0 | 6 | 4 | 7 | 0 | 4 | 4 |
| LEU-HF | 2 | 0 | 3 | 3 | 2 | 0 | 3 | 2 | 3 | 0 | 2 | 2 |
| EUP | 4 | 0 | 3 | 2 | 3 | 0 | 3 | 1 | 3 | 0 | 2 | 1 |
| LEU-DO | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Conversion | 6 | 0 | 3 | 3 | 5 | 0 | 5 | 4 | 6 | 0 | 2 | 2 |
| Enrichment | 6 | 1 | 5 | 5 | 6 | 1 | 7 | 2 | 6 | 0 | 3 | 4 |
| Fabrication services | 5 | 0 | 0 | 0 | 4 | 1 | 1 | 0 | 3 | 0 | 0 | 0 |

¹ Purchasers were asked if differences other than price were a significant factor in their purchases of uranium products/services produced in the United States and in other countries.

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

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

Purchasers were further asked if there were differences in prices between uranium products and services among those from the United States, Russia, and nonsubject countries. Almost the same number of purchasers reported that there were always and sometimes differences in prices between U.S. and Russian for all uranium products and services. Few reported that there were never differences in price (table II-12).

Purchaser Sourcing Patterns

Purchasers were asked to compare domestically produced uranium products with those produced in Russia and in nonsubject countries, for all country pairs for which they had actual experience. Respondents were asked to rate uranium products produced in one country as superior, comparable, or inferior to that from another country with respect to 23 different attributes. The most common comparison were between U.S. and nonsubject uranium concentrates (13), U.S. and Russian natural UF₆ (11), U.S. and Russian uranium concentrates (9), and U.S. and nonsubject natural UF₆, conversion, and enrichment (9 each). Availability, reliability of supply, and lowest price were the three purchase factors that were generally ranked as most important by purchasers, as noted above. These will be described, but other comparisons can be found in table II-13.

Table II-12
Uranium: Purchasers' perceived significance of differences in price between U.S.-produced and imported product¹

| Products | United States vs Russia | | | | United States vs nonsubject | | | | Russia vs nonsubject | | | |
|-------------------------|----------------------------|---|---|---|-----------------------------|---|---|---|----------------------|---|---|---|
| | A | F | S | N | A | F | S | N | A | F | S | N |
| | Number of firms responding | | | | | | | | | | | |
| Uranium Concentrates | 8 | 1 | 7 | 0 | 5 | 1 | 7 | 1 | 3 | 2 | 6 | 1 |
| Natural UF ₆ | 8 | 1 | 9 | 0 | 5 | 1 | 9 | 1 | 3 | 2 | 7 | 1 |
| LEU-HF | 3 | 0 | 3 | 0 | 3 | 0 | 2 | 0 | 2 | 1 | 1 | 0 |
| EUP | 5 | 1 | 4 | 1 | 4 | 2 | 3 | 0 | 3 | 1 | 3 | 0 |
| LEU-DO | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Conversion | 5 | 1 | 5 | 1 | 5 | 3 | 7 | 2 | 2 | 2 | 6 | 1 |
| Enrichment | 7 | 1 | 6 | 1 | 6 | 3 | 7 | 0 | 3 | 2 | 6 | 0 |
| Fabrication services | 2 | 1 | 2 | 1 | 2 | 3 | 2 | 0 | 1 | 1 | 2 | 0 |

¹ Purchasers were asked if differences other than price were a significant factor in their purchases of uranium products/services produced in the United States and in other countries.

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

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

For uranium concentrates, Russia was mostly considered inferior to the United States and nonsubject countries in availability, and the United States was slightly inferior to nonsubject countries. For reliability of supply, the United States was slightly superior to Russia and nonsubject countries, and Russia was inferior to nonsubject countries. For natural UF₆, domestic availability was more often cited as superior to Russian availability, but inferior to nonsubject availability, while Russian availability was mostly inferior to nonsubject availability. For reliability of supply, domestic suppliers were considered superior to Russian suppliers by 2 of 9 purchasers, and inferior to nonsubject suppliers by 1 of 9 buyers. Russian reliability was considered inferior to nonsubject countries' reliability by 3 of 5 purchasers. For conversion and enrichment, Russia was most often considered to have inferior availability and reliability of supply when compared to the United States and nonsubject countries. Availability was more often considered to be inferior for domestic conversion than that of nonsubject countries (2 vs. 1 purchaser), but superior for enrichment (1 vs. 5 purchasers). Purchasers noted reliability for both conversion and enrichment as mostly comparable, but one ranked the United States as inferior to nonsubject countries.

Table II-13
Uranium: Comparisons of imported and U.S. uranium products, as reported by purchasers

| Factor | Uranium concentrates | | | | | | | | | Natural UF ₆ | | | | | | | | |
|--|----------------------------|---|---|---------------------------------|----|---|-----------------------------------|---|---|-------------------------|----|---|---------------------------------|---|---|-----------------------------------|---|---|
| | U.S. vs Russia | | | U.S. vs nonsubject ¹ | | | Russia vs nonsubject ¹ | | | U.S. vs Russia | | | U.S. vs nonsubject ¹ | | | Russia vs nonsubject ¹ | | |
| | S | C | I | S | C | I | S | C | I | S | C | I | S | C | I | S | C | I |
| | Number of firms responding | | | | | | | | | | | | | | | | | |
| Availability | 3 | 5 | 1 | 3 | 5 | 5 | 0 | 2 | 3 | 5 | 5 | 1 | 1 | 5 | 3 | 0 | 2 | 3 |
| Delivery terms | 4 | 4 | 1 | 3 | 7 | 3 | 0 | 3 | 2 | 4 | 6 | 1 | 1 | 5 | 3 | 0 | 4 | 1 |
| Delivery times | 5 | 3 | 1 | 1 | 10 | 2 | 0 | 4 | 1 | 5 | 5 | 1 | 1 | 7 | 1 | 0 | 3 | 2 |
| Discounts offered | 0 | 6 | 3 | 0 | 9 | 4 | 0 | 4 | 1 | 0 | 8 | 3 | 0 | 5 | 4 | 0 | 4 | 1 |
| Diverse source of supply | 0 | 5 | 4 | 0 | 8 | 5 | 0 | 3 | 2 | 0 | 6 | 5 | 0 | 5 | 4 | 2 | 2 | 1 |
| Lowest price | 0 | 9 | 0 | 0 | 13 | 0 | 0 | 5 | 0 | 0 | 11 | 0 | 0 | 9 | 0 | 0 | 5 | 0 |
| Min quantity requirements | 0 | 9 | 0 | 0 | 13 | 0 | 0 | 5 | 0 | 0 | 11 | 0 | 0 | 9 | 0 | 0 | 5 | 0 |
| Packaging | 0 | 9 | 0 | 1 | 12 | 0 | 0 | 5 | 0 | 0 | 11 | 0 | 0 | 9 | 0 | 0 | 5 | 0 |
| Product consistency | 0 | 9 | 0 | 0 | 13 | 0 | 0 | 5 | 0 | 0 | 11 | 0 | 0 | 9 | 0 | 0 | 5 | 0 |
| Product quality | 0 | 9 | 0 | 0 | 13 | 0 | 0 | 5 | 0 | 0 | 11 | 0 | 0 | 9 | 0 | 0 | 5 | 0 |
| Product range | 2 | 4 | 3 | 3 | 7 | 3 | 0 | 2 | 3 | 3 | 5 | 3 | 0 | 6 | 3 | 0 | 1 | 4 |
| Reliability of supply | 2 | 6 | 0 | 1 | 11 | 0 | 0 | 2 | 3 | 2 | 8 | 0 | 0 | 7 | 1 | 0 | 2 | 3 |
| Technical support/service | 5 | 4 | 0 | 4 | 9 | 0 | 0 | 4 | 1 | 5 | 4 | 0 | 2 | 7 | 0 | 0 | 3 | 2 |
| Transportation network | 3 | 6 | 0 | 5 | 8 | 0 | 0 | 3 | 2 | 4 | 7 | 0 | 3 | 6 | 0 | 0 | 3 | 2 |
| U.S. transportation costs | 0 | 6 | 3 | 0 | 10 | 3 | 0 | 5 | 0 | 3 | 8 | 0 | 0 | 6 | 3 | 1 | 4 | 0 |
| Escalation provisions | 2 | 7 | 0 | 2 | 10 | 0 | 0 | 3 | 2 | 0 | 7 | 4 | 1 | 8 | 0 | 0 | 3 | 2 |
| Amendment to existing contracts | 1 | 7 | 1 | 1 | 11 | 1 | 0 | 5 | 0 | 2 | 8 | 0 | 0 | 8 | 1 | 0 | 4 | 1 |
| Payment terms | 2 | 4 | 0 | 0 | 6 | 0 | 0 | 1 | 1 | 1 | 9 | 1 | 0 | 7 | 0 | 0 | 1 | 1 |
| Feed delivery terms | 1 | 4 | 0 | 0 | 5 | 0 | 0 | 1 | 1 | 4 | 4 | 0 | 0 | 4 | 0 | 0 | 1 | 1 |
| LEU delivery terms | 0 | 3 | 1 | 0 | 4 | 0 | 0 | 2 | 0 | 1 | 4 | 0 | 0 | 3 | 0 | 0 | 1 | 0 |
| Tails assay option | 0 | 5 | 2 | 0 | 5 | 1 | 0 | 3 | 0 | 0 | 2 | 1 | 0 | 4 | 2 | 0 | 2 | 0 |
| Discounts on conversion of uranium concentrates | 0 | 3 | 1 | 0 | 5 | 0 | 0 | 2 | 1 | 0 | 5 | 2 | 0 | 3 | 0 | 0 | 1 | 1 |
| Delivery of U ₃ O ₈ in lieu of UF ₆ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

Table continued on next page.

Table II-13—Continued
Uranium: Comparisons of imported and U.S. uranium products, as reported by purchasers

| Factor | LEU-HF | | | | | | EUP | | | | | | | | |
|--|----------------------------|---|---|--------------------|---|---|----------------|---|---|--------------------|---|---|----------------------|---|---|
| | U.S. vs Russia | | | U.S. vs nonsubject | | | U.S. vs Russia | | | U.S. vs nonsubject | | | Russia vs nonsubject | | |
| | S | C | I | S | C | I | S | C | I | S | C | I | S | C | I |
| | Number of firms responding | | | | | | | | | | | | | | |
| Availability | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Delivery terms | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Delivery times | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Discounts offered | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Diverse source of supply | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Lowest price | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Min quantity requirements | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Packaging | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Product consistency | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Product quality | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Product range | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Reliability of supply | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Technical support/service | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Transportation network | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| U.S. transportation costs | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Escalation provisions | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Amendment to existing contracts | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Payment terms | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Feed delivery terms | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| LEU delivery terms | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Tails assay option | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Discounts on conversion of uranium concentrates | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Delivery of U ₃ O ₈ in lieu of UF ₆ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table continued on next page.

Table II-13—Continued
Uranium: Comparisons of imported and U.S. uranium products, as reported by purchasers

| Factor | Conversion | | | | | | | | | Enrichment | | | | | | | | |
|--|----------------------------|---|---|---------------------------------|---|---|-----------------------------------|---|---|----------------|---|---|---------------------------------|---|---|-----------------------------------|---|---|
| | U.S. vs Russia | | | U.S. vs nonsubject ¹ | | | Russia vs nonsubject ¹ | | | U.S. vs Russia | | | U.S. vs nonsubject ¹ | | | Russia vs nonsubject ¹ | | |
| | S | C | I | S | C | I | S | C | I | S | C | I | S | C | I | S | C | I |
| | Number of firms responding | | | | | | | | | | | | | | | | | |
| Availability | 3 | 2 | 0 | 1 | 6 | 2 | 0 | 2 | 2 | 3 | 4 | 0 | 5 | 3 | 1 | 0 | 1 | 2 |
| Delivery terms | 2 | 3 | 0 | 0 | 7 | 2 | 0 | 4 | 0 | 2 | 5 | 0 | 1 | 7 | 1 | 0 | 2 | 1 |
| Delivery times | 3 | 2 | 0 | 1 | 8 | 0 | 0 | 2 | 2 | 3 | 4 | 0 | 1 | 8 | 0 | 0 | 1 | 2 |
| Discounts offered | 0 | 5 | 0 | 0 | 8 | 1 | 0 | 4 | 0 | 0 | 6 | 1 | 0 | 5 | 4 | 0 | 3 | 0 |
| Diverse source of supply | 0 | 5 | 0 | 0 | 7 | 2 | 1 | 3 | 0 | 0 | 6 | 1 | 0 | 4 | 5 | 0 | 2 | 1 |
| Lowest price | 0 | 5 | 0 | 0 | 9 | 0 | 0 | 4 | 0 | 0 | 7 | 0 | 0 | 8 | 1 | 0 | 3 | 0 |
| Min quantity requirements | 0 | 5 | 0 | 0 | 9 | 0 | 0 | 4 | 0 | 0 | 7 | 0 | 0 | 9 | 0 | 0 | 3 | 0 |
| Packaging | 0 | 5 | 0 | 0 | 9 | 0 | 0 | 4 | 0 | 0 | 7 | 0 | 0 | 9 | 0 | 0 | 3 | 0 |
| Product consistency | 0 | 5 | 0 | 0 | 9 | 0 | 0 | 4 | 0 | 0 | 7 | 0 | 0 | 9 | 0 | 0 | 3 | 0 |
| Product quality | 0 | 5 | 0 | 0 | 9 | 0 | 0 | 4 | 0 | 0 | 7 | 0 | 0 | 9 | 0 | 0 | 3 | 0 |
| Product range | 1 | 2 | 2 | 0 | 4 | 5 | 0 | 2 | 2 | 1 | 6 | 0 | 0 | 7 | 2 | 0 | 2 | 1 |
| Reliability of supply | 1 | 4 | 0 | 0 | 8 | 1 | 0 | 2 | 2 | 1 | 6 | 0 | 0 | 8 | 1 | 0 | 1 | 2 |
| Technical support/service | 1 | 4 | 0 | 1 | 7 | 1 | 0 | 3 | 1 | 2 | 5 | 0 | 4 | 5 | 0 | 0 | 2 | 1 |
| Transportation network | 0 | 5 | 0 | 1 | 7 | 1 | 0 | 3 | 1 | 1 | 6 | 0 | 2 | 6 | 1 | 0 | 3 | 0 |
| U.S. transportation costs | 0 | 5 | 0 | 0 | 9 | 0 | 0 | 4 | 0 | 0 | 6 | 1 | 0 | 4 | 5 | 0 | 3 | 0 |
| Escalation provisions | 0 | 5 | 0 | 0 | 9 | 0 | 0 | 3 | 1 | 0 | 6 | 0 | 0 | 8 | 1 | 0 | 2 | 1 |
| Amendment to existing contracts | 0 | 5 | 0 | 0 | 9 | 0 | 0 | 3 | 1 | 0 | 7 | 0 | 0 | 7 | 2 | 0 | 2 | 1 |
| Payment terms | 3 | 2 | 0 | 2 | 5 | 1 | 0 | 2 | 1 | 2 | 5 | 0 | 3 | 4 | 2 | 0 | 2 | 1 |
| Feed delivery terms | 1 | 2 | 0 | 1 | 3 | 0 | 0 | 2 | 1 | 1 | 6 | 0 | 1 | 7 | 0 | 0 | 1 | 1 |
| LEU delivery terms | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 0 | 6 | 1 | 0 | 3 | 6 | 0 | 3 | 0 |
| Tails assay option | 0 | 3 | 0 | 0 | 4 | 1 | 0 | 3 | 0 | 0 | 3 | 1 | 0 | 3 | 4 | 0 | 2 | 0 |
| Discounts on conversion of uranium concentrates | 0 | 3 | 0 | 0 | 4 | 0 | 0 | 2 | 1 | 0 | 3 | 1 | 0 | 4 | 2 | 0 | 1 | 1 |
| Delivery of U ₃ O ₈ in lieu of UF ₆ | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

Table continued on next page.

Table II-13—Continued
Uranium: Comparisons of imported and U.S. uranium products, as reported by purchasers

| Factor | Fabrication | | | | | | | | |
|--|----------------------------|---|---|--------------------|---|---|----------------------|---|---|
| | U.S. vs Russia | | | U.S. vs nonsubject | | | Russia vs nonsubject | | |
| | S | C | I | S | C | I | S | C | I |
| | Number of firms responding | | | | | | | | |
| Availability | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Delivery terms | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Delivery times | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Discounts offered | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Diverse source of supply | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Lowest price | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Min quantity requirements | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Packaging | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Product consistency | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Product quality | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Product range | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Reliability of supply | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Technical support/service | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Transportation network | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| U.S. transportation costs | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Escalation provisions | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Amendment to existing contracts | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Payment terms | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Feed delivery terms | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| LEU delivery terms | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Tails assay option | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Discounts on conversion of uranium concentrates | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Delivery of U ₃ O ₈ in lieu of UF ₆ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

¹ Some firms reported answers for multiple nonsubject countries. When these answers differed among the different nonsubject countries, all answers have been reported.

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

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

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

Purchases from Specific Producers and Countries

Purchasers were asked how frequently they purchased uranium and uranium products from specific producers and from specific countries. The following tabulation summarizes the responses.

| Purchaser decision | Always | Usually | Sometimes | Never |
|--|----------------------------|---------|-----------|-------|
| | Number of firms responding | | | |
| Purchaser makes decision based on country | 2 | 1 | 15 | 11 |
| Purchaser makes decision based on producer | 5 | 8 | 11 | 5 |

Most (26 of 29) purchasers reported that they either never or only sometimes make purchasing decisions based on the country of origin. Purchasers were more interested in the producer, although 16 of the 29 purchasers reported they either sometimes or never made purchase decisions based on producer. Of those purchasers that reported that they always make decisions based on the manufacturer, reasons cited include: proposals received from and discussed with supplier; use sole source of UF₆ and enrichment; concerns on financial stability and ability to deliver; supplier is critical in determining price, risk and diversification; and supply security and flexibility.

Factors Affecting Purchasing Decisions

Purchasers were asked to identify the three major factors considered by their firm in deciding from whom to purchase uranium products (table II-14). Price was the most factor most reported as first, second and third factor, reported by 12, 10, and 5 purchasers respectively. The second most commonly reported factor was reliability with 8 firms reporting this as the most important factor. Other factors listed among the top three factors by more than one purchaser were security of supply, legal and other terms and conditions, diversity of supply, responsiveness, strength of supplier, logistical considerations, delivery terms/location/lead times, and various quality considerations.

Purchasers were asked if they attempt to maintain unrelated sources of supply for their uranium products/services. Twenty-four of the 28 responding purchasers reported that they did try to maintain unrelated sources; the purchasers that reported why typically were attempting to increase the reliability/security of supply and reduce risks.

Additionally, purchasers were asked if they always, usually, sometimes, or never purchase the lowest-priced product when buying different uranium products and services. Uranium concentrates, natural UF₆, and low enriched UF₆ were more frequently purchased based on price than LEU-DO, as indicated in table II-15.

Factors Determining Quality

Purchasers were asked to identify the factors that they use to evaluate the quality of a supplier's uranium products/services. Most purchasers (25 of the 27 responding) reported that either meeting ASTM or standard industry specifications/regulations was essential; one reported that there was very little if any non-spec material in the market. Relatively few purchasers (six) reported any other factors that determined quality. Other factors reported by these firms were reliability/security of supply, price, financial strength, meeting contract obligation, service, resistance to failure while in service, efficiency of uranium utilization, technical support, multiple product streams, inventories of supplier, and shipping risks.

Table II-14**Uranium: Most important factors in selecting a supplier, as reported by purchasers**

| Factor | First | Second | Third |
|---|-----------------------------------|--------|-------|
| | Number of firms responding | | |
| Price/cost/price predictability | 12 | 10 | 7 |
| Reliability ¹ | 8 | 3 | 1 |
| Security of supply ² | 5 | 1 | 3 |
| Legal/other terms and conditions | 1 | 2 | 0 |
| Diversity of supply/sources/locations | 1 | 2 | 2 |
| Responsiveness ³ | 0 | 2 | 4 |
| Strength of supplier ⁴ | 1 | 2 | 3 |
| Logistical considerations ⁵ | 0 | 2 | 3 |
| Delivery terms/delivery location/lead times | 0 | 2 | 2 |
| Quality/origin and quality of fabrication/technical qualities of the fuel | 0 | 2 | 1 |

¹ Includes reliability of supply; reliability of supplier; assurance of supply; ability to supply; meet contract obligations; adherence to preset strategy; and capacity and supply.

² Security of supply includes: supply risk; and assurance of supply.

³ Includes flexibility; responsive to bid specifications; responsiveness to contract terms; service; and cooperative attitude.

⁴ Includes past performance of supplier; experience with supplier; reputation of supplier; supplier dependability; and financial strength of the supplier

⁵ Includes book transfer of feed and product to other customers at no charge; availability of shipping containers and licencing; and storage of feed and product material.

Note: One purchaser provided two separate answers, one for fabrication and the other for natural Uranium, conversion, UF₆, and enrichment combined. This information is included in the table.

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

Table II-15**Uranium: Purchasers reporting how often they purchased uranium products/services offered at the lowest price since 2000, by product and type of purchase**

| Type of purchase | Product | Always | Usually | Sometimes | Never |
|-----------------------------|------------------------------|-----------------------------------|---------|-----------|-------|
| | | Number of firms responding | | | |
| Long-term contract services | Uranium concentrates | 8 | 8 | 5 | 2 |
| | Natural UF ₆ | 8 | 9 | 6 | 1 |
| | Low-enriched UF ₆ | 8 | 8 | 5 | 2 |
| | Low-enriched UO ₂ | 2 | 2 | 3 | 9 |
| Spot purchases | Uranium concentrates | 13 | 6 | 2 | 4 |
| | Natural UF ₆ | 13 | 6 | 4 | 3 |
| | Low-enriched UF ₆ | 9 | 3 | 3 | 5 |
| | Low-enriched UO ₂ | 1 | 0 | 1 | 10 |

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

Certification/Qualification Issues

Purchasers were asked if they require prequalification of their suppliers. Only one purchaser reported requiring prequalification; it reported that the product must meet ASTM qualifications. Qualification was typically regulatory qualification and industry standard qualification rather than based on the particular purchasing firms. Qualification by the NRC was reported to take up to two years, other firm based qualifications were reported to require relatively little time. Only two of the 28 responding purchasers reported that any domestic or foreign producer failed in its attempts to certify or qualify or lost qualification of its uranium products since 2002. One of these firms reported that GNF and the other that Framatone had been disqualified but both had been subsequently requalified.

ELASTICITY ESTIMATES

U.S. Supply Elasticity

The domestic supply elasticity for uranium measures the sensitivity of quantity supplied by U.S. producers to a change in the U.S. market price of uranium. The elasticity of domestic supply depends on several factors including U.S. producers' level of excess capacity, the ease with which U.S. producers can alter productive capacity, the existence of inventories, and the availability of alternate markets for U.S.-produced uranium.¹⁰⁰ Analysis of these factors indicates that, based principally on excess capacity, U.S. producers have significant flexibility to alter their supply of uranium concentrates, and provision of uranium conversion, enrichment, and fabrication services. In addition, large inventories of natural UF₆ held principally by USEC and DOE suggest that significant flexibility may exist for U.S. producers to supply this product and EUP.¹⁰¹ As a result, the domestic supply elasticity is estimated to be in the range of 4 to 8 for uranium concentrates, natural UF₆, conversion, EUP, enrichment, and fabrication.¹⁰²

U.S. Demand Elasticity

The U.S. price elasticity of demand for uranium measures the sensitivity of the overall quantity demanded of this commodity to changes in its U.S. market price of uranium. The price elasticity depends on the cost share of uranium in the production of electricity, the price elasticity of downstream products, and the substitutability of other inputs for uranium in the downstream products. Based on available information, overall U.S. demand elasticity for uranium is estimated to be in the range of -0.5 to -1.5 individually for uranium concentrates, natural UF₆, LEU-HF, and natural conversion and enrichment, due principally to substitution among these products/services. However, the demand elasticity for uranium in its final product form, LEU-DO, for the fabrication services to process and pelletize the LEU, or for the aggregate bundle of uranium products/services is estimated to be in the range of -0.1 to -0.3.¹⁰³

¹⁰⁰ Domestic supply response is assumed to be symmetrical for both an increase and a decrease in demand for the domestic product. Therefore, factors opposite to those resulting in increased quantity supplied to the U.S. market result in decreased quantity supplied to the same extent.

¹⁰¹ As noted above, DOE inventories are likely to be kept out of the market until 2009.

¹⁰² In the first five-year review, an estimate of 5 to 10 was used. The situation regarding the withholding of DOE inventories was not as clear at that point, and thus the estimate has been lowered.

¹⁰³ In the short run, electric utilities could delay purchases of the uranium products/services by extending their reload cycle; this could be done by operating at a lower output level and buying electricity to meet their sales contracts.

Substitution Elasticity¹⁰⁴

The elasticity of substitution largely depends upon the degree to which there is an overlap of competition between U.S.-produced and imported uranium and the degree of product differentiation. Product differentiation, in turn, depends on such factors as physical characteristics (e.g., grades and quality) and conditions of sale (e.g., delivery lead times, reliability of supply, product service, import restrictions, etc.). Based on available information, the elasticity of substitution between domestic uranium and the imported uranium concentrates, natural UF₆, and LEU-HF from Russia is estimated to range from 4 to 6. These estimates are based on unfettered access to the U.S. market and for sales made on a similar basis. The Suspension Agreement, the Russian HEU Agreement, and the USEC Privatization Act, all of which restrict imports of the subject uranium, reduce these estimates. Producers, importers, and purchasers indicated that long-term contract prices, both market-related and fixed (the latter with or without a price escalator),¹⁰⁵ and spot-purchase prices are typically negotiated and based on a number of factors, including availability and consideration of various published spot prices at the time of negotiation. Long-term contract prices are affected by spot prices at the time of delivery and by the spot prices at the time the contract was negotiated.^{106 107} To account for the relationships between spot prices and long-term contract prices, both at the time long-term contracts are negotiated and at the time of delivery (the latter only for contracts with market-related price provisions), the staff estimates that an elasticity of substitution between U.S. and subject imported uranium be reduced by half, for an adjusted range of 2 to 3 for uranium concentrates, natural UF₆, and LEU-HF, when comparing the impact of the subject imported uranium spot prices in the current period on U.S. producers' long-term contract prices negotiated in the current period and deliveries of uranium under long-term contracts with market-related prices.¹⁰⁸ USEC agrees that in the short-term, the existence of long-term contracts would limit interchangeability, but argues that a longer-term analysis should be employed, and an elasticity of substitution of 4 to 6 be used.¹⁰⁹

¹⁰⁴ The substitution elasticity measures the responsiveness of the relative U.S. consumption levels of the subject imports and the U.S. like products to changes in their relative prices. This reflects how easily purchasers switch from the U.S. product to the subject imported products (or vice versa) when prices change.

¹⁰⁵ Market-related prices in long-term contracts usually involve a variety of formulations such that the price at the time of delivery under a long-term contract is based on but not necessarily equal to the specified reported spot price existing at the time of delivery.

¹⁰⁶ To the extent that market conditions are similar during the time that the contract was negotiated and at the time of delivery under the contract, spot prices may actually be quite similar in both periods and give the impression that spot prices in the initial period were the primary factor affecting prices at the time of delivery.

¹⁰⁷ All types of long-term contracts are also negotiated based on buyer and seller perceptions of future demand and supply and the buyer's perceptions of the reliability of individual suppliers.

¹⁰⁸ This adjustment acknowledges that any subject imported uranium that is sold in the United States on a spot basis may still impact domestic uranium sold on a long-term contract basis.

¹⁰⁹ USEC's prehearing brief, pp. 28-9.

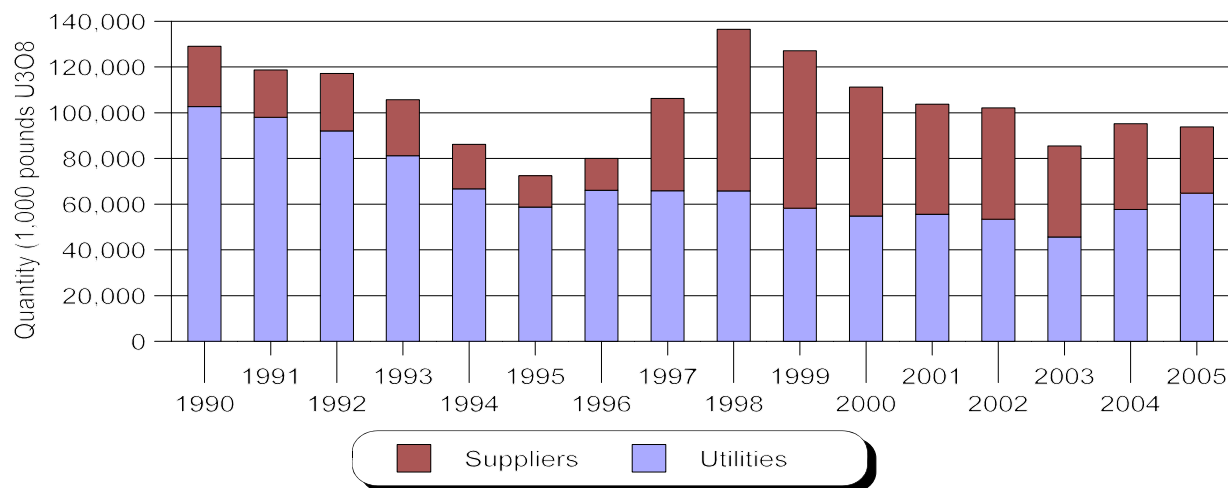
PART III: CONDITION OF THE U.S. INDUSTRY

Changes in the Domestic Industry

The U.S. and global uranium industries and markets have seen significant changes since the period of the first five-year reviews.¹ For many years, the U.S. and world uranium market were characterized by large inventories which suppressed prices.² These low prices not only reduced the incentive of uranium producers at various levels of processing to invest in new capacity,³ but especially for the uranium mining and milling industry, were a contributory factor in the closure of many uranium operations. Figure III-1 shows U.S. utilities' and U.S. suppliers' uranium inventories during 1990-2005 as reported by DOE's Energy Information Administration.⁴

Figure III-1
Uranium: Total commercial inventories of U.S. suppliers and owners and operators of U.S. civilian nuclear power reactors, 1990-2005

Source: *Uranium Industry Annual Reports*, EIA, DOE, found at <http://www.eia.doe.gov/fuelnuclear.html>.



Developments in the U.S. Uranium Mining and Milling Industry

The U.S. uranium mining and milling industry has experienced closures and cutbacks in output in recent years. Factors that have adversely affected the domestic uranium industry and caused prices to decline and domestic facilities to be shut down before 2004 include continued large-volume purchases of

¹ The U.S. uranium industry consists of producers producing uranium at varying levels of processing: the steps include uranium mining and milling, uranium conversion, uranium enrichment, and fuel assembly fabrication. The fuel assemblies are subsequently inserted in a nuclear reactor where the contained uranium in the fuel assemblies is “burnt” to release energy. This energy is used to generate electricity in nuclear power plants. Uranium is also used in propulsion systems (primarily defense or government related) and in the preparation of nuclear weapons.

² *Report to Congress on the HEU Agreement*, 2005, p. 5.

³ *Ibid.*

⁴ *Uranium Marketing Annual Report*, EIA, DOE, 2005 Edition.

lower-cost uranium from Canada, Australia, and countries of the former Soviet Union, and continued oversupply of uranium inventories from utilities and suppliers.⁵

According to data compiled by the EIA, uranium mine production peaked during 1996-98 and then declined steadily during 1999-2003 (figure III-2). U.S. uranium concentrate production and shipments (figure III-3) and employment in the U.S. uranium production industry through 2003 (figure III-4) show a similarly declining trend. In 2004, the industry experienced an upturn. The upturn appeared to be across the board (figures III-2 to III-4). As described in the EIA report:⁶

. . . U.S. uranium drilling, mining, production, and employment activities increased for the first time since 1998. More companies conducted exploration and development drilling than in the prior 2 years. During 2004, 2.5 million pounds of uranium were mined in the United States, 11 percent more than in 2003, with one new underground mine and one new in-situ leach mine commencing operations. Total U.S. uranium concentrate (yellowcake) production in 2004 was 2.3 million pounds U₃O₈, 14 percent above the 2003 estimated level. Shipments of uranium concentrate from domestic production mills and in-situ leach facilities were also 2.3 million pounds in 2004. Employment in the U.S. uranium production industry totaled 420 person-years, an increase of 31 percent from the 2003 total.

The upturn continued in 2005. As described in the EIA report for that year.⁷

The U.S. uranium production industry's turnaround continues for a second year through 2005 for drilling, mining, concentrate production, employment and expenditures. Estimated exploration and development drilling totaled 3 thousand holes and 1.7 million feet in 2005. Mines produced an estimated 3.0 million pounds of uranium oxide (U₃O₈), 24 percent more than in 2004, with two new underground mines and one new in-situ leach mine commencing operations in 2005. Estimated U.S. uranium concentrate (yellowcake) production in 2005 was 2.7 million pounds U₃O₈, 18 percent above the 2004 level. Shipments of uranium concentrate from domestic production mills and in-situ leach facilities were also estimated at 2.7 million pounds in 2005. Estimated employment in the U.S. uranium production industry was 638 person-years, an increase of 52 percent from the 2004 total. Total drilling, production, land, and other expenditures were an estimated \$134 million in 2005, 54 percent more than in 2004.

Stimulated by the upturn, which was largely caused by higher prices, uranium producers at various levels of processing have recently considered installing or expanding capacity.⁸

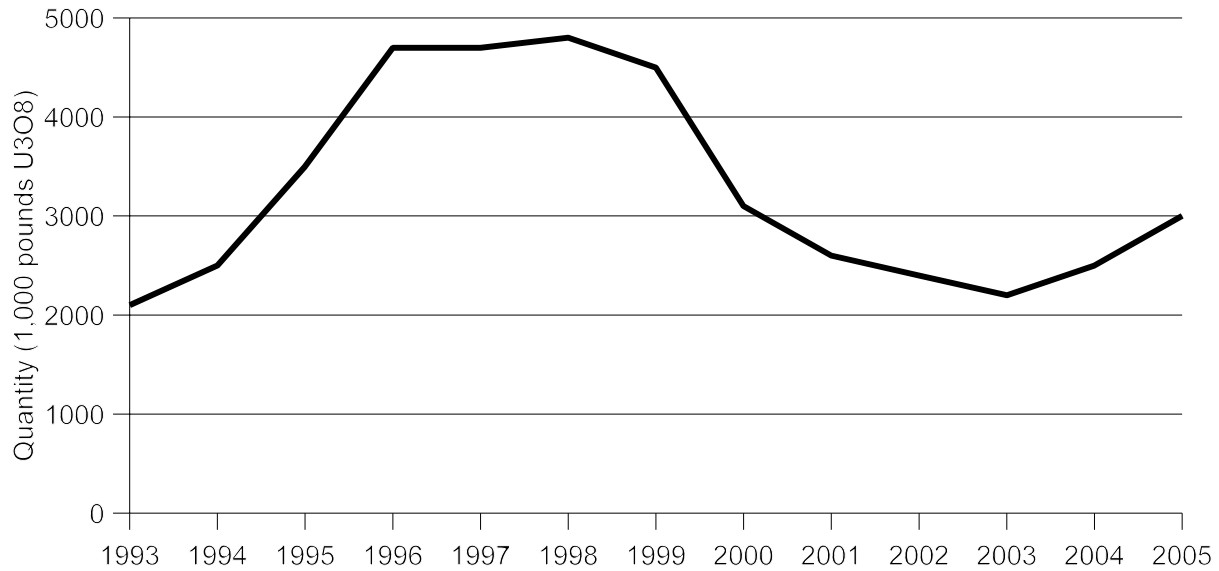
⁵ Report to Congress on the HEU Agreement, 2003, pp. 7-8.

⁶ Domestic Uranium Production Report, EIA, DOE, 2004, August 5, 2005.

⁷ Domestic Uranium Production Report, EIA, DOE, 2005, May 15, 2006.

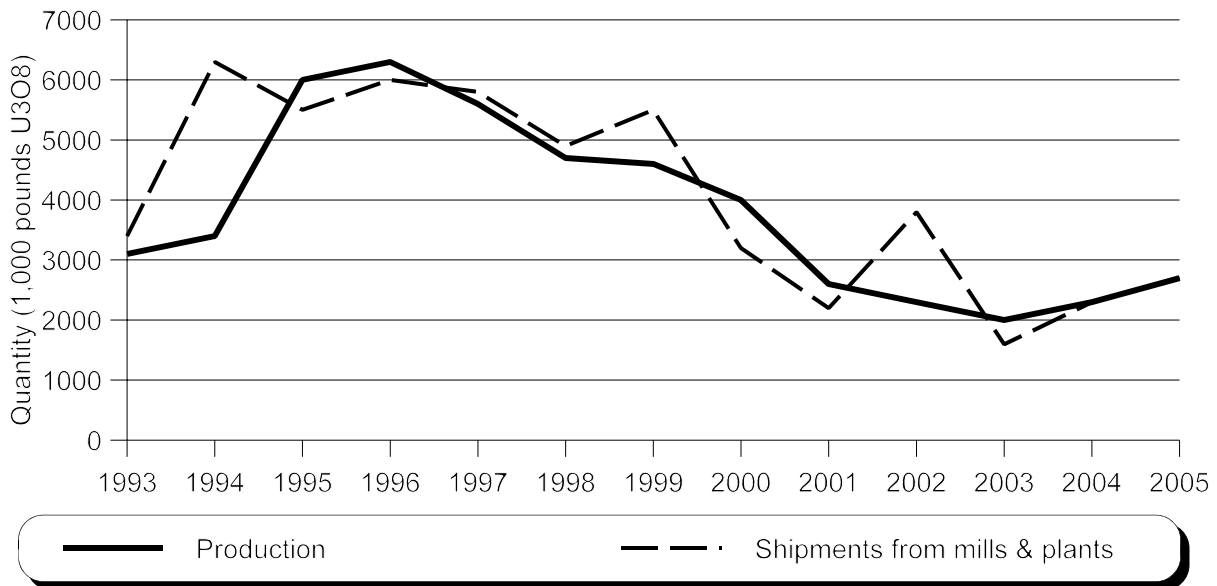
⁸ Report to Congress on the HEU Agreement, 2005, p. 5.

Figure III-2
Uranium: U.S. mine production, 1993-2005



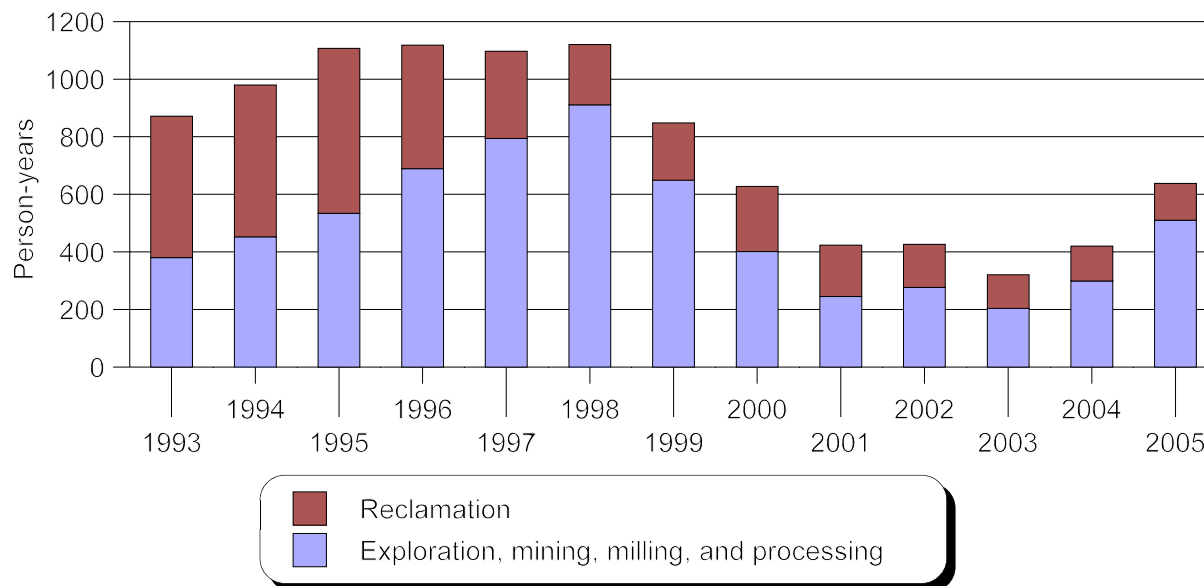
Source: *Uranium Summary Production Statistics*, EIA, DOE, found at <http://www.eia.doe.gov/cneaf/nuclear/dupr/usummary.html>.

Figure III-3
Uranium: U.S. concentrate production and shipments, 1993-2005



Source: *Uranium Summary Production Statistics*, EIA, DOE, found at <http://www.eia.doe.gov/cneaf/nuclear/dupr/usummary.html>.

Figure III-4
Uranium: U.S. employment, by category, 1993-2005



Source: *Uranium Industry Annual Reports*, EIA, DOE, found at <http://www.eia.doe.gov/fuelnuclear.html>.

Developments in the U.S. Uranium Conversion Industry

In uranium conversion, the uranium ore concentrates (uranium yellowcake) are converted to uranium hexafluoride, a step required before uranium can be enriched. In the United States, ConverDyn has been the sole U.S. producer of uranium hexafluoride. Much of this uranium hexafluoride is shipped to USEC, the sole U.S. producer of enriched uranium. Although conversion does not impart as large a value added as uranium mining and milling or uranium enrichment or fabrication, it is an essential step in the nuclear fuel cycle for light-water reactors, the type used in the United States and most other countries.

In 1999, ConverDyn announced that it was cutting back capacity by 25 percent.⁹ This move reflected both the presence of large amounts of inventories from utilities and suppliers, relatively weak demand that resulted, in part, from reduced market share of enriched uranium by USEC, and the impact of the strong U.S. dollar.¹⁰

During 2001, however, market conditions for conversion services improved (for example, conversion prices rose). Industry sources attribute much of this improvement to the announcement by British Nuclear Fuels Limited (BNFL), a European converter, that it would cease operations after March 2006. The planned shutdown would have the effect of reducing world conversion capacity by almost 10 percent.¹¹

Reflecting these events, the spot market price for conversion services rose beginning in late 2000 and then held steady before rising again in 2004 and 2005.¹² According to industry sources, the spot market price rose in 2004 partly as a result of an industrial accident which caused ConverDyn's

⁹ *Report to Congress on the HEU Agreement*, 1999, p. 10.

¹⁰ *Report to Congress on the HEU Agreement*, 2000, p. 11.

¹¹ *Report to Congress on the HEU Agreement*, 2001, pp. 11-12.

¹² *Report to Congress on the HEU Agreement*, 2004 and 2005, p. 6.

conversion facility to shut down for an extended period of time. As expected, the shutdown led to a shortfall of production and a tightening of the conversion market.¹³ The conversion market may have also been affected by a strike at a Canadian conversion facility operated by Cameco which lasted from July 25 to September 17, 2004.¹⁴ In March 2005, BNFL reversed its decision to close down and signed a toll-conversion agreement with Cameco.¹⁵

Developments in the U.S. Uranium Enrichment Industry

In uranium enrichment, the isotopic composition of Uranium-235, which can undergo fission, is increased to a level so that the uranium can be used to generate electricity in nuclear power plants. During 1999-2000, USEC,¹⁶ the sole U.S. uranium enricher, experienced loss of market share because of global overcapacity, increased competition, unfavorable currency exchange rates, and higher production costs.¹⁷ As USEC's capacity utilization rate declined to 25 percent, in part because of reduced market share and increased purchases under the HEU Agreement, USEC announced that it would be closing its Portsmouth, OH, gaseous diffusion plant in June 2001.¹⁸ After declining during 1999-2000, prices for uranium enrichment increased in 2001. Industry observers attribute this increase to the shutdown of the Portsmouth, OH, facility and to the initiation of U.S. antidumping and countervailing duty investigations.¹⁹

With the realization that its aging gaseous diffusion facilities were no longer competitive compared with advanced, gas centrifuge technology, USEC conducted research on new enrichment technologies but canceled its Atomic Vapor Laser Isotope Separation ("AVLIS") program in 1999. Subsequently, USEC announced plans to build a new 3.5 million SWU per year gas centrifuge plant, the American Centrifuge Project.²⁰ The plant, to be located in Piketown, OH, is expected to be operational by the end of 2010.²¹

Moreover, USEC may no longer be the sole U.S. company providing uranium enrichment services in the foreseeable future. Louisiana Energy Services, a consortium of major nuclear energy companies that include Urenco and the U.S. energy companies Duke Power, Entergy, and Exelon, announced that it will construct a new 3 million SWU production facility (the National Enrichment

¹³ *Report to Congress on the HEU Agreement*, 2004, p. 6.

¹⁴ *Ibid.*

¹⁵ WNA, News Briefing, March 21, 2005, located at <http://www.world-nuclear.org/nb/nb05/nb0511.htm>, retrieved June 22, 2006.

¹⁶ Before 1998, uranium enrichment services in the United States were performed by a U.S. government corporation, the United States Enrichment Corp. In July 1998, the corporation was privatized and renamed USEC, Inc. (*Report to Congress on the HEU Agreement*, 1999, pp. 11-12.) USEC, Inc. still retains special responsibility with regard to nuclear matters such as implementing the HEU agreement between the United States and Russia.

¹⁷ *Report to Congress on the HEU Agreement*, 2000, pp. 12-13.

¹⁸ *Ibid.*, p. 13.

¹⁹ *Report to Congress on the HEU Agreement*, 2001, pp. 2, 13.

²⁰ The plant which is based on DOE technology is to be very different technologically than gaseous centrifuge plants currently operating. Hearing transcript, p. 67 (Sewell).

²¹ *Report to Congress on the HEU Agreement*, 2004, p. 7.

Facility (“NEF”)) in Eunice, NM.²² The LES NEF facility will use Urenco gas centrifuge technology.²³ LES applied for an operating license from the U.S. Nuclear Regulatory Commission on December 15, 2003, and the Nuclear Regulatory Commission issued LES a license to construct and operate the NEF on June 23, 2006.²⁴ LES will go to the Urenco Board in early July 2006 for authorization to proceed with construction and operation of the NEF, with construction expected to begin in mid-September 2006.²⁵ LES’s goal is to produce 1 million SWU by the year 2009 and reach full capacity of 3 million SWU in 2013.^{26 27} Accepted and committed contracts for the NEF now exceed \$3 billion.²⁸

LES has publicly announced costs of 1.2 billion Euros (at today’s exchange rate \$1.5 billion) for 3 million SWUs (or \$500 per SWU) as capital costs, which parallel the American Centrifuge Project²⁹ as manufacturing infrastructure must be built, machines made, and raw materials bought. However, once the infrastructure is in place, any future increments of capacity expansion of the American Centrifuge technology could be added at significant savings and much lower cost per SWU.³⁰

In a possible revival of laser uranium enrichment technology, a technology which has been intensely studied but as of now has not seen large-scale commercial implementation, GE Energy announced that it was examining the feasibility of using a laser technology developed by Silex Systems of Australia to install a uranium enrichment pilot plant in the United States.³¹

Developments in the U.S. Uranium Fabrication Industry

The U.S. uranium fabrication industry consisting of four facilities, mirroring world wide trends, has seen increased consolidation and significant ownership changes. The fuel fabrication facility in Columbia, SC, operated by Westinghouse has been acquired by British Nuclear Fuels, Limited. The fuel fabrication facility in Richland, WA and Lynchburg, VA, is currently operated by Framatome ANP, a joint venture of Framatome and Siemens. The fuel fabrication facility in Wilmington, NC, is operated by Global Nuclear Fuels, a firm formed by General Electric with its partners, Hitachi and Toshiba.³²

²² “The LES partnership is made up of limited and general partners consisting of Urenco, Exelon, Duke Power, Entergy and Westinghouse.” Found at <http://www.nrc.gov/materials/fuel-cycle-fac/lesfacility.html>, retrieved on May 25, 2006.

²³ On March 3, 2006, Urenco announced the purchase of the 24.5 percent interest held by Westinghouse Electric Co. in LES. Ibid. Overseas, Urenco-based gas centrifuge technology may also replace gaseous diffusion technology. Eurodif, the French uranium enricher, announced plans to build a 7.5 million SWU per year uranium centrifuge enrichment plant in Tricastin, France. Ibid.

²⁴ National Enrichment Facility, “Louisiana Energy Services Receives License,” Press Release, June 23, 2006.

²⁵ NEF Press Release, June 23, 2006.

²⁶ Found at <http://www.nrc.gov/materials/fuel-cycle-fac/les-schedule.html>, retrieved on June 6, 2006.

²⁷ Ibid.

²⁸ NEF Press Release, June 23, 2006.

²⁹ Hearing transcript, pp. 125 and 147 (Sewell).

³⁰ Ibid.

³¹ GE Energy, Press Release, *GE Signs Agreement With Silex Systems Of Australia To Develop Uranium Enrichment Technology*, located at http://www.ge-energy.com/about/press/en/2006_press/052206b.htm.

³² *The Global Nuclear Fuel Market*, WNA, 2005, pp. 158-162.

The fuel fabrication industry has become increasingly competitive as fabricators increase product diversity. At the same time, fuel fabricators are becoming increasingly competitive by offering products with improved performance capabilities such as higher burnup. According to the WNA, there is significant global overcapacity for fuel fabrication services, a condition that has prompted companies to seek consolidation.³³

According to another industry observer, in recent years, a relatively weak U.S. dollar has abetted U.S. exports which may see reemerging Japanese demand.³⁴ According to this observer, key issues and concerns that will affect the fuel fabrication industry are the possibility that the fabrication industry may not be able to meet future demand requirements, the impact of higher commodity prices for enriched uranium feedstock on the fabrication industry, and the need to keep pace with technical changes such as higher burnups and enrichment levels.³⁵

U.S. PRODUCERS

As discussed earlier, there are four distinct steps in the uranium fuel cycle, and the Commission requested information from producers at each step of the fuel cycle. Therefore, four different types of producers' questionnaires were issued in order to provide the Commission with the maximum amount of information for its determination. It is important to note that the data provided by the different producers' questionnaires are, for the most part, not additive. For example, the conversion of uranium concentrates to uranium hexafluoride does not produce any additional uranium or "new" uranium, but rather only converts one uranium compound into another compound. At the enrichment state, however, many more pounds of natural uranium are required to produce enriched uranium than are received in pounds of enriched uranium product. Therefore, it is generally necessary to separately discuss activities at different points in the nuclear fuel cycle. Information presented in this section is based on the questionnaire responses of establishments that accounted for virtually all of U.S. uranium concentration and fabrication and 100 percent of U.S. uranium conversion and enrichment in the period for which data were collected.

U.S. Concentrate Producers

The Commission received questionnaire responses from four concentrate producers, PRI/Crow Butte, Areva, Cotter, and URI. PRI/Crow Butte support the continuation of the suspension agreement, citing that ***.³⁶

Areva NC Inc. *** continuation of the Suspension Agreement currently in place for uranium from Russia, reporting that ***.³⁷

Cotter *** regarding continuation of the Suspension Agreement currently in place for uranium from Russia.

³³ Ibid.

³⁴ Charles K. Anderson, *The Evolving Fuel Fabrication Business*, World Nuclear Fuel Cycle Conference, 2005.

³⁵ Charles K. Anderson, *A Reversal of Trends in the LWR Fuel Fabrication Market*, World Nuclear Association Annual Symposium 2005 found at http://www.world-nuclear.org/sym/2005/anderson_c.htm.

³⁶ PRI/Crow Butte's concentrate producers' questionnaire response, section II-4.

³⁷ Areva's concentrate producers' questionnaire response, section I-3.

***.³⁸ PRI/Crow Butte report that they *** able to switch production between uranium concentrate and other products, using the same equipment and labor, in response to a relative change in the price of uranium concentrate vis-a-vis the price of other products.³⁹

PRI/Crow Butte described both short- and long-term constraints that set limits on its production capacity such that ***.⁴⁰

***.⁴¹
Areva has ***.⁴²

From December 1999 through May 2001, Cotter ***.⁴³ Cotter reported that ***.⁴⁴ Cotter also reported production in 2005 of *** on the same equipment and machinery used in the production of uranium concentrate.⁴⁵

Concentrate producers reported constraints that set the limits on production capacity such as ***.⁴⁶

*** the concentrate producers reported involvement in a toll agreement since January 1, 2000, *** concentrate producers produce uranium concentrate in a foreign trade zone.⁴⁷

Concentrate producers described the impact of the scheduled termination of the HEU Agreement in 2013 in terms of *** (see appendix D for a detail of comments received). The HEU Agreement reportedly ***.⁴⁸

***.⁴⁹

In accordance with industry practice, quantity data for uranium concentrates are presented in pounds, or thousands of pounds, U₃O₈. Currently most of the uranium concentrates are produced by in-situ leaching; as byproducts of phosphoric acid production; from other minerals mining; and from mine water. Consequently, “mine capacity,” to the extent it is applicable, does not provide a representative measurement of industry production potential. Instead, data pertaining to facilities that produce uranium concentrates provide the best measure of total U.S. production of natural uranium.

Data relating to U.S. concentrate producers’ operations are shown in table III-1. Because they are the farthest removed from the end product, the concentrate producers are generally more vulnerable to changes in the market than other segments of the industry. Of the four concentrate producers from whom the Commission received questionnaire responses, PRI/Crow Butte accounted for *** of production of U₃O₈ during the period for which data were gathered, and specifically accounted for *** percent of concentrate production in 2005. Among other reporting concentrate producers, *** produced during the entire period of review; however, each firm accounted for the following percentages of production in 2005: Areva (*** percent); Cotter (*** percent); and Uranium Resources (*** percent).

³⁸ PRI/Crow Butte’s concentrate producers’ questionnaire response, section II-2.

³⁹ Ibid., section II-7.

⁴⁰ PRI/Crow Butte’s concentrate producers’ questionnaire response, section II-6.

⁴¹ Ibid., section II-3.

⁴² Areva’s concentrate producers’ questionnaire responses, sections II-2, II-3, and II-8.

⁴³ ***.

⁴⁴ Cotter’s concentrate producers’ questionnaire response, section II-3.

⁴⁵ Ibid., section II-5.

⁴⁶ Concentrate producers’ questionnaire responses, section II-6.

⁴⁷ Ibid., sections II-11 and II-12.

⁴⁸ Ibid., section II-17.

⁴⁹ Ibid.

Table III-1

Natural uranium concentrate (concentrated U₃O₈): U.S. production, average capacity, capacity utilization, domestic shipments, exports, end-of-period inventories, average number of U.S. production and related workers, hours worked by and wages paid to such workers, productivity, and unit labor costs, 2000-05

* * * * *

U.S. Converter

The only uranium conversion facilities in the United States are owned and operated by ConverDyn in Denver, CO, and Metropolis, IL. ConverDyn functions basically as a toll producer, converting the utilities' concentrate into natural UF₆. It *** the continuation of the Suspension Agreement currently in place for uranium from Russia. ConverDyn *** other products on the same equipment and machinery and/or use the same production and related workers used in the production of natural UF₆ products. The firm *** able to switch production between natural UF₆ and other products on the same equipment and with the same labor in response to a relative change in the price of natural uranium hexafluoride vis-a-vis the price of other products. ConverDyn reported *** as the limiting constraint on its production capacity.⁵⁰ ConverDyn described the impact of the scheduled termination of the HEU Agreement in 2013 ***.⁵¹

Data relating to ConverDyn's uranium conversion operations are shown in table III-2. Although conversion only adds about 3 percent to the cost of nuclear fuel production, it is a necessary step in transforming the uranium into usable form and generated about \$*** million in total shipments during the period for which data were gathered. ***. ConverDyn *** uranium during the period for which data were gathered; however, the firm ***.⁵²

Table III-2

Natural uranium hexafluoride (natural UF₆): U.S. production, average capacity, capacity utilization, domestic shipments, exports, end-of-period inventories, average number of U.S.-production and related workers, hours worked by and wages paid to such workers, productivity, and unit labor costs, 2000-05

* * * * *

U.S. Enricher

The only enrichment facilities in the United States are owned and operated by USEC. As noted previously, the U.S. Government created USEC in 1992 as a step toward the privatization of its enrichment activities, hitherto under the control of DOE. Although its enabling legislation intended it to operate as a market-oriented business, it did not become completely private until July 1998, when it was fully divested of government ownership. In addition to providing enrichment services worldwide, it is the sole executor and distributor of U.S. surplus defense inventories and Russian surplus defense inventories under the Russian HEU Agreement. Under the USEC Privatization Act of 1996, however, USEC's distribution of this material is restricted, and overall it is statutorily mandated to conduct business in a manner that is least disruptive to the market. USEC's enrichment plant is in Paducah, KY.

⁵⁰ ConverDyn's converters' questionnaire response, sections II-2, II-5, II-6, and II-7.

⁵¹ ConverDyn's converters' questionnaire response, section II-17.

⁵² Ibid., section II-8.

At the Commission's hearing, USEC argued that it is a producer of enriched uranium under SWU contracts in that the process of enrichment involves a substantial investment in large facilities, a large workforce, and produces the majority of the value of the finished product – clearly a process of manufacturing.⁵³

For its enrichment services, USEC basically operates as a toll producer, enriching natural UF₆ owned by the utilities and charging a fee for the SWUs it expends in the process. In some cases the utility does not provide the natural UF₆, which USEC then provides at an additional charge. The enriched UF₆ it purchases and imports from Russia under the HEU Agreement is distributed to the utilities as is: payment is in cash for the enriched component and in kind for the natural component. The Russian HEU Agreement has forced USEC to use less of its own enrichment capabilities.

USEC *** continuation of the Suspension Agreement currently in place for uranium from Russia, explaining that ***.⁵⁴

USEC has ***.⁵⁵

***.⁵⁶ Total USEC employment is presented in the following tabulation:

* * * * *

***.⁵⁷

***.⁵⁸

***.⁵⁹

***.⁶⁰

***.⁶¹

USEC reported anticipated changes in the character of its operations or organization relating to production of enriched uranium in the future. ***.⁶²

***.⁶³

Data relating to USEC's production, not its trade in U.S. and Russian stockpiles, are shown in table III-3. In terms of sales and value added to the product (according to most measures), enrichment is by far the largest component of the U.S. industry producing nuclear fuel, as the service accounts for about 32 percent of the value of the final product. USEC's capacity decreased during 2000-02 as it ***, then remained at the lower capacity level during 2003-05. As a result, USEC's production, inventories, and employment fell *** and both commercial U.S. shipments and export shipments declined irregularly during the period for which data were gathered. After a 2001 rise concurrent with the ***, unit labor costs generally declined for the remainder of the period for which data were gathered.

⁵³ Hearing transcript, pp. 73-77 (Cunningham).

⁵⁴ USEC's enrichers' questionnaire response, section I-3.

⁵⁵ Ibid., section II-2.

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid.

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Ibid., section II-3.

⁶³ Ibid.

Table III-3

Enriched uranium hexafluoride (enriched UF₆ (LEU-HF)): U.S. production, average capacity, capacity utilization, domestic shipments, exports, end-of-period inventories, average number of U.S.-production and related workers, hours worked by and wages paid to such workers, productivity, and unit labor costs, 2000-05

* * * * *

U.S. Fabricators

Three firms in the United States own and operate uranium fabrication facilities that include the conversion and pelletizing processes: Areva NP Inc., Richland, WA (formerly Siemens Power Corp.); Global Nuclear Fuel, Wilmington, NC (formerly General Electric); and Westinghouse Corp., Columbia, SC. Unlike U.S. producers of the other forms of uranium, which are primarily in the business of processing uranium, the fabricators are large, multi-product corporations in which the fabrication of uranium is only one among many operations. And while pre-fabricated uranium is a material commodity, its fabrication requires a certain degree of customizing to fit users' needs. The fabricators *** the continuation of the suspension agreement currently in place for uranium from Russia. ***.

The firms cite *** as the constraints that set the limits on production capacity.⁶⁴ *** firms, ***, report toll production of enriched uranium oxides, nitrates, and metals. *** produces in a foreign trade zone.⁶⁵

Areva reported that the scheduled termination of the HEU agreement in 2013 would *** on the firm, while Global Nuclear Fuel ***.⁶⁶

Data relating to the fabricators' U.S. production are shown in table III-4. The data reflect only that part of the fabrication that is included with the product scope - i.e., the conversion and pelletizing processes.

Table III-4

Enriched uranium oxides, nitrates, and metals: U.S. production, average capacity, capacity utilization, domestic shipments, exports, end-of-period inventories, average number of U.S.-production and related workers, hours worked by and wages paid to such workers, productivity, and unit labor costs, 2000-05

* * * * *

Production and total shipments increased irregularly, while inventories declined irregularly. Unit values were erratic; however, in contrast to other segments of the industry, they are generally higher for U.S. sales than for exports which may reflect differences in pre-set contractual arrangements and are not necessarily indicative of separate markets. Employment and productivity remained stable, wages rose steadily, and unit labor costs fluctuated upward.

⁶⁴ Fabricators' questionnaire responses, section II-6.

⁶⁵ Ibid., sections II-11 and II-12.

⁶⁶ Ibid., section II-17.

The U.S. Industry as a Whole

Simply aggregating the data of the different producers would result in recounting the same uranium several times; however, certain employment and sales value data can be aggregated without such distortions and afford some meaningful representation of the industry as a whole. Such data are summarized in table III-5. The total shipment value represents an approximation of the total value of nuclear fuel produced in the United States, less the value of its encapsulation into fuel rods and the rods' assembly for actual use.

Table III-5
Uranium: U.S. domestic and export shipment values, average number of U.S. production and related workers, and hours worked by and wages paid to such workers, 2000-05

| Item | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--|-----------|---------|---------|---------|---------|---------|
| U.S. shipments (1,000 dollars) | *** | *** | *** | *** | *** | *** |
| Exports (1,000 dollars) | *** | *** | *** | *** | *** | *** |
| Total shipments (1,000 dollars) | 1,110,163 | 735,070 | 816,100 | 693,912 | 663,076 | 682,654 |
| Average number of PRWs | 4,838 | 3,737 | 2,998 | 2,780 | 2,743 | 2,865 |
| Hours worked by PRWs (1,000 hours) | 10,723 | 8,192 | 6,558 | 5,868 | 6,052 | 6,247 |
| Wages paid to PRWs (1,000 dollars) | 312,382 | 259,900 | 220,038 | 204,554 | 216,949 | 223,398 |
| Hourly PRW wages | \$29.13 | \$31.73 | \$33.55 | \$34.86 | \$35.85 | \$35.76 |
| Source: Compiled from data submitted in response to Commission questionnaires. | | | | | | |

U.S. Producers' Purchases

U.S. producers' purchases are presented in table III-6.

Table III-6
Uranium: U.S. producers' purchases and ratios of purchases to production, 2000-05

* * * * *

U.S. Producers' Imports

U.S. producers' imports are presented in table III-7. Areva reported that ***.⁶⁷ USEC ***.⁶⁸

Table III-7
Uranium: U.S. producers' imports and ratios of imports to production, 2000-05

* * * * *

⁶⁷ Areva's concentrate producers' questionnaire response, sections II-2, II-3, and II-10.

⁶⁸ USEC's enrichers' questionnaire response, section II-9.

FINANCIAL CONDITION OF THE U.S. INDUSTRY

Background

The financial results of U.S. producers, by segment of the uranium fuel cycle, are presented separately as follows: concentrators, converter, enricher, and fabricators.⁶⁹

Operations of Concentrators

The financial results of U.S. producers of uranium concentrate are presented in table III-8. Selected company-specific financial information is presented in table III-9.

Table III-8

Uranium concentrate: Financial results of operations of U.S. concentrators, calendar years 2000-05

* * * * *

Table III-9

Uranium concentrate: Financial results of operations of U.S. concentrators by firm, calendar years 2000-05

* * * * *

Three producers with varying levels of on-going operations provided their calendar-year financial results: Cotter, Power Resources, and Uranium Resources.^{70 71}

***.⁷² Power Resources was ***. In contrast, Cotter⁷³ and Uranium Resources ***.⁷⁴

Uranium Resources, which *** generated an overall profit in 1996, reported significantly higher revenue prior to the period examined; e.g., \$*** in 1997 compared to \$*** in 2005. This higher level of revenue was followed by a sharp decline in 1999 and then the absence of revenue from 2001 through

⁶⁹ ***.
***.

⁷⁰ ***. Staff telephone interviews with *** personnel, April 4, 2006.
***.

⁷¹ Uranium Resources provided financial results in its questionnaire response which staff reconciled to the company's 10-K (2000 through 2005). In the process of this reconciliation, staff noted certain items that would normally be considered "other expenses" by the Commission, as well as inconsistencies in terms of inclusion and exclusion of non-recurring items. As indicated in footnote 77, to account for these issues staff reclassified certain items in order to be consistent with the income statement format normally used by the Commission. While the majority of Uranium Resources' activity is related to uranium concentrate, the small amount of revenue reported at the beginning of the period represents sales of "purchased uranium." It is not known whether the source of the purchased uranium is domestic or foreign and/or whether the uranium was purchased and resold as concentrate or purchased as ore and subsequently milled. Revenue in the latter part of the period appears to have been generated entirely from Uranium Resources' own mining operations.

⁷² Cotter ceased continuous operations at its mill in 1979. Retrieved from http://www.cdphe.state.co.us/hm/cotter/Site_Description.htm on January 12, 2006.

⁷³ ***. ***'s e-mail response to staff questions, April 24, 2006.

⁷⁴ Uranium Resources received a qualified audit opinion in each year of the period because of doubts as to its ability to continue as a going concern.

2003. According to Uranium Resources, “{i}n 1999 we shut-in our production because of depressed uranium prices, and from the first quarter of 2000 until December 2004, we had no source of revenue and had to rely on equity infusions to remain in business and maintain the critical employees and assets of the Company until such time that uranium prices reached a level where it was prudent to commence operations.”⁷⁵

Uranium Resources’ experience appears to be generally consistent with overall U.S. concentrate activity which declined substantially during the 1990s and has increased somewhat during the latter part of the period examined. ***.⁷⁶

. Despite higher uranium prices, ***. According to narrative information in the company’s 2005 10-K, “{w}ith the improvement in uranium spot prices to \$11.00 per pound by mid 2003, the Company began steps to bring its Vasquez property into production and signed two long-term contracts, calling for deliveries of 600,000 pounds of uranium in each of 2005 through 2008. The source of production for those contracts was the Vasquez property which we expected to produce at an annual volume and for a production cost that would meet the contracted delivery requirements and yield a small gross margin. During 2005 we were unable to produce sufficient pounds from Vasquez to satisfy our contracted delivery requirements. As a result of the lower production and the fixed costs of operations, our cost of production has exceeded the sales price under the contracts, and we have been losing money on each pound sold.”⁷⁷ As shown in table III-9, the *** “other expenses” in 2005 reflects Uranium Resources’ \$ unrealized loss on derivatives.⁷⁸

Operations of the Converter

The results of operations of the sole U.S. converter are presented in table III-10. ConverDyn’s financial results were reported on a calendar-year basis.

ConverDyn is a partnership between Allied Signal Energy Service and General Atomics Energy Services. Conversion operations take place at Metropolis Works located in Metropolis, IL.⁷⁹

Conversion activity represents tolling with associated revenue classified as commercial sales. ConverDyn reported ***. Since the pattern of ***, ConverDyn was asked to clarify its financial results. According to the company, the ***.⁸⁰ With regard to 2001, 2002, and 2005 ***.⁸¹

⁷⁵ Uranium Resources’ 2005 10-K, p 1.

⁷⁶ Staff telephone interview with *** company official, April 20, 2006.

⁷⁷ Uranium Resources’ 2005 10-K, p 1.

⁷⁸ Staff reclassified Uranium Resources’ asset write downs and derivatives loss as “other expenses” from “cost of sales” because, when combined with other companies, this classification yields a more consistent presentation of the industry’s overall operating results. It should also be noted that Uranium Resources’ 2005 unrealized derivative loss is related to the fair value of the company’s long-term sales contracts, as opposed to hedging instruments which the company reportedly does not use. Uranium Resources 2005 10-K, p. F-16. In response to a Commissioner question at the hearing and with respect to the uranium market generally, an industry witness stated “I am not aware of any derivatives trading. The main hedging mechanism for utilities and other market participants are long-term contracts, but there is no active exchange or active forward trading.” Hearing transcript, pp. 58-59 (Van Namen).

⁷⁹ Fluorine-related products are also manufactured at Metropolis Works, but are not related to ConverDyn which is focused on uranium conversion. Staff notes that conversion operations outside of the United States generally produce intermediate products. Found at <http://www.converdynam.com/product/different.html>. April 19, 2006. ***. ***’s e-mail response to staff questions, April 12, 2006.

⁸⁰ Ibid.

⁸¹ Ibid. ***. ***’s e-mail response to staff questions, April 25, 2006.

Table III-10
Natural uranium hexafluoride: Financial results of operations of ConverDyn, calendar years 2000-05

* * * * *

Operations of the Enricher

Table III-11A presents the combined U.S.-produced SWU and Russian-produced SWU financial results of USEC, the only U.S. enricher.⁸² Table III-11B and table III-11C, respectively, present USEC's financial results on U.S.-produced SWU and Russian-produced SWU.⁸³ Financial results for the period were reported on a calendar-year basis.

Table III-11A
Enriched uranium hexafluoride: Financial results of operations of USEC, calendar years 2000-05

* * * * *

Table III-11B
U.S.-produced enriched uranium hexafluoride: Financial results of operations of USEC, calendar years 2000-05

* * * * *

Table III-11C
Russian-produced enriched uranium hexafluoride: Financial results of operations of USEC, calendar years 2000-05

* * * * *

While USEC has some sales of EUP, the majority of its U.S. manufacturing activity represents what would generally be considered tolling. In addition to variability in physical shipments due to reactor reload schedules, USEC's revenue also reflects a mix of older and newer contract pricing.

USEC characterized the beginning of the period as ". . . a difficult market environment . . . marked by oversupply and lower prices for uranium and uranium enrichment services and increased costs due to low production levels."⁸⁴ While contract pricing reportedly improved during the period, the

⁸² ***.

⁸³ Separate financial results on U.S.-produced SWU and Russian-produced SWU were reported by USEC in a June 19, 2006 submission. This submission also noted that the company does not track its financial results on the basis of SWU country of origin and that unique factors such as the company's reduction in capacity to accommodate Russian-produced SWU should be kept in mind when considering reported profitability specific to U.S.-produced SWU. With respect to revenue recognition in the normal course of business, USEC states in the notes to its public financial statements that "{r}evenue is recognized when delivery of LEU to the customer occurs at the fuel fabricator." USEC's 2004 10-K, p. 73, emphasis added. ***. USEC's posthearing brief, exhibit 2, p. 7.

⁸⁴ USEC's 2000 10-K, p. 3.

presence of lower older contract pricing resulted in declining average SWU values through 2004.⁸⁵ USEC's average SWU sales price improved somewhat in 2005.⁸⁶

USEC's cost of SWU also changed somewhat during the period.⁸⁷ Workforce reductions took place at both the Paducah, KY and Portsmouth, OH plants in 2000, as well as a charge to suspend operations at the Portsmouth plant.⁸⁸ By reducing USEC's unneeded productive capacity (i.e., a substantial share of the company's revenue is generated from the sale of Russian-produced SWU for which it does not need direct enrichment capacity), these large non-recurring charges at the beginning of the period set the stage for an improved SWU cost structure. During the period examined, the method for determining the price of Russian SWU also changed to what was described as a "market-based pricing mechanism." As shown in table III-11C, the ***.⁸⁹

Operations of the Fabricators

The results of operations of two U.S. fabricators, Areva (fabricator) and Global Nuclear Fuel, are presented in table III-12.⁹⁰ Selected company-specific financial information is presented in table III-13. Because each company reported a different stage of fabrication, a table of combined financial results on a per-unit basis is not presented.⁹¹ The financial results of both companies were reported on a calendar-year basis.

⁸⁵ USEC's 2004 10-K, p. 31.

⁸⁶ According to USEC, "{o}ur financial performance over time can be significantly affected by changes in prices for SWU. The SWU price indicator for new long-term contracts, as published by TradeTech in Nuclear Market Review, was \$113 per SWU on December 31, 2005, \$107 per SWU on December 31, 2004, and \$105 per SWU on December 31, 2003. This price indicator is representative of base year prices under new long-term enrichment contracts in our primary markets. However, our backlog includes contracts awarded to us when prices were lower. As a result, the average SWU price billed to customers declined in 2003, leveled off in 2004 and improved in 2005. We expect that sales under new contracts will in time increase our average SWU price billed to customers." USEC's 2005 10-K, p. 39.

⁸⁷ USEC's "{c}ost of sales for SWU and uranium is based on the amount of SWU and uranium sold during the period and is determined by a combination of inventory levels and costs, production costs, and purchase costs. Production costs consist principally of electric power, labor and benefits, long-term depleted uranium disposition cost estimates, materials, depreciation and amortization, and maintenance and repairs." USEC's 2005 10-K, p. 40.

⁸⁸ USEC's 2000 10-K, p. 15. These non-recurring charges, as well as large expenses related to USEC's centrifuge R&D were not originally reported by USEC. Staff requested that these expenses be reported and has reclassified them as "other expenses." This reclassification was made in order to present USEC's financial results without the effect of large expenses unrelated to on-going enrichment operations. Staff notes that classifying these items as operating expenses is not incorrect; e.g., USEC's audited income statement classifies them, with appropriate subheadings, as operating expenses.

As shown in table III-11, the majority of USEC's 2000 "other expenses" represents the charge related to suspend enrichment operations at the Portsmouth, OH facility. After 2000, the majority of "other expenses" reflects centrifuge R&D.

⁸⁹ "Prices {for Russian SWU} are determined using a discount from an index of international and U.S. price points, including both long-term and spot prices. A multi-year retrospective of the index is used to minimize the disruptive effect of short-term market price swings. Increases in these price points in recent years will result in increases to the index used to determine prices under the Russian Contract." USEC's 2005 10-K, p. 40.

⁹⁰ As noted previously, ***.

⁹¹ ***. Staff telephone interview with *** company official, April 4, 2006, and ***'s e-mail response to staff questions, April 10, 2006. ***. Ibid. ***. Staff telephone interview with *** company official, April 18, 2006.

Fabricating activity reflects tolling revenue divided into different components: conversion of UF₆, conversion of powder to pellets, and loading for assemblies.⁹²

Table III-12

Fabricated uranium products: Financial results of operations of U.S. fabricators, calendar years 2000-05

* * * * *

Table III-13

Fabricated uranium products: Financial results of operations of U.S. fabricators, calendar years 2000-05

* * * * *

***.⁹³ In contrast, ***.⁹⁴

Capital Expenditures, Research and Development Expenses, Assets, and Return on Investment

Data on the capital expenditures, research and development (“R&D”) expenses, assets, and return on investment associated with the production of uranium products are shown in table III-14.

Table III-14

Uranium: Capital expenditures, R&D expenses, assets, and return on investment by segment and by firm, 2000-05

* * * * *

Each segment of uranium operations reported overall capital expenditures which were generally at least within the range of annual depreciation expense. Additionally, there were periods in which higher levels of capital expenditures were reported. *** were the only U.S. producers to report R&D expenses.

Power Resources reported ***.⁹⁵ In response to higher uranium concentrate prices, Uranium Resources is also reportedly reactivating certain properties, as well as developing new cost saving technology.⁹⁶ In its 2005 10-K, Uranium Resources states that “{w}e are actively seeking \$25 million to \$45 million in order to implement our business plan. Without at least the minimum, we will not be able to stay in business.”⁹⁷ ***.⁹⁸

***.⁹⁹

⁹² ***. Staff telephone interview with *** company official, April 4, 2006.

⁹³ Staff telephone interview with *** company official, April 18, 2006.

⁹⁴ ***’s e-mail response to staff questions, April 10, 2006.

⁹⁵ ***’s e-mail response to staff questions, April 7, 2006.

⁹⁶ For example, Uranium Resources’ 2005 10-K discusses the design and development of a new wellfield-specific remote ion exchange technology which will improve efficiency and reduce costs. Uranium Resources’ 2005 10-K, p. 5.

⁹⁷ Uranium Resources’ 2005 10-K, p. 12.

⁹⁸ Supplemental letter attached to ***’s April 18, 2006 questionnaire response. ***.

⁹⁹ ***’s e-mail response to staff questions, April 12, 2006.

USEC's capital expenditures were larger at the beginning of the period and were primarily related to the consolidation of the company's operations at the Paducah, KY facility. USEC's R&D expenses, which increased substantially during the period, generally reflect its centrifuge project.¹⁰⁰

***¹⁰¹ ***¹⁰²

¹⁰⁰ ***'s written response to staff questions, April 17, 2006

¹⁰¹ ***'s e-mail response to staff questions, April 13, 2006.

¹⁰² Staff telephone interview with *** company official, April 18, 2006.

PART IV: U.S. IMPORTS, WORLD PRODUCTION AND CONSUMPTION, AND THE INDUSTRY IN RUSSIA

U.S. IMPORTS

Proprietary Customs data identified nine firms as importers of uranium from Russia during the period for which data were gathered. Questionnaires were sent to these firms and all firms identified through Customs documents as importers of uranium. In addition, importers' questionnaires were sent to all domestic producers.

Data contained in this section are derived from questionnaire responses from five importers of uranium from Russia, ***. Questionnaire coverage for imports of uranium from countries other than Russia was not sufficiently complete to use in lieu of official Commerce import statistics. These data are presented in table IV-1.

During the period of the original investigation (1989-91), reported imports of the subject uranium from Russia were accounted for by ***. Reported imports of uranium from countries other than Russia were not sufficiently complete to use in lieu of official Commerce import statistics.¹ During the first five-year review (1997-99) *** reported imports of the subject uranium from Russia. In addition to these reported imports from Russia, *** reported imports of enriched uranium from *** in *** that was made from Russian uranium. Even though this uranium was a product of *** for Customs purposes, its natural component was subject to the quota limitations of the Russian Suspension Agreement, as per the Agreement's "by pass" provisions instituted in 1996.²

Of the importers' responses received by the Commission in this second five-year review, ***, reported imports of uranium concentrate; ***, reported imports of natural uranium hexafluoride; ***, reported imports of enriched uranium hexafluoride; and *** reported imports of enriched uranium oxides, nitrates, or metals from Russia during the period of review.

The *** of uranium concentrate from Russia during the period of review *** with imports reported ***. Of the *** firms that reported imports of natural uranium hexafluoride from Russia during the period of review, *** reported imports over the entire period. Of the *** firms that reported imports of natural uranium hexafluoride in 2005, *** accounted for the majority of such imports in 2005 with *** percent and *** accounted for *** percent. Of the *** firms reporting imports of enriched uranium during the period of review, *** reported imports in 2005. *** accounted for the majority of such imports, *** percent, and *** accounted for *** percent of imports of enriched uranium from Russia in 2005.

Additional information regarding imports are prepared by the EIA in its Uranium Market reports which track natural uranium purchases of U.S. utilities by country of origin (including the United States). Shown in table IV-2 are data for delivery years 1999 and 2004. Relative to 1999, in 2004, the volume of uranium deliveries increased by 34 percent, the weighted-average price rose by 8.4 percent, and the percentage of deliveries attributable to foreign sources grew from 76 percent to 81 percent. In 2004, Canada was the largest source of natural uranium purchases (16.5 million pounds), followed by the United States (12.3 million pounds), Australia (11.7 million pounds), and Russia (10.3 million pounds). Relative to 1999, in 2004, purchases from Canada increased by 32 percent; purchases from the United States, by 8 percent; purchases from Australia, by 59 percent; and purchases from Russia, by 64 percent.

¹ *Uranium from Tajikistan and Ukraine, Inv. Nos. 731-TA-539 D and E (Final)*, USITC Publication 2669, August 1993, pp. I-23-I-24.

² *Uranium from Russia, Ukraine, and Uzbekistan, Inv. Nos. 731-TA-539-C, E, and F (Review)*, USITC Publication 3334, August 2000, pp. IV-1-IV-2.

**Table IV-1
Uranium: U.S. imports, by form, 2000-05**

| Item | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|--|--------|--------|--------|--------|--------|--------|
| Quantity | | | | | | |
| Russia: | | | | | | |
| Concentrate (1,000 pounds U ₃ O ₈) | *** | *** | *** | *** | *** | *** |
| Natural hexafluoride (1,000 kgU) | *** | *** | *** | *** | *** | *** |
| Enriched hexafluoride (1,000 SWU) | *** | *** | *** | *** | *** | *** |
| Enriched oxides, nitrates, and metals (1,000 kg U) | *** | *** | *** | *** | *** | *** |
| Other sources: | | | | | | |
| Concentrate (1,000 pounds U ₃ O ₈): | | | | | | |
| LEU | 0 | 1,261 | 0 | 4 | 0 | 567 |
| FSU | 291 | 1,785 | 2,630 | 4,225 | 2,307 | 2,142 |
| All others | 12,999 | 18,251 | 11,798 | 17,083 | 10,317 | 14,207 |
| Total | 13,289 | 21,298 | 14,429 | 21,312 | 12,624 | 16,916 |
| Natural hexafluoride (kgU) | 6,503 | 7,476 | 6,126 | 2,420 | 2,733 | 3,099 |
| Enriched hexafluoride (1,000 SWU): | | | | | | |
| LEU | 1,786 | 2,257 | 3,624 | 8,071 | 7,159 | 5,499 |
| FSU | 659 | 794 | 373 | 226 | 0 | 0 |
| All others | 133 | 143 | 919 | 1,325 | 459 | 403 |
| Total | 2,578 | 3,194 | 4,915 | 9,622 | 7,617 | 5,903 |
| Enriched oxides, nitrates, and metals (1,000 kgU) | 529 | 28 | 180 | 509 | 36 | 642 |
| All sources: | | | | | | |
| Concentrate (1,000 pounds U ₃ O ₈): | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** |
| LEU | *** | *** | *** | *** | *** | *** |
| FSU | *** | *** | *** | *** | *** | *** |
| All others | *** | *** | *** | *** | *** | *** |
| Total | *** | *** | *** | *** | *** | *** |
| Natural hexafluoride (kgU) | *** | *** | *** | *** | *** | *** |
| Enriched hexafluoride (1,000 SWU): | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** |
| LEU | *** | *** | *** | *** | *** | *** |
| FSU | *** | *** | *** | *** | *** | *** |
| All others | *** | *** | *** | *** | *** | *** |
| Total | *** | *** | *** | *** | *** | *** |
| Enriched oxides, nitrates, and metals (1,000 kgU) | *** | *** | *** | *** | *** | *** |

Table continued on next page.

Table IV-1--Continued
Uranium: U.S. imports, by form, 2000-05

| Item | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---------------------------------------|---------|---------|-----------|-----------|-----------|-----------|
| Value (1,000 dollars) | | | | | | |
| Russia: | | | | | | |
| Concentrate | *** | *** | *** | *** | *** | *** |
| Natural hexafluoride | *** | *** | *** | *** | *** | *** |
| Enriched hexafluoride | *** | *** | *** | *** | *** | *** |
| Enriched oxides, nitrates, and metals | *** | *** | *** | *** | *** | *** |
| Total | *** | *** | *** | *** | *** | *** |
| Other sources: | | | | | | |
| Concentrate: | | | | | | |
| LEU | 0 | 11,753 | 0 | 11 | 0 | 20,486 |
| FSU | 2,724 | 14,900 | 28,287 | 45,392 | 46,263 | 56,805 |
| All others | 157,245 | 206,693 | 128,838 | 201,979 | 123,534 | 255,010 |
| Total | 159,968 | 233,346 | 157,124 | 247,383 | 169,797 | 332,302 |
| Natural hexafluoride | 265,567 | 302,683 | 184,728 | 64,786 | 142,893 | 264,796 |
| Enriched hexafluoride: | | | | | | |
| LEU | 262,730 | 317,186 | 636,954 | 1,179,965 | 1,062,694 | 1,226,718 |
| FSU | 29,362 | 45,135 | 75,967 | 38,420 | 0 | 0 |
| All others | 13,405 | 24,096 | 134,273 | 208,606 | 81,018 | 72,942 |
| Total | 305,497 | 386,416 | 847,194 | 1,426,991 | 1,143,712 | 1,299,661 |
| Enriched oxides, nitrates, and metals | 141,991 | 42,307 | 13,477 | 22,028 | 3,334 | 48,305 |
| Total | 873,023 | 964,753 | 1,202,524 | 1,761,188 | 1,459,736 | 1,945,063 |
| All sources: | | | | | | |
| Concentrate: | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** |
| LEU | *** | *** | *** | *** | *** | *** |
| FSU | *** | *** | *** | *** | *** | *** |
| All others | *** | *** | *** | *** | *** | *** |
| Total | *** | *** | *** | *** | *** | *** |
| Natural hexafluoride | *** | *** | *** | *** | *** | *** |
| Enriched hexafluoride: | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** |
| LEU | *** | *** | *** | *** | *** | *** |
| FSU | *** | *** | *** | *** | *** | *** |
| All others | *** | *** | *** | *** | *** | *** |
| Total | *** | *** | *** | *** | *** | *** |
| Enriched oxides, nitrates, and metals | *** | *** | *** | *** | *** | *** |
| Total uranium: | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** |
| All others | *** | *** | *** | *** | *** | *** |
| Total | *** | *** | *** | *** | *** | *** |

Table continued on next page.

Table IV-1--Continued
Uranium: U.S. imports, by form, 2000-05

| Item | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|------------------|---------|------------------|--------|------------------|------------------|
| Unit value | | | | | | |
| Russia: | | | | | | |
| Concentrate (per pound U ₃ O ₈) | \$*** | \$*** | \$*** | \$*** | \$*** | \$*** |
| Natural hexafluoride (per kgU) | *** | *** | *** | *** | *** | *** |
| Enriched hexafluoride (per SWU) | *** | *** | *** | *** | *** | *** |
| Enriched oxides, nitrates, and metals (per kg U) | *** | *** | *** | *** | *** | *** |
| Other sources: | | | | | | |
| Concentrate (per pound U ₃ O ₈): | | | | | | |
| LEU | (¹) | 9.32 | (¹) | 2.75 | (¹) | 36.11 |
| FSU | 9.37 | 8.35 | 10.75 | 10.74 | 20.05 | 26.52 |
| All others | 12.10 | 11.32 | 10.92 | 11.82 | 11.97 | 17.95 |
| Total | 12.04 | 10.96 | 10.89 | 11.61 | 13.45 | 19.64 |
| Natural hexafluoride (per kgU) | 40.84 | 40.49 | 30.16 | 26.77 | 52.28 | 85.45 |
| Enriched hexafluoride (per SWU): | | | | | | |
| LEU | 147.09 | 140.52 | 175.78 | 146.19 | 148.45 | 223.07 |
| FSU | 44.58 | 56.84 | 203.52 | 170.05 | (¹) | (¹) |
| All others | 101.07 | 169.04 | 146.18 | 157.48 | 176.67 | 180.82 |
| Total | 118.52 | 120.99 | 172.36 | 148.31 | 150.15 | 220.18 |
| Enriched oxides, nitrates, and metals (per kgU) | 268.21 | 1530.22 | 74.92 | 43.31 | 93.17 | 75.25 |
| All sources: | | | | | | |
| Concentrate (per pound U ₃ O ₈): | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** |
| LEU | *** | *** | *** | *** | *** | *** |
| FSU | *** | *** | *** | *** | *** | *** |
| All others | *** | *** | *** | *** | *** | *** |
| Total | *** | *** | *** | *** | *** | *** |
| Natural hexafluoride (per kgU) | *** | *** | *** | *** | *** | *** |
| Enriched hexafluoride (per SWU): | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** |
| LEU | *** | *** | *** | *** | *** | *** |
| FSU | *** | *** | *** | *** | *** | *** |
| All others | *** | *** | *** | *** | *** | *** |
| Total | *** | *** | *** | *** | *** | *** |
| Enriched oxides, nitrates, and metals (per kg U) | *** | *** | *** | *** | *** | *** |

Table continued on next page.

Table IV-1--Continued
Uranium: U.S. imports, by form, 2000-05

* * * * *

Table IV-2
Uranium: U.S. utility purchases, by origin country and delivery year, 2000 and 2005

(1,000 pounds U₃O₈ equivalent; dollars per pound U₃O₈ equivalent)

| Source | Purchases-- | | Weighted-average price-- | |
|--|------------------|--------|--------------------------|------------------|
| | 2000 | 2005 | 2000 | 2005 |
| Australia | 12,722 | 9,957 | \$9.20 | \$15.60 |
| Canada | 10,455 | 22,881 | 11.20 | 14.35 |
| Kazakhstan | (¹) | 1,639 | (¹) | 14.32 |
| Namibia | 753 | 2,963 | 15.51 | 16.82 |
| Russia | 6,686 | 12,959 | 13.17 | 12.92 |
| South Africa | 2,347 | 573 | 8.96 | 16.51 |
| Uzbekistan | 1,923 | 2,505 | 12.96 | 11.85 |
| Other | 3,666 | 1,265 | (²) | (²) |
| Total foreign | 38,552 | 54,742 | 11.88 | 14.21 |
| United States | 13,258 | 11,007 | 11.52 | 15.11 |
| Total purchases | 51,810 | 65,749 | 11.04 | 14.36 |
| ¹ Data not published by the EIA to avoid disclosing business confidential information. ² Not available. Note.--Totals may not add due to rounding. Source: EIA, Energy Marketing Annual Survey (2003-2005), Uranium Industry Annual 2001. | | | | |

Other significant sources of supply of uranium in 2004 were Kazakhstan (4.2 million pounds), Namibia (2.8 million pounds), Uzbekistan (2.3 million pounds), and South Africa (2.1 million pounds).³

U.S. IMPORTERS' IMPORTS SUBSEQUENT TO DECEMBER 31, 2005

The Commission requested importers to indicate whether they imported or arranged for the importation of uranium from Russia after December 31, 2005. Of the five responding importers, two reported imports of uranium from Russia during that period.

***.⁴

³ Data on 2004 purchases of uranium from China, the Czech Republic, Niger, Ukraine, and the United Kingdom were withheld by the EIA to avoid disclosing business confidential information.

⁴ ***'s importers' questionnaire response, section II-5.

***.⁵

U.S. IMPORTERS' INVENTORIES

U.S. importers' inventories of uranium from Russia are presented in table IV-3. During 2000-05 inventories of natural hexafluoride imports from Russia declined by *** percent, while inventories of imports of enriched hexafluoride decreased by *** percent.

Table IV-3
Uranium: U.S. importers' end-of-period inventories from Russia, by form, 2000-05

* * * * *

WORLD PRODUCTION AND CONSUMPTION

Uranium Mining and Milling

Unlike the other stages of the nuclear fuel cycle, which depend on well-established manufacturing processes and readily available materials, this critical stage of the nuclear fuel process is dependent on the availability in the ground of a relatively uncommon element, uranium, which needs to be present in a concentration of about 0.1 percent or more to be retrievable commercially. Failure to discover adequate new economical deposits could spell the end of nuclear power as a viable energy option. According to the WNA, known reserves of uranium are more than adequate to supply global nuclear power needs well beyond 2030, and the total potential supply base is in excess of 100 years based on current consumption rates.⁶

Currently, Canada and Australia are the world's largest producers of uranium, accounting for about half of global production, followed by Kazakhstan, Niger, Russia, Namibia, and Uzbekistan. Other countries producing significant amounts of primary uranium are Ukraine, South Africa, the United States, and China.⁷ Table IV-4 and figure IV-1 present data and a graphic depiction of world uranium production during 2000-10.

A critical concern of the industry is the lag time between when a deposit is first discovered and the date when uranium production begins. Particularly in Western countries where not only technical problems must be overcome but also regulatory hurdles often from a multitude of agencies, the lag time can take 15 years or more.⁸ Thus an unanticipated surge in nuclear power growth could lead to major long-term shortages until uranium production capabilities are finally installed and approved and are ready to meet new demand.

Companies involved in uranium mining and milling range from companies that specialize in mining only to companies that are involved in all stages of the nuclear fuel cycle. The uranium mining and milling industry has seen increased consolidation. The percentage of global uranium production accounted for by the top eight mining companies rose from 70 percent in 1995 to 82 percent in 2004.⁹ Largely, however, as a result of rising uranium prices, the WNA reports that at least 60 new companies

⁵ ***'s importers' questionnaire response, section II-5.

⁶ *The Global Nuclear Fuel Market*, WNA, 2005, Executive Summary, pp. 113-117.

⁷ *Ibid.*, p. 102.

⁸ Robert Price, *Focus on Fuel: Will Higher Uranium Prices Restore Domestic Production?*, Nuclear News, March 2006, p. 28.

⁹ *The Global Nuclear Fuel Market*, WNA, 2005, p. 110.

Table IV-4

Uranium: World production, 2000-04, projections, 2005-10, and period changes, 2005-07 and 2005-08

| Location | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | Period changes | |
|--|------------------|------------------|--------|--------|---------|---------|---------|---------|---------|---------|---------|----------------|---------|
| | | | | | | | | | | | | 2005-07 | 2005-08 |
| Quantity (1,000 pounds U ₃ O ₈) | | | | | | | | | | | | Percent | |
| Canada | 27,534 | 32,552 | 30,170 | 27,188 | 30,152 | 30,152 | 33,454 | 38,862 | 33,558 | 42,034 | 43,126 | 28.9 | 11.3 |
| Australia | 19,783 | 20,166 | 17,820 | 19,687 | 23,353 | 23,353 | 23,353 | 23,353 | 23,353 | 23,353 | 38,875 | 0.0 | 0.0 |
| Kazakhstan | (¹) | (¹) | 7,280 | 8,580 | 9,669 | 11,619 | 13,569 | 17,989 | 22,409 | 25,269 | 26,569 | 55.0 | 92.9 |
| Niger | 7,540 | 7,592 | 7,995 | 8,172 | 8,533 | 8,533 | 8,533 | 8,533 | 8,533 | 8,533 | 8,533 | 0.0 | 0.0 |
| Russia ² | (¹) | (¹) | 7,540 | 8,190 | 8,320 | 9,100 | 9,100 | 9,620 | 11,700 | 11,700 | 11,700 | 6.0 | 28.6 |
| Namibia | 7,056 | 5,821 | 6,066 | 5,294 | 7,899 | 7,899 | 8,809 | 9,719 | 10,499 | 10,499 | 10,499 | 23.0 | 32.9 |
| Uzbekistan | (¹) | (¹) | 4,836 | 4,131 | 5,242 | 5,242 | 5,242 | 5,242 | 5,242 | 5,242 | 5,242 | 0.0 | 0.0 |
| USA | 3,786 | 2,629 | 2,296 | 2,025 | 2,283 | 3,349 | 4,350 | 5,351 | 6,352 | 7,639 | 8,653 | 59.8 | 89.7 |
| Ukraine ² | (¹) | (¹) | 2,080 | 2,080 | 2,080 | 2,080 | 2,080 | 2,080 | 2,080 | 2,080 | 2,080 | 0.0 | 0.0 |
| South Africa | 2,283 | 2,270 | 2,142 | 1,971 | 1,963 | 1,963 | 1,963 | 1,963 | 4,563 | 5,967 | 5,967 | 0.0 | 132.5 |
| China ² | (¹) | (¹) | 1,898 | 1,950 | 1,950 | 1,950 | 1,950 | 1,950 | 1,950 | 1,950 | 1,950 | 0.0 | 0.0 |
| Czech Republic | (¹) | (¹) | 1,209 | 1,175 | 1,071 | 988 | 936 | 806 | 117 | 104 | 208 | -18.0 | -88.2 |
| Brazil | 130 | 151 | 702 | 806 | 780 | 780 | 780 | 780 | 780 | 780 | 780 | 0.0 | 0.0 |
| India ² | (¹) | (¹) | 598 | 598 | 598 | 598 | 598 | 598 | 598 | 598 | 598 | 0.0 | 0.0 |
| Germany | 73 | 70 | 551 | 390 | 390 | 208 | 208 | 130 | 78 | 52 | 99 | -37.5 | -62.5 |
| Romania ² | (¹) | (¹) | 234 | 234 | 234 | 234 | 234 | 234 | 234 | 234 | 234 | 0.0 | 0.0 |
| Pakistan ² | (¹) | (¹) | 99 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 117 | 0.0 | 0.0 |
| France | 832 | 507 | 47 | 23 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 0.0 | 0.0 |
| Total | 69,017 | 71,757 | 93,564 | 92,612 | 104,653 | 108,183 | 115,294 | 127,345 | 132,181 | 146,169 | 165,248 | 17.7 | 22.2 |

¹ Not available.

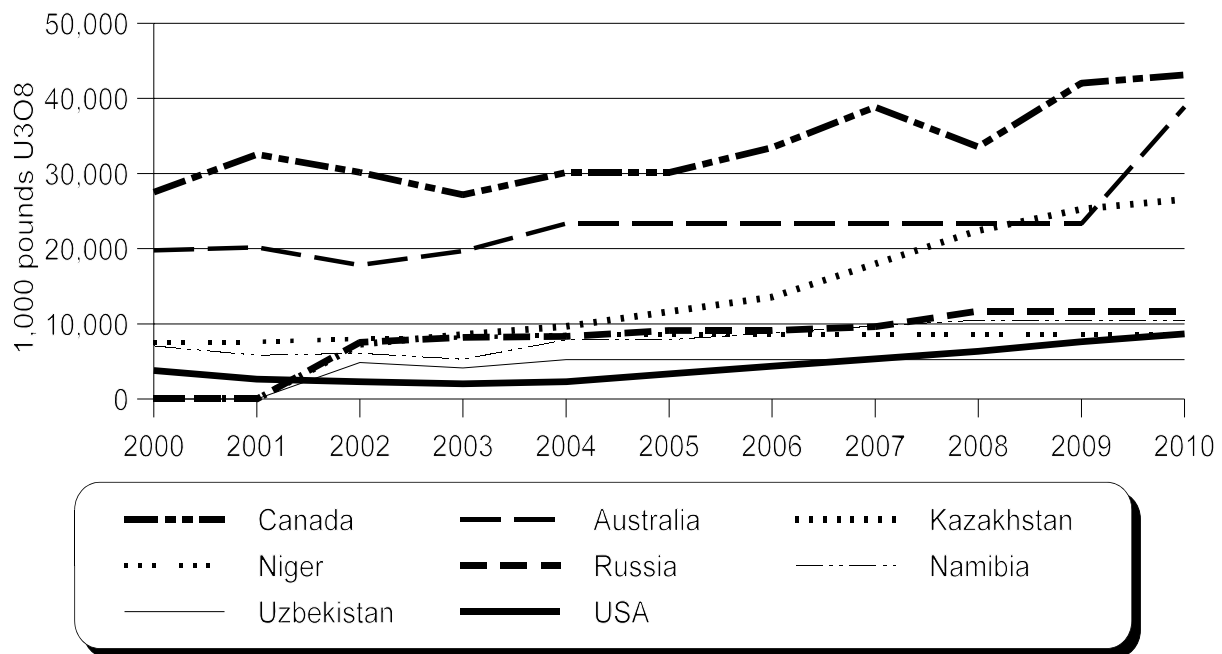
² WNA estimate.

Source: WNA, *Global Nuclear Fuel Supply*, 2005, table 4.2 and app. table VI.

are actively engaged in uranium exploration property acquisition, and/or development of new uranium mines.¹⁰

¹⁰ Ibid., pp. 126-127. According to Robert Van Namen, Senior VP, Uranium Enrichment, USEC, consolidation may decrease as new entrants enter the uranium industry as a result of firming prices (hearing transcript, pp. 135-136).

Figure IV-1
Uranium: World uranium production, 2000-04, and projections, 2005-10



Source: Table IV-4.

The share of global uranium production attributed to in-situ leach (“ISL”) mining rose from about 16 percent of global uranium production in 2000 to 21 percent in 2004.¹¹ Although this rise may seem relatively modest, the importance of ISL mining is that it allows for the extraction of uranium from ore deposits that may not be rich enough to be mined by other methods. ISL mining currently accounts for all uranium production in Kazakhstan and Uzbekistan, nearly all U.S. production, a minor share in Australia, and possible future production in Russia.¹²

Commercially, uranium or nuclear fuel is associated with essentially one end use, the generation of electricity in nuclear power plants. This association strengthened further during the 1990s, with the winding down of the cold war, when the two major producers of nuclear fuel for weapons applications, the United States and the former Soviet Union with a surplus of weapons grade nuclear fuel, sharply curtailed their production of nuclear fuel for weapons applications. Nevertheless, the use of nuclear fuel for weapons applications remains a major consideration not only for national security but also in the commercial sector as evidenced by the HEU Agreement.

The potential of uranium in the generation of electricity for civil applications was widely recognized as a consequence of Einstein’s famous equation $E=mc^2$. It took, however, the successful development of nuclear weapons to convince government and industry officials that uranium could indeed be used in civilian applications as well. Following the installation of the first nuclear power plants in the 1950s in Russia and the United States, nuclear power plants were installed in the United States,

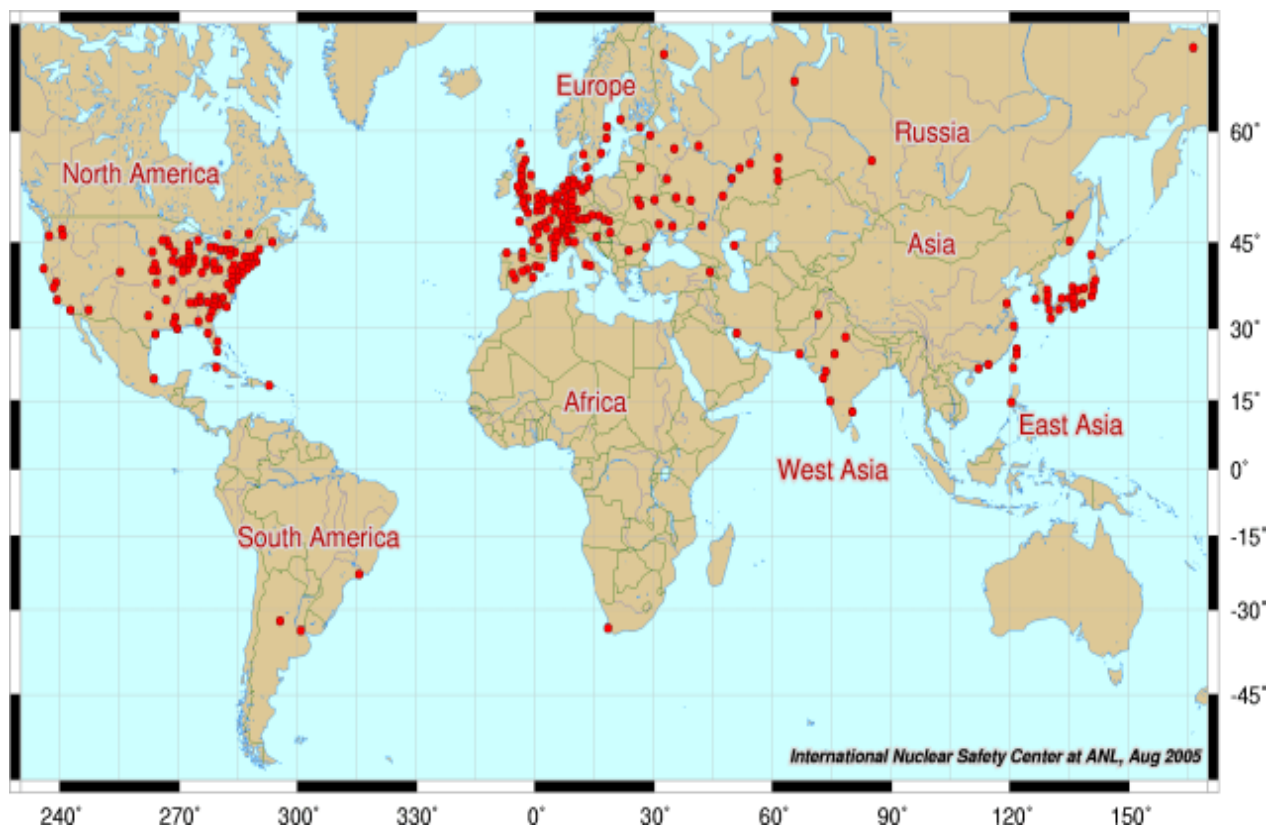
¹¹ *The Global Nuclear Fuel Market*, WNA, 2005, pp. 111-112.

¹² *Ibid.*

Russia, Canada, Western Europe, and Japan, followed by countries throughout the world but primarily concentrated in the developed world. Currently, nuclear power growth in the developed world has slowed down, and in some countries may even decline largely because of political opposition. Many industry observers believe that much of the growth in the generation and consumption of nuclear power will occur in partially industrialized countries such as Russia and in the relatively technologically- advanced developing countries, especially China and India. In the United States, with the sharp increase in fossil fuel prices reflecting increased resource scarcity and increased concern about global warming and energy security, and new reactor designs that appear to achieve higher levels of safety and economy, there is renewed optimism among supporters of nuclear energy that new nuclear power plants will be installed in the United States in the not-too-distant future. However, no nuclear power plant was ordered in the United States since 1978.¹³ Recent energy legislation in the United States which include production tax credits and loan guarantees has also fueled optimism about new nuclear power plants. These are not, however, expected to be installed until around 2015 or later.¹⁴ Some industry analysts caution, however, that a successful revival of the domestic nuclear power industry will also depend on a satisfactory resolution of the problem of long-term storage of spent nuclear fuel.

Currently, nuclear power plants are located on five continents as shown in figure IV-2.

Figure IV-2
Uranium: World map of nuclear power reactors



Source: International Nuclear Safety Center ("INSC") operated by Argonne National Laboratory for DOE, found at http://www.insc.anl.gov/pwrmaps/map/world_map.php.

¹³ EIA website, found at <http://www.eia.doe.gov/emeu/aer/eh/nuclear.html>.

¹⁴ Hearing transcript, p. 108 (Van Namem).

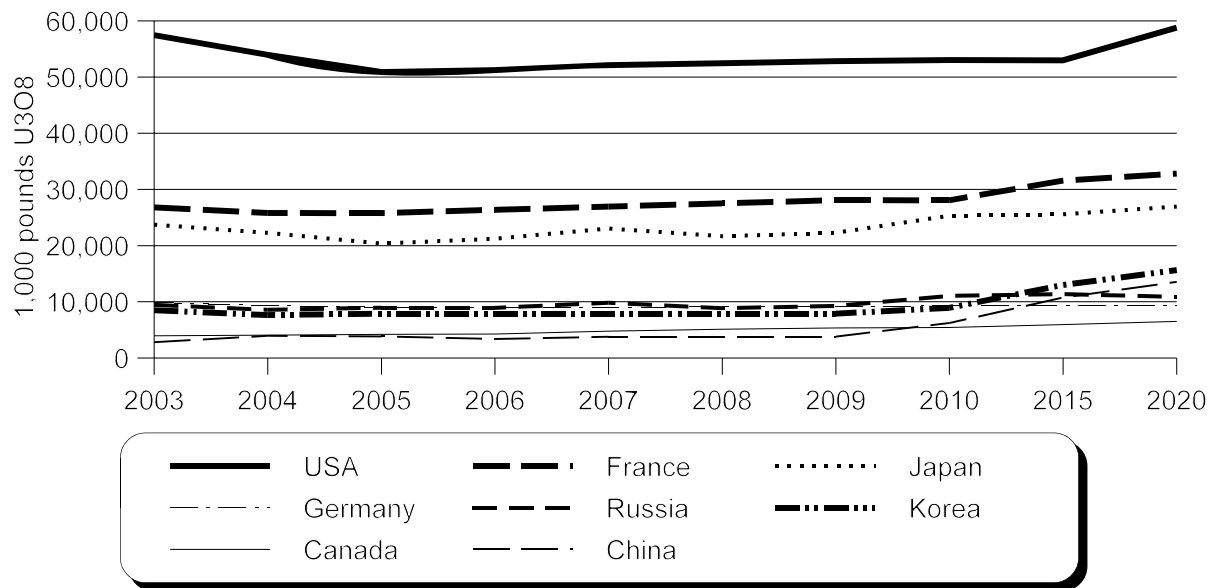
In terms of consumption, the United States is, and will continue to be, the largest consumer of uranium, as indicated by the data presented in table IV-5 and graphically depicted in figure IV-3.

**Table IV-5
Uranium: Reactor requirements, by locations, 2003-10, 2015, and 2020**

| Location | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2015 | 2020 |
|---------------|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Quantity (1,000 pounds U₃O₈) | | | | | | | | | |
| United States | 57,457 | 53,960 | 50,916 | 51,259 | 52,130 | 52,476 | 52,819 | 53,027 | 52,975 | 58,781 |
| France | 26,840 | 25,813 | 25,808 | 26,380 | 26,957 | 27,534 | 28,114 | 28,070 | 31,564 | 32,802 |
| Japan | 23,738 | 22,287 | 20,374 | 21,239 | 23,067 | 21,666 | 22,300 | 25,360 | 25,587 | 26,941 |
| Korea | 9,896 | 9,329 | 9,069 | 8,991 | 9,064 | 9,136 | 9,209 | 9,274 | 9,274 | 9,274 |
| China | 9,467 | 8,583 | 8,965 | 8,941 | 9,820 | 8,897 | 9,269 | 11,068 | 11,372 | 10,904 |
| Russia | 8,505 | 7,634 | 7,896 | 7,896 | 7,896 | 7,896 | 7,896 | 8,949 | 13,010 | 15,655 |
| Germany | 3,936 | 4,069 | 4,199 | 4,251 | 4,774 | 5,127 | 5,369 | 5,434 | 5,944 | 6,521 |
| Canada | 2,808 | 3,926 | 3,851 | 3,364 | 3,780 | 3,799 | 3,819 | 6,209 | 10,746 | 13,523 |
| Other | 38,698 | 36,002 | 36,748 | 37,921 | 35,487 | 36,631 | 39,406 | 38,568 | 42,336 | 45,924 |
| World | 181,345 | 171,603 | 167,825 | 170,243 | 172,975 | 173,163 | 178,201 | 185,960 | 202,808 | 220,324 |

Source: WNA, Global Nuclear Fuel Supply, 2005, table 3.3 (reference scenario; converted to 1,000 pounds U₃O₈).

**Figure IV-3
Uranium: Reactor requirements, by locations, 2003-10, 2015, and 2020**



Source: Table IV-5.

Uranium Conversion

Conversion is a necessary step to prepare the uranium for enrichment. Enriched uranium is required in the preparation of nuclear fuel to be used in light water reactors, the predominant kind of reactor used globally with the exception of a few countries including Canada.

Shown in the following tabulation is a listing of companies involved in uranium conversion to produce natural uranium hexafluoride (UF₆) and the country and location where their conversion facilities are located as well as estimated nameplate capacities.¹⁵

| Converter | Country | Location | Nameplate capacity (MT uranium metal) |
|------------|---------------|------------------|--|
| Cameco | Canada | Port Hope | 12,500 |
| COMURHEX | France | Pierrelatte | 14,000 |
| CNCC | China | Lanzhou | 1,000 |
| ConverDyn | United States | Metropolis, IL | 14,000 |
| IPEN | Brazil | Sao Paulo | 90 |
| NDA (BNFL) | UK | Springfields | 6,000 |
| Rosatom | Russia | Angarsk, Seversk | 15,000 |
| Total | | | 62,590 |

Uranium Enrichment

Over 95 percent of the world's enrichment capacity is controlled by four entities: USEC in the United States; Rosatom in Russia; Eurodif in France; and Urenco with facilities in Germany, the Netherlands, and the United Kingdom. The enrichment nameplate capacity for the primary supplier of uranium enrichment for 2005, consisting of facilities employing both gaseous centrifuge and gaseous diffusion technology, is presented in the following tabulation:¹⁶

¹⁵ *The Global Nuclear Fuel Market*, WNA, 2005, Table 4.21.

¹⁶ *Ibid.*, table 4.23. USEC's capacity was reduced from 11.3 million SWU as reported by the WNA to 8 million SWU as reported by USEC's 2005 10K to reflect the fact that USEC's design capacity has not been reached. USEC's capacity for the Portsmouth, OH gaseous enrichment plant was not included as it is now in a preliminary decontamination and decommission status.

| Location | Diffusion | Centrifuge |
|---|----------------------|------------------|
| | Quantity (1,000 SWU) | |
| China (CNNC) | (¹) | 1,000 |
| France (Eurodif) | 10,800 | (¹) |
| Germany (Urenco) | (¹) | 1,700 |
| Japan (JNFL) | (¹) | 1,050 |
| Netherlands (Urenco) | (¹) | 2,500 |
| Russia (Rosatom) | (¹) | 20,000 |
| UK (Urenco) | (¹) | 3,100 |
| United States (USEC) | 8,000 | (¹) |
| Others ² | (¹) | 300 |
| Total | 18,800 | 29,650 |
| Grand total | | 48,450 |
| ¹ Not applicable. ² Includes Argentina, Brazil, India, and Pakistan. | | |

As shown, estimated global capacity in 2005, 48.5 million SWU, appears to be slightly greater than the global demand figure of 45.1 million SWU estimated by the WNA; this is in contrast with the demand-supply balance for primary uranium.¹⁷ In actuality, global SWU production may not be greater than global SWU demand, ignoring the impact of inventories, as actual SWU production may be substantially below nameplate capacity, particularly for diffusion plants.¹⁸

While gaseous diffusion plants have the advantage of being less capital intensive than gaseous centrifuge plants, there appear to be a number of important advantages of the gaseous centrifuge facilities that render them technologically superior to the gas diffusion facilities, especially the more up-to-date technologies. These include lower electrical costs, higher capacity utilization rates, and the ability to incrementally add gaseous centrifuge capacity based on market needs. Consequently, the two main global producers employing gaseous diffusion technology, USEC and Eurodif, have announced plans to move to centrifuge technology. USEC plans to install a gas centrifuge plant with a capacity of 3.5 million SWU. The plant is expected to be installed by 2010, and is based on DOE's previous research on this technology. In France, a joint venture between Areva/COGEMA and Urenco has been announced to build a gas centrifuge plant. The plant, which will have a capacity of at least 7.5 million SWU, is expected to reach full capacity by 2016. In the meantime, a consortium of U.S. companies and Urenco are planning to build a gaseous centrifuge plant near Hobbs, NM with a capacity of 3 million SWU which is expected to be completed by 2013.¹⁹

The centrifuge plants based on a cascade of individual centrifuges reportedly are not equal in efficiency. According to testimony provided at the Commission's hearing, a Russian centrifuge has a capacity of about 4 SWU per year per machine, which is being upgraded to 6 SWU; whereas in Europe,

¹⁷ *The Global Nuclear Fuel Market*, WNA, 2005, table IV.1 (reference scenario).

¹⁸ Although the annual capacity of USEC's gaseous diffusion enrichment plant in Paducah, KY, is about 8 million SWU, annual production was reported to be only about 5 million SWU. Hearing transcript, p. 72 (Van Namen).

¹⁹ *The Global Nuclear Fuel Market*, WNA, 2005, pp. 154-156.

centrifuges are being deployed with a capacity of 40 SWU per year per machine, while the American Centrifuge project will deploy an array of centrifuges which would have a capacity of about 300 SWU per year per machine.²⁰

According to the WNA, further expansion plans by the uranium enrichers are likely if market conditions permit. Urenco, a Western European consortium with enrichment facilities in the United Kingdom, Germany, and the Netherlands, plans to increase its capacity to 8 million SWU at its European facilities by the end of 2007 whereas representatives of the Russian enricher, Rosatom (formerly Minatom), announced plans to increase capacity from 20 to 26 million SWU presumably because of newer and more efficient centrifuge technology design. R&D to improve gas centrifuge technology is currently ongoing in tandem with expansion plans.²¹ According to the WNA, the global enrichment industry should be able to meet nuclear fuel requirements for any projected market scenario in the forecast period.²²

Fuel Fabricators for Light Water Reactors

The WNA lists 20 fuel fabrication facilities worldwide for lightwater reactors, of which six are in Western Europe, four are in the United States, two are in Russia, and four are in Japan. Fuel fabricators are engaged in the final step in what has been designated as the front end of the nuclear fuel cycle. These steps include the conversion of uranium to uranium dioxide, pelletizing, and finally encasing these pellets in a fuel rod/fuel rod assembly system. Not all fabricators, however, are involved in all steps of this process. In contrast to the other stages of the nuclear fuel cycle, the manufacture of fuel assemblies is a highly customized product. This has resulted in the past in limiting the competitiveness of the various vendors to a limited number of reactors for which they have the design expertise as many of the fuel fabricators are also reactor vendors. In recent years, in order to increase market share, fuel fabricators have begun to offer fuel fabrication services to customers using reactors manufactured by their competitors. The fuel fabrication industry has therefore become increasingly competitive as they increase product diversity. At the same time, fuel fabricators are becoming increasingly competitive by offering products with improved performance capabilities such as higher burnup. According to the WNA, there is significant global overcapacity for fuel fabrication services, a condition that has prompted companies to seek consolidation.²³

Reprocessing Industry and the Recycling of Military Warheads

Effective nuclear fuel capability can be increased by employing technologies that recycle or reprocess spent fuel. The uranium and plutonium in the spent fuel can be separated--the latter is formed as a byproduct of the nuclear fission process. The reprocessed uranium can then be re-enriched to LEU that is suitable to be used in nuclear reactors. The separated plutonium can also be used when mixed with uranium to form MOX fuel. According to the WNA, a reduction of 30 percent of natural uranium can be achieved. The other advantage of reprocessing is that it reduces the volume of high-level waste as well as the level of radioactivity in the long-term.²⁴

The major commercial reprocessing facilities are in Western Europe and Russia. These facilities are located in La Hague, France; Sellafield, the United Kingdom, and Ozersk (Mayak) in Russia. Smaller

²⁰ Hearing transcript, pp. 141-142 (Van Namen).

²¹ *The Global Nuclear Fuel Market*, WNA, 2005, pp. 155-156.

²² *Ibid.*, p. 157.

²³ *Ibid.*, pp. 158-162.

²⁴ *Information and Issue Briefs, Processing of Used Fuel for Recycle*, WNA, Dec. 2005, p. 1.

reprocessing facilities are located in India, Japan, and other countries. MOX fuel fabrication facilities are currently located in France, the United Kingdom, and Belgium. Countries that are planning to install MOX fuel production facilities include the United States, Russia, and Japan.²⁵

Plutonium (military grade) and uranium can also be extracted from military warheads. Both the United States and the Russian Federation have done extensive work in this regard. The U.S. DOE downblends HEU it has produced from weapons at facilities in Erwin, TN and Lynchburg, VA. In March 1995, about 174 metric tons of uranium (in the form of HEU) and 38 metric tons of plutonium were declared to be surplus material by the United States.²⁶

THE INDUSTRY IN RUSSIA

The Russian civilian nuclear fuel industry has been described by the U.S. Embassy in Moscow as follows:

The Russian nuclear industry is composed of four entities: TVEL, Tenex, Atomstroyexport, and Rosenergoatom. TVEL manufactures fuel assemblies and components for sale, both domestically and abroad; Tenex sells Russian uranium enrichment services abroad; Atomstroyexport builds nuclear power plants abroad; and Rosenergoatom builds and operates all domestic nuclear power plants. Although once part of the Soviet and, later, Russian governments, all four organizations have been converted to joint stock companies that are owned primarily by the government. The manner in which these organizations conduct business has changed significantly since the late 1980's. In support of Russia's foreign policy goals, the civilian nuclear industry frequently set prices for its services lower than what market forces would dictate.²⁷

Figure IV-4 presents a flowchart of the Russian civilian nuclear fuel cycle. The entities identified were sent the Commission's foreign producers' questionnaire, but no questionnaire responses were received. The Commission received a late non-questionnaire filing from Rosatom (i.e., Rosenergoatom) which is discussed later in this section.

Russian Mining and Milling Industry

Russia is a significant uranium producer, the fifth largest producing country in 2004. Currently, most uranium production is centered in the Chita region in Siberia near the town of Krasnokamensk.²⁸ Priargunsky, a Russian mining company, has operated several mines in that area since 1968 which has made it one of the most productive sites in the world. Several of the mines including the open pit mines have, however, been shut down and most uranium is extracted from underground mines except for a relatively small amount of uranium extracted by leaching. TVEL, a Russian company specializing in the nuclear fuel cycle, has been installing ISL facilities in Dalur, Khiagda, and other areas in Russia. Total Russian uranium production in 2004 totaled 3,200 metric tons which accounted for about 8 percent of

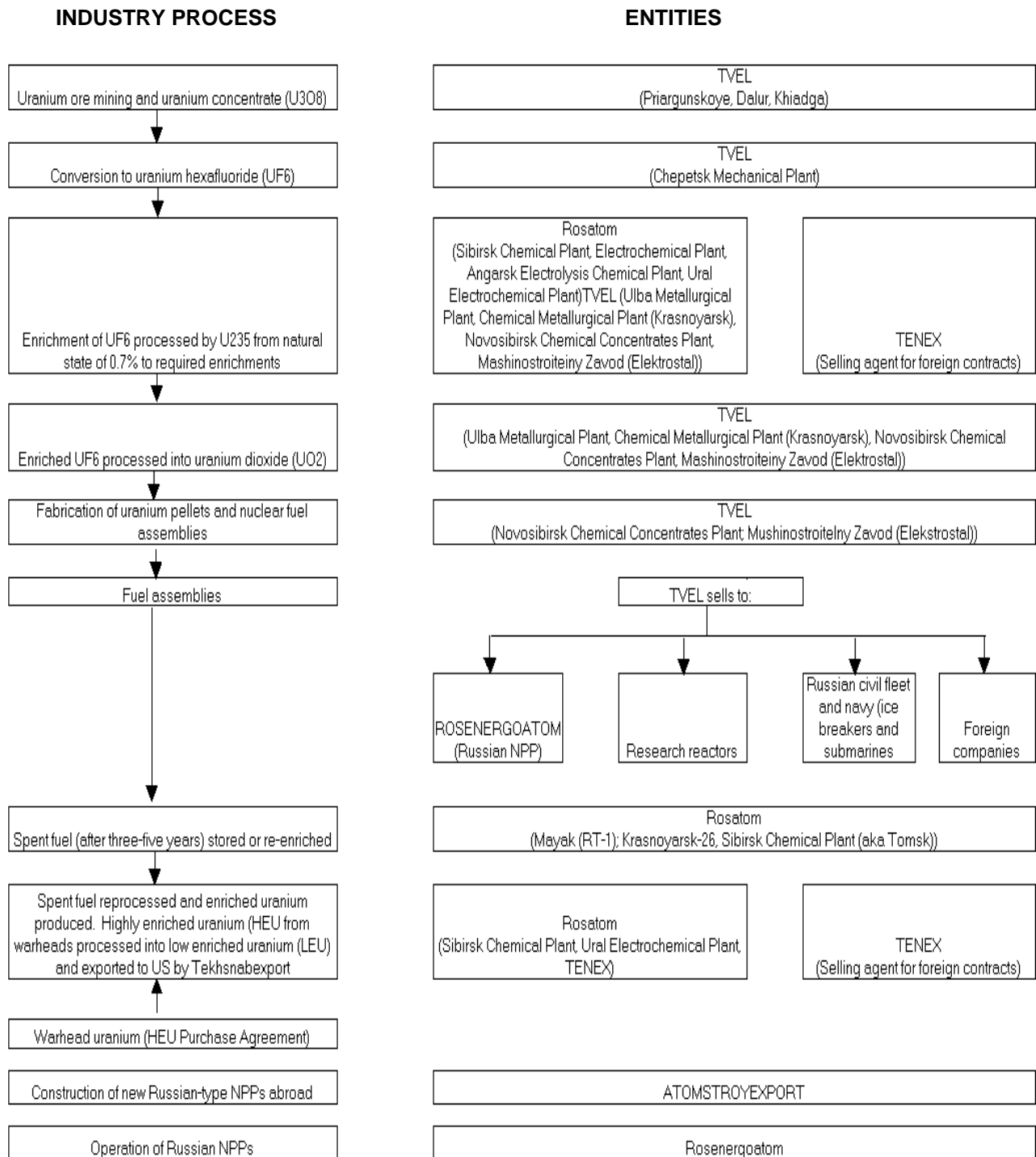
²⁵ *The Global Nuclear Fuel Market*, WNA, 2005, pp. 137-142; *Information and Issue Briefs, Processing of Used Fuel for Recycle*, WNA, Dec. 2005.

²⁶ *The Global Nuclear Fuel Market*, WNA, 2005, p. 133.

²⁷ Cable from the U.S. Embassy, Moscow, November 5, 2005, p. 1.

²⁸ *Uranium 2003: Resources, Production and Demand*, Nuclear Energy Agency, OECD, pp. 195-197.

Figure IV-4
Uranium: The Russian civilian nuclear fuel cycle



Source: *The Russian Civilian Nuclear Industry 101*, EST section, United States embassy, Moscow, November 2005.

global production in that year.²⁹ (In comparison, Canada, the world's largest producer, accounted for 29 percent of global production in 2004.) According to the WNA, ISL may represent the dominant share of future uranium production in Russia.³⁰ As Russian uranium requirements for 2004 were estimated by the WNA to be 3,300 metric tons, primary uranium supply from Russia and Russian reactor requirements for uranium appeared to be roughly in balance.³¹

Russian Conversion and Fabrication Industry

With the exception of primary uranium production, almost all the other significant fuel cycle facilities in the former Soviet Union ("FSU") and almost all uranium inventories from the FSU that have not been consumed or exported are in the Russian Federation.³²

Russia is a full provider of nuclear fuel cycle services including uranium conversion and fuel fabrication services. Rosatom, the successor to Minatom, the Russian atomic agency, operates a uranium conversion facility in Angarsk and Seversk near two of the four uranium enrichment facilities. Currently, according to the WNA, these facilities supply Russian domestic requirements, the rest of the FSU, and Eastern Europe, but do not provide significant toll conversion services to western utility customers. Problems that the converter faces according to the WNA, include high transportation costs and lack of cylinder filling and handling capabilities. According to the WNA report, Rosatom plans, however, to expand the amount of uranium conversion services it provides that meet Western specifications.³³

Fabrication services for Russian-built reactors have been supplied by the Russian companies MSZ Elektrostal and the Novosibirsk Chemical Concentrates Plant ("NCCP"). According to the WNA report, a Western competitor, BNFL/Westinghouse, has begun to slowly enter this market.³⁴

Russian Uranium Enrichment and Reprocessing Industry

Based on a reported nameplate capacity of 20 million SWU, the Russian uranium enrichment industry operated by Rosatom (formerly Minatom) is the largest in the world, accounting for almost 40 percent of global nameplate capacity.³⁵ Ten gas centrifuge plants may still be in operation at four sites in Russia: the Electrolytic Chemical Combine in Angarsk, the Electrochemical Plant in Zelenogorsk (Krasnoyarsk-45), the Ural Electrochemical Combine in Novouralsk (Sverdlovsk-44), and the Siberian Chemical Combine in Seversk (Tomsk-7).³⁶ Russian enrichment capacity is expanding. According to information submitted by Rosatom, because of modernization, its enrichment capacity will increase by 30 percent in 2010 relative to 2002.³⁷ The impact of Russian enrichment capacity on the global uranium industry and market is magnified by large-scale inventories primarily from Russia's military programs as well as unique operational features which are discussed below.

Much of Russian military inventories of highly enriched uranium have been delivered to the United States in the form of LEU as a result of the HEU agreement that was reached between the United

²⁹ *The Global Nuclear Fuel Market*, WNA, 2005, table 4.2, p. 102.

³⁰ *Ibid.*, p. 111.

³¹ *Ibid.*, Appendix, table II.1 (reference scenario).

³² Staff telephone interview with ***, March 23, 2006.

³³ *The Global Nuclear Fuel Market*, WNA, 2005, p. 150.

³⁴ *Ibid.*, pp. 158-162.

³⁵ *Ibid.*, table 4.23.

³⁶ Material produced for the Nuclear Threat Initiative ("NTI") by the Monterey Institute's Center for Nonproliferation Studies; found at <http://www.nti.org/db/nisprofs/russia/fissmat/enrichme/overview.htm>.

³⁷ Rosatom submission, June 8, 2006, p. 15.

States and Russia in 1993. In that agreement, 500 metric tons of HEU, equivalent to about 152,000 tU and 92 million SWU, were to be delivered between 1995 and 2013. The HEU is to be de-enriched to LEU in Russia. LEU that is enriched up to one and a half percent is blended with the HEU to reduce U-234 and U-236 contaminants to meet ASTM specs.³⁸ Acting as the executive agent of the United States, the enrichment or SWU component is purchased by USEC. Because of concern that the imported natural uranium component could adversely affect U.S. uranium producers, a variety of measures have been enacted to resolve this problem.³⁹

The issue of what happens after 2013 when the HEU agreement has expired looms as a major concern. According to the WNA, the Russian Federation may opt to keep any remaining HEU to meet its domestic and captive reactor requirements rather than extending or renewing a similar agreement. Moreover, with substantial gas and oil exports, Russia may not need uranium export revenues as badly as when the HEU deal was first initiated. A factor that could affect the decision is the ability of the Russian Federation to increase its primary uranium production. This view appears to be reinforced by statements from Russian authorities that it plans to substantially increase primary uranium production to meet its domestic and export requirements.^{40 41}

The Russian Federation has managed to significantly increase its nuclear fuel production using technologies that have only been exploited to a limited extent in the United States. The world's nuclear power industries produce a huge amount of depleted uranium, also referred to as uranium tails, that are at times considered to be waste products. However, in principle, the depleted uranium can be re-enriched to produce uranium at any level of enrichment. According to the WNA, Russia's surplus enrichment capacity and the economics of running these plants allows Russia to be the world's largest re-processor of this material. In addition to depleted uranium produced in Russia, Western enrichment companies have shipped an estimated 10,000 to 15,000 metric tons of uranium annually to Russia which, according to the WNA, is believed to take up over one-third of Russian enrichment capacity. The WNA reports, however, that this effort may decline because of increased Western production of lower tails assays for depleted uranium prompted by higher uranium prices. Depleted uranium with lower tails assays is more expensive to convert to other forms of uranium than is depleted uranium with a higher tails assay. The WNA also reports that economic and capacity limitations will militate against Russia re-enriching the huge quantities of depleted uranium accumulated in the United States and Europe.⁴²

Although reprocessing is conducted in several Western European countries and Japan, in contrast to these other countries, in Russia, according to the WNA, reprocessing is a state-directed operation conducted in a closed cycle. This reprocessing of spent fuel is being conducted at RT-1 in Mayak, Russia. Augmenting Russian reprocessing capabilities are three plutonium production reactors. As a result, however, of an agreement reached with the United States motivated by non-proliferation concerns, these

³⁸ Hearing transcript, pp. 252-253 (Church).

³⁹ *The Global Nuclear Fuel Market*, WNA, 2005, pp. 134-136.

⁴⁰ *Ibid.*, p. 136. In a statement attributed to TVEL, Russia will need to more than double its annual uranium production from the current 3,200 tU to 7,500 tU by 2020 to meet growing demand. Beyond 2020, the imbalance between demand and supply could rise as nuclear power use grows and nuclear fuel exports continue. *Uranium Exchange Weekly*, Nov. 28, 2005, p. 3.

⁴¹ According to Boris Yurlov, the Russian Federation aims to increase nuclear power generation by 4 percent annually; to increase nuclear electric power generation from 149 billion kWh in 2003 to reach 200 and 300 billion kWh by 2010 and 2020, respectively; and to increase the average capacity factor for nuclear power plants from 76.3 percent in 2003 to 85 percent. Also, at least three additional nuclear units are scheduled to be completed by 2011. (Boris Yurlov, *Status and Perspectives for Nuclear Power in Russia in a Fast-developing World*, WNA Annual Symposium, 2004.) Russia is also an international player helping other countries with their nuclear power and nuclear fuel needs.

⁴² *The Global Nuclear Fuel Market*, WNA, 2005, pp. 144-146.

plants is scheduled to be shut down by 2010/2011. The plutonium produced in these plants is to be consumed in a fabrication facility in Russia that will be installed; the facility will convert the plutonium produced by the three production plants to MOX, a nuclear fuel.⁴³

A brief discussion of major Russian companies and entities involved with nuclear fuel production and/or commerce follows. The information was derived from a cable dated November 2005 released by the Energy, Science, and Technology section of the U.S. embassy in Moscow.

The Russian civilian nuclear fuel industry is composed of the following entities: TVEL, Tenex, Atomstroyexport, and Rosengarten. Overseeing these agencies is Rosatom, Russia's Federal Atomic Energy Agency (the successor agency to Minatom).

Rosenergoatom builds and operates domestic nuclear power plants, whereas Atomstroyexport builds nuclear power plants outside of Russia. All these entities were converted to joint stock companies that are primarily owned by the Russian government.

TVEL is a 100-percent state-owned stock-holding company which oversees partially state-owned entities. The company oversees entities involved with mining and processing uranium (TVEL owns 75 percent of the JSC Priargunski Production Mining and Chemical), manufacturing fuel assemblies and components for sale both domestically and for export. TVEL does not, however, engage in uranium enrichment, spent fuel storage, or reprocessing. These are conducted by other entities that report directly to Rosatom. (The Russian government makes decisions for large contracts such as those associated with the HEU agreement while allowing R&D institutes to negotiate for smaller contracts which still must, however, get final approval from Rosatom.) TVEL supplies over 17 percent of the global nuclear fuel market and supplies nuclear fuel to over 76 nuclear power plants of which 45 are outside Russia. TVEL was created in 1995/96 when it was decided to pull together related responsibilities from several departments within Minatom/Rosatom into one entity.

The company Tenex, the trading arm of Rosatom, exports uranium enrichment services, other fuel cycle products, and isotope products. In 1988, Tenex was transferred from the Ministry of Foreign Trade to Rosatom. This is an example of a wider development, largely prompted by the Chernobyl accident but also prompted by liberalization of the Russian economy, in which the responsibility for conducting civilian nuclear trade was moved from the Ministries of Foreign Trade and Energy to Minatom. Tenex is currently (November 2005), a wholly state-owned open joint stock company. In 1994, Tenex became the executive agent of Minatom in the HEU-LEU purchase agreement. In 2002, Tenex was authorized to conclude foreign trade agreements for the importation of spent fuel from foreign nuclear power plants. Tenex has recently invested \$60 million for a joint venture for natural uranium extraction in Kazakhstan—an indication that it may branch out into activities beyond being a trading company.

Information Provided by Rosatom

In written correspondence received by the Commission on June 9, 2006, Rosatom provided information concerning the volume of Russian exports to the United States. With regard to exports, Rosatom stated that Russia does not have large uranium inventories available to export to the United States as Russia does not produce enough natural uranium to satisfy Russian internal demand. Rosatom further stated that Russian domestic demand is increasing and Russia plans to invest in further development of existing uranium reserves as well as develop new uranium deposits. However, because it will take many years for Russia to exploit its uranium reserves and to increase production, Rosatom said that its internal supply/demand gap will remain at high levels for the foreseeable future.⁴⁴

Rosatom argued that Russia is unable to export large quantities of natural uranium, as there are restrictions on its imports from large world producers, e.g., restrictions in nuclear cooperation agreements

⁴³ *The Global Nuclear Fuel Market*, WNA, 2005, pp. 137-144.

⁴⁴ Rosatom submission, June 8, 2006, p. 2.

with Canada and Australia (Australia does not allow for imported Australian uranium to be used for Russia's internal purposes).

As to imports from the Confederation of Independent States ("CIS") Republics, Rosatom stated that Russia does not import natural uranium from Uzbekistan; Kazakhstan supplies uranium to other markets (including China, Japan, and South Korea), and although there is a Russian - Kazakh - Kyrgyz joint venture under development, it is not expected to reach full capacity until 2010. On June 22, 2006, Tenex and the Russian-Kazakh-Kyrgyz uranium mining joint venture Zarechnoye signed the first Russian contract for import of uranium. The contract stipulates supply of \$1 billion of uranium between 2006 and 2022, with Zarechnoye to start uranium production in third quarter 2006 and the first shipment to Russia scheduled for January 2007.⁴⁵ Total investment of participants into the joint venture development is \$60 million with ownership as follows: Tenex (49.3 percent); Kazatomprom (49.3 percent); Atompredemtzoloto (Russian, 0.7 percent); and Kyrgyz Kara Baltin (0.7 percent). Estimated resources at Zarechnoye is 19,000 metric tons of uranium with a joint venture design capacity of 1,000 metric tons of uranium per year, which is estimated to be achieved by 2009.⁴⁶

To help Russia meet its internal requirements for natural uranium, Rosatom stated that it plans to take back additional quantities of UF₆ that it receives under the HEU Agreement. According to Rosatom, Russia's intended use of the UF₆ through the life of the HEU agreement is as follows:⁴⁷

| | Maximum annual quantities/ quota | Maximum annual quantities/ quota | *** | *** | *** | *** |
|------|---|----------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Year | (minimum pounds U ₃ O ₈) | metric (tons UF ₆) | metric (tons UF ₆) | metric (tons UF ₆) | metric (tons UF ₆) | metric (tons UF ₆) |
| 2006 | 17 | 6,506 | *** | *** | *** | *** |
| 2007 | 18 | 6,889 | *** | *** | *** | *** |
| 2008 | 19 | 7,272 | *** | *** | *** | *** |
| 2009 | 20 | 7,655 | *** | *** | *** | *** |
| 2010 | 20 | 7,655 | *** | *** | *** | *** |
| 2011 | 20 | 7,655 | *** | *** | *** | *** |
| 2012 | 20 | 7,655 | *** | *** | *** | *** |
| 2013 | 20 | 7,655 | *** | *** | *** | *** |

Rosatom stated that the termination of the RSA will not result in massive Russian SWU exports to the United States because Russia's enrichment capacity is largely committed under existing long-term contracts (including the HEU Agreement until 2013) and increased demand for Russian enrichment services both internally and in third countries for planned new nuclear power plants.⁴⁸

⁴⁵ "Russia, Kazakhstan Sign \$1Bln Uranium Supply Contract," *MosNews*, June 22, 2006.

⁴⁶ Rosatom submission, June 8, 2006, p. 2.

⁴⁷ *Ibid.*, pp. 3-4.

⁴⁸ *Ibid.*, p. 4.

According to Rosatom, Russian companies supply all the uranium fuel to Russian nuclear reactors and Russia's internal requirements are expected to increase with the planned construction of new nuclear power plants in Russia. Therefore, for the foreseeable future, Russian uranium capacities will continue to be largely dedicated to meeting orders from the Russian nuclear power plants.⁴⁹

Russia participates in fuel markets other than the United States. Under existing long-term contracts, TVEL currently supplies nuclear fuel internationally to a number of nuclear power plants in other countries as follows: Bulgaria, 4; China, 2; the Czech Republic, 4; Finland, 1; Hungary, 4; India, 2; Lithuania, 1; Slovakia, 6; and Ukraine, 15. If world construction of new nuclear power plants continues as planned, Rosatom stated that Russia could receive orders to supply 40 to 60 plants in such countries as Brazil, Bulgaria, Chile, China, the Czech Republic, Egypt, Hungary, India, Indonesia, Thailand, and Vietnam. Russia supplies almost all the uranium fuel to nuclear power plants constructed by Russia abroad.⁵⁰

Rosatom maintained that third-country restrictions on Russian uranium are not significant, citing Europe's policy of supplier diversification which allows Russian imports (mostly in enrichment services) not to exceed 20 percent of the European market. Further, Rosatom estimated that the Russian share of the Japanese nuclear fuel market is about 10 percent currently, and Tenex estimated that this share could increase up to 30 percent in the future.⁵¹

In an April 2006 presentation to The Round Table on Energy - All-Russian Forum, TVEL stated that Russia operates four enrichment plants with total enrichment capacity of over 20 million SWU distributed as follows:⁵²

| Name of enterprise | Percent of Russian enrichment capacity |
|--|--|
| Ural Electrochemical Integrated Plant (UEIP, Novouralsk) | 48 |
| Electrochemical Plant ((ECP, Zelenogorsk) | 29 |
| Siberian Chemical Integrated Plant (SCIP, Seversk) | 14 |
| Angarsk Electrolysis Chemical Complex (AECC, Angarsk) | 9 |
| Total | 100 |

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid. p. 5.

⁵² Rosatom submission, June 8, 2006, annex, p. 11.

In 2002, these Russian enrichment capacities were used as follows:⁵³

| Use of Russian enrichment capacities | Percent |
|--|---------|
| Enriched uranium for Russian origin reactors (Russia, CIS, East Europe) | 33 |
| Implementation of HEU-LEU program (accumulation of diluent with a lower content of U-234) | 24 |
| Export contracts (includes enrichment of tails supplied by foreign customers) | 43 |
| Total | 100 |

The strategy of nuclear power development in Russia in the first half of the twenty-first century set forth the following tasks for uranium enrichment complexes by 2010: provision of enriched uranium for the nuclear development program in the Russian Federation; fulfillment of Russian obligations under the HEU-LEU program for weapons-grade uranium dilution to low enriched uranium for nuclear power plants; and fulfillment of contract obligations on rendering enrichment services, supplies of low-enriched uranium, and re-enrichment of tails from foreign customers to match the demands of the world uranium market.⁵⁴

According to Rosatom, with enrichment capacity of recently modernized centrifuge units twice as high with practically the same operation expenses as before modernization, specific operational expenses of the modernized units are essentially cut in half. Rosatom stated that the modernization rate will allow Minatom's installed enrichment capacity to increase about 30 percent in 2010 over 2002, and that current R&D programs are now developing the next generation of centrifuges.⁵⁵

Domestic interested parties argue that the Rosatom submission is deficient, untimely filed, and purports to manipulate Commission procedures. Further, parties assert that the Rosatom information is incomplete, unsupported, or contradicted by public statements made by Rosatom officials. Whereas Rosatom is silent on the issue of inventories, USEC argues that independent analysis and substantial evidence indicates that Russia has tremendous inventories which represent the ability to export huge quantities of subject merchandise to the United States: inventories of all forms of uranium, with already-processed low-enriched uranium inventories sufficient to supply the entire U.S. market ***, HEU inventory containing enough SWU to satisfy U.S. enriched uranium needs for nearly 12 years, and substantial natural and depleted uranium inventories.⁵⁶

USEC contends that Rosatom's argument that Russia does not produce enough natural uranium to satisfy Russian internal demand is inconsistent with Rosatom press statements of May 2006 that cite that Russia "is definitely not threatened by a uranium famine" and that Russia's stocks of uranium "are fairly sizeable" and "enough *** for many decades" while increasing funding for development of its reserves.⁵⁷ PRI/Crow Butte argue that Rosatom does not take into account supply available from Russia's stockpiles of HEU, tailings and other uranium.⁵⁸

USEC asserts that Rosatom's argument that Russia's enrichment capacity is largely committed under long-term contracts is insufficient, outdated and does not rebut evidence that Russia has substantial,

⁵³ Ibid.

⁵⁴ Ibid., p. 14.

⁵⁵ Ibid., pp. 14-15.

⁵⁶ USEC's response to Rosatom's submission, June 19, 2006, pp. 3-4.

⁵⁷ Ibid., p. 4.

⁵⁸ PRI/Crow Butte's response to Rosatom's submission, June 19, 2006, p. 2.

and increasing, excess enrichment capacity, i.e., Russia's capacity increases from 20 to 26 million SWU and where that additional 6 million SWU capacity is allocated.⁵⁹ PRI/CBR contends that the "highly efficient Russian centrifuge technology" will be used to "remedy the deficit of the current natural uranium production," suggesting that Russia's enrichment capacity is being used for tails reenrichment, to create natural uranium for internal consumption, further processing, and export.⁶⁰

USEC and PRI/Crow Butte argue that Rosatom's list of third country exports and speculation of increased orders for new NPPs in those countries through 2030 is irrelevant to this review as the review must focus on the "reasonably foreseeable" timeframe and information concerning non-U.S. export markets is in large part already on the record.⁶¹

Respondents AHUG assert that the Rosatom information confirms earlier AHUG arguments, concerning Russia's inability to export significant quantities of uranium or enrichment services to the United States and Russia's need for natural uranium. AHUG contends that the Rosatom statements that Russia's enrichment capabilities are allocated between enrichment for Russian-made reactors, enrichment for blendstock to implement the HEU Agreement, and enrichment for export contracts support arguments previously made by AHUG. AHUG agrees with the Rosatom submission that Russia's uranium reserves are currently insufficient and that Russia is not able to import uranium from former CIS/FSU countries to satisfy its impending internal needs. AHUG cites Russia's additional reserve explorations and its joint venture with Kazakhstan for natural uranium production as consistent with these statements and agrees that Russia does not import natural uranium from Uzbekistan, nor does Russia currently import uranium from Kazakhstan.⁶²

Kiriyenko Press Statements

During a May 2006 visit to the United States, Sergei Kiriyenko, head of the Russian Federal Agency for Nuclear Energy (Rosatom), made statements to the press concerning meetings with U.S. government officials and U.S. energy companies that Russia wants to increase its sales of uranium products in the United States. The press reports contained statements regarding Russia's intentions for and capacity to supply the U.S. uranium market. While in the United States, Mr. Kiriyenko stated Rosatom's intent to sell new volumes of commercial Russian uranium in the United States if the RSA is terminated. In a summary of these meetings, Mr. Kiriyenko stated that "{w}e are ready to supply goods and services, and the American companies that control this {electricity} market want to receive these goods."⁶³

Mr. Kiriyenko said that signing a civilian nuclear energy cooperation agreement between Russia and the United States would help both nations. Mr. Kiriyenko stated that Russia wanted to make commercial sales of Russian uranium concurrently with the HEU agreement and clarified that Russia has no shortage of natural uranium. Mr. Kiriyenko indicated that Russia has stocks of Russian uranium to serve the Russian market for 50 years and that Russia planned to significantly increase investment in uranium prospecting and production.⁶⁴

On June 28, 2006, Mr. Kiriyenko indicated that all Russia's uranium exploration and mining assets at home and in the CIS/FSU will be combined into a single, purely state-owned enterprise, named

⁵⁹ USEC's response to Rosatom's submission, June 19, 2006, p. 6.

⁶⁰ PRI/Crow Butte's response to Rosatom's submission, June 19, 2006, p. 4.

⁶¹ USEC's response to Rosatom's submission, June 19, 2006, p. 7, and PRI/Crow Butte's response to Rosatom's submission, June 19, 2006, p. 5.

⁶² AHUG's response to Rosatom's submission, June 19, 2006, pp. 7-8.

⁶³ USEC's posthearing brief, exhibit 7.

⁶⁴ Ibid.

Atomprom, which will absorb all state atomic energy assets. The uranium mining division of Atomprom will include Russian uranium mine, two joint ventures (one in Kazakhstan and one in Uzbekistan), and possibly the fuel monopoly TVEL, but not uranium processing and enrichment facilities. Mr. Kiriyyenko stressed that the single enterprise would not exclude partnerships with foreign companies and that Russia would like to “develop uranium deposits anywhere in the world where it is profitable to do so.” The announcement followed President Putin’s June 9, 2006 approval of a plan to aggregate all civilian nuclear sector enterprises into a single, market-driven corporation similar to France’s Areva and Germany’s Urenco.⁶⁵

Uranium Inventories in Russia

Domestic interested parties argued that Russia has substantial inventories of all forms of uranium.⁶⁶ USEC provided information from *** regarding estimated Russian inventories as follows:

* * * * *

PRI/Crow Butte contended that while precise inventory data are difficult to determine, Russia is believed to have passed on 1,400 MT of HEU at the breakup of the Soviet Union. Net of the 500 MT to be delivered under the HEU Agreement, Russia will still have 900 MT (equivalent to 700 million pounds of U₃O₈) of HEU remaining in inventory.⁶⁷

Comparisons of Available Data

While the Commission has not received responses to its questionnaire from producers/exporters in Russia, data regarding the uranium industry in Russia are available from trade publications. Tables IV-6 and IV-7 present available comparative data relating to production and trade factors for natural and enriched uranium in Russia for the period 2005-10.

⁶⁵ Yuriy Humber, “State to Own Uranium Miner,” *The Moscow Times.com*, June 29, 2006, p. 5.

⁶⁶ USEC’s prehearing brief, pp. 70-73; and response to Rosatom’s submission, June 19, 2006, pp. 3-4.

⁶⁷ PRI/Crow Butte’s prehearing brief, p. 42.

**Table IV-6
Uranium: Available information on Russian natural uranium, 2005-10**

| Item and source | Calendar year | | | | | | Period changes | |
|--|------------------|------------------|-------|--------|--------|--------|------------------|------------------|
| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2005-07 | 2000-08 |
| Quantity (1,000 pounds U₃O₈) | | | | | | | Percent | |
| Production: | | | | | | | | |
| WNA ¹ | 9,100 | 9,100 | 9,620 | 11,700 | 11,700 | 11,700 | 5.7 | 28.6 |
| NAC International ² | *** | *** | *** | *** | *** | *** | *** | *** |
| Ux Consulting: ³ | | | | | | | | |
| Russia | 8,650 | 8,840 | 9,360 | 9,880 | 11,180 | 12,480 | 8.2 | 14.2 |
| Zarechnoye (Kazakhstan) ⁴ | (⁵) | (⁵) | 260 | 780 | 1,300 | 1,300 | (⁵) | (⁵) |
| Total UxC | 8,650 | 8,840 | 9,620 | 10,660 | 12,480 | 13,780 | 11.2 | 23.2 |
| ¹ WNA, <i>Global Fuel Market</i> , 2005, p. 123, table 4.12 (reference scenario). ² NAC International, <i>Nuclear Industry Status Reports</i> , February 2006, as contained in USEC's prehearing brief, exh. 17, p. E-43. ³ Ux Consulting, <i>The Changing Geopolitics of the Nuclear Fuel Market</i> (May 2006), p. 21, as contained in AHUG's prehearing brief, app. B, exh. 7, p. 21, table 3. ⁴ Russian-Kazakh-Kyrgyz uranium mining joint venture. ⁵ Not available/applicable. | | | | | | | | |

**Table IV-7
Uranium: Available information on Russian enrichment, 2005-10**

* * * * *

Trade Barriers in WTO Countries

USEC reported that imports of uranium from Russia continue “to face restrictions in other major uranium markets, i.e., Europe and Asia.” It argued that as a result of the policy of the Euratom Supply Agency (“Euratom”) “controls on imports effectively limit Russian participation to about 15% of that market.”⁶⁸ In addition, USEC argues that sales of Russian uranium in Japan “which in 2005 accounted for *** percent of total Asian demand - continue to be relatively small as a share of total requirements due to ongoing territorial disputes and the absence of a formal nuclear cooperation treaty.”⁶⁹

⁶⁸ USEC’s prehearing brief, pp. 78-79.

⁶⁹ Ibid., p. 79.

PART V: PRICING AND RELATED DATA

FACTORS AFFECTING PRICING

The exchanging or swapping of uranium products in their various forms is a common practice in the uranium industry. Swaps are normally undertaken by industry participants to avoid transportation costs and to ensure that the product is available for a customer in a timely manner with contract-specified quantities. Swaps are undertaken for other reasons as well, such as meeting unexpected excess demand requirements, optimizing inventories, or changing the country of origin of the uranium products. By swapping material of one country origin for material of another country origin, the owner of government-restricted material may be able to secure other material that is not subject to restriction. None of the firms providing questionnaires indicated that swaps had a significant effect on prices during 2000-05.¹ Although swaps can be used to circumvent import restrictions, the U.S. Government does regulate swaps to some extent.

In addition to swaps, loans and leases of all forms of uranium products between different industry participants are also used in this industry. Loans are undertaken largely for some of the same reasons discussed for swaps, including the need to meet excess demand, and to optimize inventories. For example, owners of inventory often make loans in an effort to offset holding costs. Brokers and traders may take leases to cover deliveries, or may lease uranium products if they have purchased them and are trying to reduce their carrying charges until they can sell the product, change the form of the material, or move the location of the material. Questionnaire responses indicate that loans did not have any significant effect on market prices during 2000-05.

Questionnaire responses indicated that inventories of uranium concentrates are usually held at converter locations, inventories of natural UF₆ are usually held at enricher locations, and inventories of LEU-HF are usually held at fabricator locations. The only major exception is ***.

Raw Material Costs and Tariff Rates

Uranium is the predominant single material input cost to produce the various uranium products along the fuel cycle. U.S. NTR *ad valorem* duty rates are zero for most HTS uranium import subheadings and 5 percent for the remainder.² The vast majority of the total value of U.S. uranium imports during 2000-05 were duty free.

Transportation Costs to the U.S. Market

Transportation charges for imports of uranium from the subject countries to the U.S. ports of entry, based on U.S. official import value data during 2005, averaged 0.1 percent of the U.S. customs value for total U.S. imports of uranium from Russia.

¹ ***, a U.S. importer of uranium, reported that swaps affect the prices and quantities of uranium products and services primarily through an improvement in the overall efficiency of the market place.

² The positive duty rates apply almost entirely to natural uranium products other than uranium ores, uranium concentrates, and natural uranium hexafluoride; the positive duty rates are not subject to staged reductions under a WTO agreement.

U.S. Inland Transportation Costs

As noted in the first review, U.S. inland transportation costs typically account for a very small percentage of the total delivered price of uranium products. Uranium products are shipped primarily by truck. Transportation costs for uranium were low throughout the period of review, and likely will continue in the foreseeable future.

Exchange Rates

The prices of uranium products in Russia are set in U.S. dollars rather than in Russian rubles. As a result, the changes in the value of the ruble compared to the dollar do not affect the price of uranium products, and for this reason, exchange rates are not shown.

PRICING PRACTICES

Prices of natural uranium products and the conversion services are usually quoted on a delivered basis. The two responding U.S. concentrators, all three importers responding to this part of the questionnaire, and ConverDyn reported quoting delivered prices on all of their sales. However, USEC reported that it ***.

Discounts are not common in the uranium industry, rather prices are generally based on market conditions and costs.³ Most sales of uranium are made on a multi-year contract basis. Based on questionnaire responses, contracts typically range in length from 3 to 5 years for uranium concentrates, 3 to 4 years for conversion services, 5 to 7 years for enrichment services, and typically 5 years, but as long as 10 years, for fabrication services. Negotiations for these contracts typically begin 1 to 2 years before the actual contract period. These contracts are seldom renegotiated during the years in which they are in effect. While terms vary, contracts typically fix both price and quantities during the contract period, but do not contain meet-or-release provisions or standard quantity requirements and do not require price premiums for sub-minimum shipments.

PRICE DATA

Quarterly selling price and quantity data were requested for sales of the following three uranium products produced in the United States and imported from Russia during 2000-05:

Product 1– Uranium concentrates, commonly called yellowcake, which have not been converted or enriched,

Product 2– Uranium hexafluoride in the natural state (natural UF₆),

Product 3– Uranium hexafluoride (UF₆) enriched in the U²³⁵ isotope (LEU-HF).

Sales data were also requested for toll conversion of product 2 and toll enrichment of product 3; these toll conversion/enrichment services represent the typical manner in which products 2 and 3 are obtained by U.S. electric utilities. All of the selling price and toll fee data were requested for sales to U.S. electric utilities.

³ Published prices are a significant factor in arriving at a price for typical long-term and short-term contracts. Price publications that report world prices of uranium concentrates, conversion services, and enrichment services include *Nuclear Market Review*, *Ux Weekly*, and *Nukem Weekly Report*.

Because of the importance of long-term contracts in this industry, separate price/toll-fee data were requested for three categories of transactions involving uranium and uranium toll processing (conversion and enrichment). Sales category 1 consists of a combination of spot sales and those long-term contract sales where the prices/toll fees are based on market prices/toll fees at the time of shipment, and the contracts do not specify a price/toll fee or cost-based floor, a price/toll fee ceiling, or a discount from the market price/toll fee. Sales category 2 consists of long-term contract sales where prices/toll fees are based on market prices/toll fees at the time of shipment but the contract specifies a price/toll fee or cost-based floor, a ceiling price/toll fee, a discount from market price/toll fee, or some combination of these. Sales category 3, which accounts for the bulk of uranium sales, consists of long-term contract sales where prices/toll fees are fixed or subject to escalator clauses specified in the contract. In addition to these requirements, questionnaire recipients were asked to report quarterly price and toll-fee data separately for each contract year in multi-year contracts and to show for each contract year the date(s) the contract(s) was/were negotiated, the period covered by the contract(s), and the total quantity of the contract(s).

Four U.S. concentrators,⁴ ConverDyn, and USEC provided the requested price information for domestic uranium products and toll services. The usable price data reported by U.S. concentrators accounted for 26.7 percent of the total quantity of their total domestic sales of U.S.-produced concentrates during 2005. Data reported by ConverDyn and USEC accounted for *** and *** percent of the total quantity of their respective domestic sales of natural uranium conversion and enrichment services during 2005. *** reported U.S. sales of natural UF₆⁵ and *** reported the requested price data for imported Russian enrichment services. The reported importers' selling price data accounted for *** percent of the subject imported uranium natural UF₆ in 2005. No shipments were reported of subject imported LEU-HF during 2005.

Trends in prices/toll fees and price/toll fee comparisons between U.S.-produced and subject imported uranium and uranium toll services can be found by type of uranium product/service in the following sections. These sections are followed by a discussion of fee information provided by the two responding uranium fabricators. Price/toll fee trends and comparisons are based on weighted-average prices for each contract year,⁶ which, in turn, are based on reported quarterly shipment data under these contracts during 2000-05. In addition, the price data are discussed by each sales category; the majority of the uranium products and toll services are sold under sales category 3.

PRICES OF URANIUM CONCENTRATES

Net delivered U.S. sales prices of U.S.-produced uranium concentrates (product 1) under sales category *** for shipments during 2000-05 are shown in table V-1, while, for the same shipment period, prices of domestic product 1 under sales category *** are shown in table V-2, and prices of domestic product 1 under sales category *** are presented in table V-3. The price data are presented by contract

⁴ *** provided usable price data for sales of uranium concentrates to U.S. electric utilities. These four U.S. concentrators accounted for *** percent of total U.S. uranium concentrate production during 2000-05. ***.

⁵ *** also provided a small bit of data with respect to natural UF₆.

⁶ These weighted-average prices reflect changes in competition among the various contract years. Quarter-to-quarter price comparisons involving shipments contracted in a single year may vary according to differing contract sales volumes, contract lengths, and contract-based escalations, etc. The quarter-to-quarter price variations involving long-term contracts are based on market conditions both in the past and during the current period and, as such, may contain too much disturbance to be useful for price trends and price comparisons.

year under sales category *** in figure V-1. Additionally, figure V-2 shows quarterly spot market prices for uranium concentrates, as tracked by the trade publication *Ux Weekly*.⁷

Since product 1 data for sales categories *** are based on long-term agreements negotiated in different years, prices associated with the reported quarterly shipments during 2000-05 are shown separately by the year that the contracts were agreed upon. However, even with these breakouts, trends in prices are difficult to determine. Quarterly movements in prices for sales under these categories are more likely to reflect contract terms than changes in market conditions. As an alternative to these data, an average price is shown for each contract year in the second-to-the-last row of tables V-2 and V-3. The prices are weighted by the total quarterly shipments for 2000-05 corresponding to each contract year shown (last row of tables V-2 and V-3). The data are intended to show movements in average prices from one contract period to the next. It should be noted, however, that the majority of these prices ***.

There were limited imports of Russian U₃O₈ during the period of review. One quarterly data point of uranium concentrates was submitted by ***. The rest of the Russian imported uranium concentrates were sales from category 3, i.e., fixed or escalated price contracts. These data consist of *** contracts, ***. For the *** contract, ***. With respect to the ***.

Table V-1
Uranium concentrates: Net delivered selling prices and quantities of *spot sales and certain contract sales* to U.S. electric utilities of U.S.-produced product 1, by quarters, 2000-05

* * * * *

Table V-2
Uranium concentrates: Net delivered selling prices and quantities of *restricted market-related contract sales* to U.S. electric utilities of U.S.-produced product 1, shipped by quarters, 2000-05, for contracts by the year negotiated, 1996-2004

* * * * *

Table V-3
Uranium concentrates: Net delivered selling prices and quantities of *fixed or escalated-price contract sales* to U.S. electric utilities of U.S.-produced product 1, shipped by quarters, 2000-05, for contracts by the year negotiated, 1995-2004

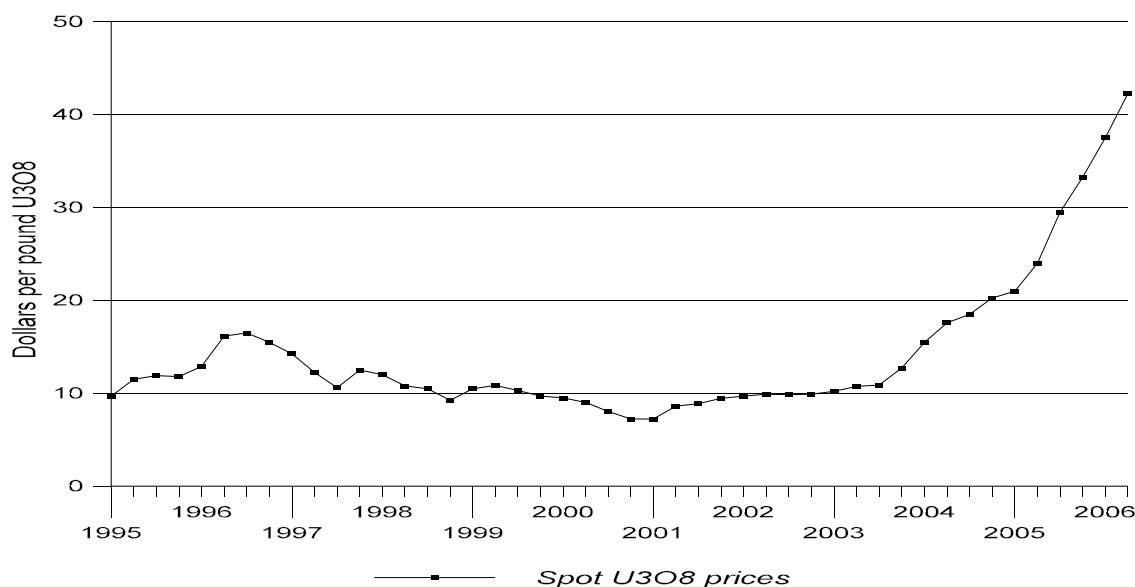
* * * * *

Figure V-1
Uranium concentrates: Weighted-average net delivered prices of *fixed or escalated-price contract sales* to U.S. electric utilities of the domestic product 1, by contract years, 1995-2004

* * * * *

⁷ Pricing data similar to those listed by *Ux Weekly* are available from other publications such as *Trade Tech*.

Figure V-2
Uranium concentrates: Quarterly spot market prices of uranium concentrates (product 1), as reported by Ux Weekly, January 1995- April 2006¹



¹ The Ux Prices indicate, subject to the terms listed, the most competitive spot offers available for the respective product or service, of which The Ux Consulting Company, LLC is aware. The Ux U₃O₈ price includes conditions for delivery timeframe, quantity, and origin considerations, and is published weekly.

Source: The Ux Consulting Company, LLC, <http://www.uxc.com>

TOLL-CONVERSION FEES AND PRICES FOR NATURAL URANIUM HEXAFLUORIDE

All of ConVerDyn’s transactions were reported for toll production (conversion) of product 2 under sales categories *** and are shown in tables V-4 and V-5, respectively; toll conversion and quantity data, by contract year, are also shown in figure V-3. *** reported sales of product 2 that carried a Russian origin under sales categories ***. Sales prices of imported product 2 are reported in table V-6. ConVerDyn’s reported sales are for only the conversion service, whereas importers’ reported sales are for product 2, which includes both the natural uranium feed value and the conversion value. Although both types of transactions show a fee/price in dollars per kg of natural U, they represent different amounts of value added and, as a result, are not comparable. Average toll fees are shown for each contract year for the conversion toll fees/product 2 prices under sales categories ***. The toll fees/prices are weighted by total quarterly shipments during 2000-05 corresponding to each contract year shown. The data are intended to show movements in average toll fees/prices from one contract period to the next. Additionally, figure V-4 provides spot market toll conversion fees and figure V-5 provides quarterly spot market prices for natural uranium hexafluoride, as reported by *Ux Weekly*.

Table V-4
Natural uranium hexafluoride conversion services: Net delivered toll fees and quantities of restricted market-related contract sales to U.S. electric utilities of U.S. toll-converted product 2, shipped by quarters, 2000-03, for contracts by year negotiated, 1975-2003

* * * * *

Table V-5

Natural uranium hexafluoride conversion services: Net delivered toll fees and quantities of *fixed or escalated-toll-fee contract sales* to U.S. electric utilities of U.S. toll-converted product 2, shipped by quarters, 2003-05, for contracts by the year negotiated, 1987-2004

* * * * *

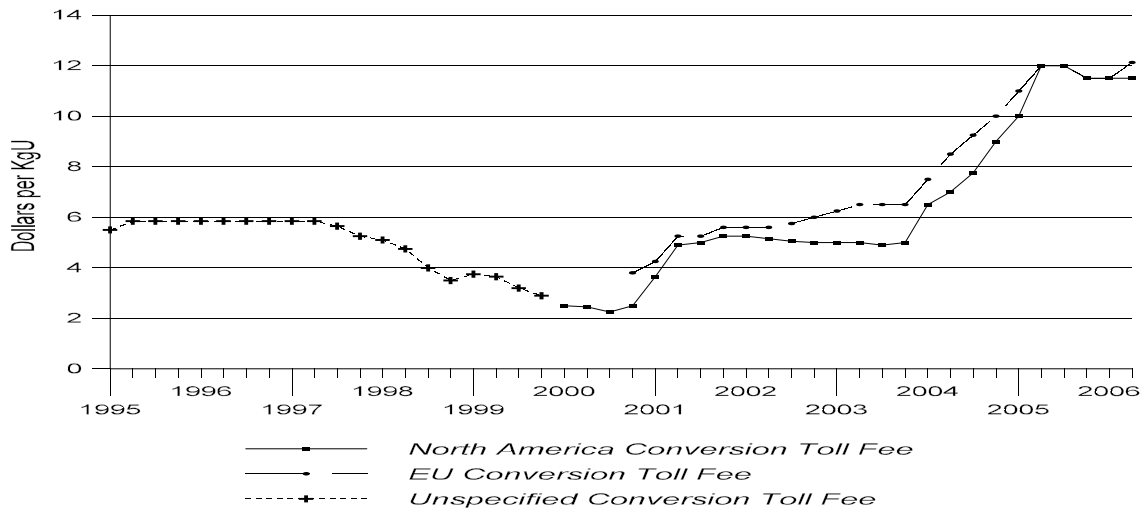
Figure V-3

Natural uranium hexafluoride conversion services: Weighted-average net delivered toll fees and total quantities of *fixed or escalated-price contract sales* to U.S. electric utilities of U.S. toll-converted product 2, by contract years, 1987-2004

* * * * *

Figure V-4

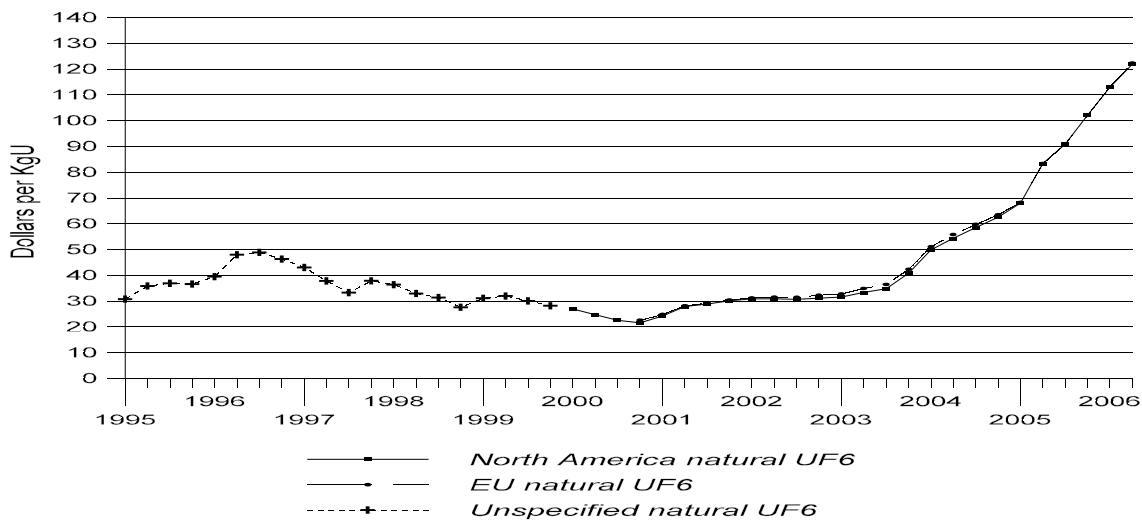
Natural uranium hexafluoride conversion services: Quarterly spot market toll fees of product 2 for North America and the EU, as reported by Ux Weekly, January 1995- April 2006¹



¹ The Ux Prices indicate, subject to the terms listed, the most competitive spot offers available for the respective product or service, of which The Ux Consulting Company, LLC is aware. The Ux Conversion Prices consider spot offers for delivery up to twelve months forward with delivery in North America or Europe.

Source: The Ux Consulting Company, LLC, <http://www.uxc.com>.

Figure V-5
Natural uranium hexafluoride: Quarterly spot market prices of product 2 for North America and the EU, as reported by Ux Weekly, January 1995- April 2006¹



¹ The Ux Prices indicate, subject to the terms listed, the most competitive spot offers available for the respective product or service, of which The Ux Consulting Company, LLC is aware. The Ux UF₆ values represent the sum of the conversion and U₃O₈ components as discussed above and, therefore, do not necessarily represent the most competitive UF₆ offers available.

Source: The Ux Consulting Company, LLC, <http://www.uxc.com>.

ConverDyn reported selling its toll-conversion service under sales category *** based on contracts negotiated during 1975-2003 (table V-4). An average toll fee is shown for each contract year in the second-to-the-last row of the table. ***. ConverDyn also reported selling its toll conversion service under sales category *** based on contracts negotiated during 1987-2004 (table V-5). An average toll fee is shown for each contract year in the second-to-the-last row of this table. *** reported U.S. selling prices of natural UF₆ that carried a Russian identity, which, as explained earlier, did not necessarily represent physical imports of Russian product 2. These reported price data, which represented the value of the natural feed and conversion, involved transactions under sales category ***. An average price is shown for each contract year in the second-to-the-last row of table V-6. Not shown in the table are ***. No price/fee comparisons were possible between the domestic and subject imported uranium product 2.

Table V-6
Natural uranium hexafluoride: Net delivered selling prices and quantities of sales to U.S. electric utilities of product 2 that was the exchanged natural component from U.S. sales of LEU-HF imported from Russia, shipped by quarters, 2000-05, for contracts by the year negotiated, 1994-2005

* * * * *

TOLL-ENRICHMENT FEES AND PRICES FOR ENRICHED URANIUM HEXAFLUORIDE

Most of USEC’s transactions of its domestic uranium production involved toll-production (enrichment) of product 3 with limited sales under sales categories *** and most sales under sales category ***; these data are shown in table V-7 for sales category 1, table V-8 for category 2, and table V-9 and figure V-6 for sales category 3. USEC also reported sales of its U.S.-produced EUP, most of which were under sales category ***; these data are shown in table V-10.⁸ In addition, GNSS reported its U.S. sales of imported Russian enrichment services⁹ under sales category *** (table V-11).¹⁰ Enrichment services are typically expressed in units of SWU, but can also be expressed in kilograms of enriched uranium of product 3, especially for EUP product. As such, data for enrichment services are presented in SWU, and EUP in kilograms of enriched uranium. Prices of EUP represent the full value of the enriched uranium (enrichment service and feedstock material). The prices/toll fees are weighted by the total quarterly shipments during 2000-05 corresponding to each contract year. The data are intended to show movements in average prices/toll fees between contract periods based on shipments during 2000-05. Additionally, data from *Ux Weekly* are presented in figure V-7. These data include the toll fee for enrichment services (in dollars per SWU) for both Russian and non-Russian markets.

Though it was reported that there were very few imports resold in the U.S., there was a large number of imports that came from downblended HEU from Russia. The firm that purchased these was USEC, ***.

Table V-7
Enriched uranium hexafluoride enrichment services: Net delivered selling toll fees and quantities of *spot sales and certain contract sales* to U.S. electric utilities of U.S. enrichment services producing product 3, measured in SWUs of enrichment, by quarters, 2000-05, for contracts by the year negotiated, 1999-2003

* * * * *

Table V-8
Enriched uranium hexafluoride enrichment services: Net delivered selling toll fees and quantities of *restricted market-related contract sales* to U.S. electric utilities of U.S. enrichment services producing product 3, in SWUs, shipped by quarters, 2002-04, for contracts by the year negotiated, 2001 and 2003

* * * * *

Table V-9
Enriched uranium hexafluoride enrichment services: Net delivered toll fees and quantities of *fixed or escalated-toll-fee contract sales* to U.S. electric utilities of domestic enrichment services producing product 3, measured in SWUs of enrichment, shipped by quarters, 2000-05, for contracts by the year negotiated, 1984-2005

* * * * *

⁸ USEC also reported *** EUP sales. ***.

⁹ ***.

¹⁰ ***.

Table V-10

Enriched uranium hexafluoride (EUF): Net delivered toll fees and quantities of *fixed or escalated-toll-fee contract sales* to U.S. electric utilities of imported Russian enrichment services producing product 3, measured in SWUs of enrichment, shipped by quarters, 2000-05, for contracts by the year negotiated, 1995-2004

* * * * *

Table V-11

Enriched uranium hexafluoride enrichment services: Net delivered toll fees and quantities of *fixed or escalated-toll-fee contract sales* to U.S. electric utilities of imported Russian enrichment services producing product 3, measured in SWUs of enrichment, shipped by quarters, 2000-02, for contracts by the year negotiated, 1990-98

* * * * *

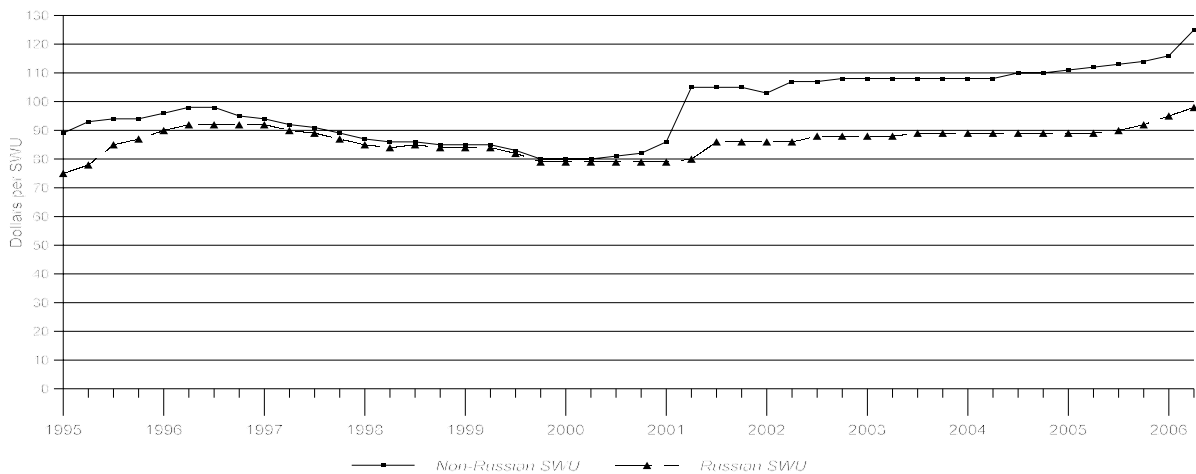
Figure V-6

Enriched uranium hexafluoride enrichment services: Weighted-average net delivered toll fees of *fixed or escalated-price contract sales* to U.S. electric utilities of the domestic and imported Russian enrichment services producing product 3, by contract years, 1984-2005

* * * * *

Figure V-7

Uranium enrichment services: Quarterly spot market toll fees of product 3 for North America and the EU, as reported by Ux Weekly, January 1995- April 2006^{1 2}



¹ The Ux Prices indicate, subject to the terms listed, the most competitive spot offers available for the respective product or service, of which The Ux Consulting Company, LLC is aware. The Ux SWU Price considers spot offers for deliveries up to twelve months forward for other than Russian-origin SWU while the Ux RU SWU Price pertains to the delivery of Russian-origin SWU.

² March 2006 was the final month Ux listed Russian SWU prices.

Source: The Ux Consulting Company, LLC, <http://www.uxc.com>.

**TOLL-ENRICHMENT FEE COMPARISONS
FOR ENRICHED URANIUM HEXAFLUORIDE**

Toll-enrichment fee comparisons between the domestic and subject imported product 3 were possible only for transactions involving sales category *** and were based on weighted-average prices by contract year (table V-12).¹¹ Two of the three possible toll-fee comparisons between the domestic and imported Russian enrichment services for product 3, involving contracts negotiated during 1995 and 1998, showed the Russian enrichment service to be priced lower than the domestic enrichment service, with margins of *** and *** percent. The final comparison showed that Russian-origin SWU oversold domestic SWUs by *** percent. It should be noted that, because of differing delivery years (and the associated prices among those differing years), pricing data are not perfectly equivalent.

Table V-12

Enriched uranium hexafluoride enrichment services: Net delivered toll-fee comparisons between U.S. enrichment services and those imported from Russia and sold to U.S. electric utilities on a *fixed or escalated-price contract sales* basis in 2000-05, measured in SWUs of enrichment, by contract years, 1995-98

* * * * * * *

FABRICATOR CONVERSION FEES

U.S. uranium fabricators were asked to estimate their annual unit costs to convert LEU-HF to LEU-DO and then to transform this low-enriched uranium product into pellets for use in their U.S.-produced fuel-rod assemblies during 2000-05. *** provided usable responses. Responses varied between years and are presented in the tabulation below:

* * * * * * *

¹¹ No price comparisons between domestic and subject uranium were possible for EUP.

APPENDIX A

***FEDERAL REGISTER* NOTICES
AND ADEQUACY STATEMENT**

DEPARTMENT OF COMMERCE**International Trade Administration**

[A-100-002]

Antidumping; Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan; Suspension of Investigations and Amendment of Preliminary Determinations.**AGENCY:** International Trade Administration, Import Administration, Commerce.**ACTION:** Notice.

SUMMARY: The Department of Commerce has decided to suspend the antidumping investigations involving uranium from Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Ukraine, and Uzbekistan. The bases for the suspensions are agreements by the governments of Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Ukraine, and Uzbekistan to restrict the volume of direct or indirect exports to the United States in order to prevent the suppression or undercutting of price levels of United States domestic uranium. The Department is also amending its preliminary determinations to include highly-enriched uranium (HEU) within the scope of the investigations.

EFFECTIVE DATE: October 16, 1992.

FOR FURTHER INFORMATION CONTACT: Melissa Skinner or Steven Presing, Office of Antidumping Compliance, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th & Constitution Avenue, NW., Washington, DC 20230; telephone (202) 482-4851 or (202) 482-4106.

SUPPLEMENTARY INFORMATION:**Background**

On December 5, 1991, the Department of Commerce (the Department) initiated an antidumping duty investigation under section 732 of the Tariff and Trade Act of 1930 (the Act), as amended, to determine whether imports of uranium from the Union of Soviet Socialist Republic (USSR) are being or are likely to be sold in the United States at less than fair value (56 FR 63711).

In early December 1991, we notified the International Trade Commission (ITC) of our action. On December 23, 1991, the ITC issued an affirmative preliminary injury determination.

On December 25, 1991, the USSR dissolved and the United States subsequently recognized the 12 newly independent States (NIS) which

emerged. In early January 1992, the U.S. State Department informed us that the Russian Embassy was acting as a liaison to the other NIS. On January 16, 1992, we presented antidumping duty questionnaires to the Russian Embassy and other Russian representatives. On June 3, 1992, we published preliminary determinations that imports of uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan were being sold in the United States at less than fair value (LTFV) and that uranium from Armenia, Azerbaijan, Byelarus, Georgia, Moldova, and Turkmenistan was not being, nor was it likely to be, sold in the United States at LTFV (57 FR 23380, June 3, 1992).

Case History

Since the publication of our preliminary determinations in the *Federal Register* the following events have occurred.

Pursuant to requests made by petitioners (for those countries which received a preliminary negative determination) and an interested party in the investigation on imports from the Russian Federation, the Department postponed the final determinations for all 12 uranium investigations until October 16, 1992 (57 FR 30946, July 13, 1992).

On May 28, 1992, petitioners submitted a letter arguing that highly-enriched uranium (HEU) be included within the scope of these investigations. On June 24, 1992, petitioners commented on the Department's preliminary decision to exclude HEU from the scope of these investigations. This submission was supplemented on July 28, 1992. On August 11, 1992, petitioners requested that the Department expedite its final determination on whether HEU is included in the scope of these investigations. Petitioners made a final argument regarding HEU on September 11, 1992.

On July 17, 1992, Techsnabexport Ltd., Nuexco Trading Corporation (Nuexco), Energy Fuels Nuclear, Inc. (EFN), and Global Nuclear Services and Supply Ltd. (GNSS) (collectively referred to herein as Tenex) submitted a letter arguing that HEU is not within the scope of these investigations and that three classes or kinds of merchandise exist in these investigations.

On August 14, 1992, Maine Yankee Atomic Power Company and Vermont Yankee Nuclear Power Corporation (the Yankee Group) submitted comments arguing that the Department should exclude low-enriched uranium (LEU) and HEU from the scope of these investigations.

On June 12, 1992, petitioners submitted information concerning the Department's factors of production analysis. On June 23, 1992, Tenex responded to petitioners' submission.

On May 28, 1992, we received a facsimile message from the United States Embassy in Moscow with a letter to the Department from the permanent representative of Azerbaijan to the Russian Federation. This letter stated that no uranium or uranium-containing materials were exported from Azerbaijan to the United States.

On July 15, 1992, the Department received the response of Ukraine to our questionnaire. This response stated that no uranium has been shipped from Ukraine to the United States since December 1, 1991, and before that date Ukraine was not independent and, therefore, it did not have responsibility for its exports.

On July 17, 1992, we received a facsimile message from the Ministry of Foreign Affairs of Belarus stating that Belarus did not export uranium to the United States in 1991.

On July 20 and 24, 1992, we sent cables to our embassies in those countries which received preliminary negative determination requesting that each government provide the Department an official, certified response.

On August 11, 1992, we received via the State Department a certified questionnaire response from Armenia stating that Armenia did not produce, export, or stockpile uranium during the period of investigation (POI).

On August 6, 1992, petitioners addressed the contents of a May 7, 1992, Departmental Memorandum concerning the legal options for settlement of these investigations.

On August 26, 1992, petitioners submitted a letter to the Department from the President of Maine Yankee to Senator George Mitchell which, petitioners state, confirms many of their previous arguments regarding dumped Commonwealth of Independent States (CIS) imports and the nature of the uranium industry in the CIS.

On September 16, 1992, the Department initiated proposed suspension agreements with the governments of the Russian Federation, Ukraine, Kazakhstan, Uzbekistan, and Kyrgyzstan. On October 7, 1992, we received comments regarding the proposed suspension agreements from the above parties, with the exception of Kazakhstan, as well as petitioners and the U.S. Department of Energy.

On September 16, 1992, we received a questionnaire response from

Uzbekistan, which we rejected as untimely on September 22, 1992.

On September 21, 1992, we received case briefs regarding our preliminary determinations from petitioners, Tenex, the Yankee Group, the Russian Federation, Uzbekistan, Kyrgyzstan, Ukraine, and Tajikistan. We received rebuttal briefs from these parties on September 28, 1992. On September 30, 1992, all parties which requested a public hearing for these investigations withdrew their requests. Therefore, no public hearing was held.

On September 24, 1992, Uzbekistan submitted a letter arguing that Tenex did not qualify as an interested party in its investigation. The Department agreed with Uzbekistan and issued a letter in that regard on September 25, 1992. On September 28, 1992, Tenex responded to the Department's letter and Uzbekistan's assertions by alleging that it exported Uzbek uranium during the POI and has continuing interests and rights to protect with respect to Uzbek uranium. Therefore, Tenex argues, it should continue to be considered an interested party in the Uzbekistan investigation. On October 5, 1992, Uzbekistan submitted a letter to the Department asserting that the Department should affirm its decision to deny Tenex interested party status. On October 16, 1992, the Department issued a decision memorandum which determined Tenex is not an interested party within the meaning of the Act and the Department's regulations.

On September 25, 1992, the United States Court of International Trade sustained the Department's decision to continue these investigations against each of the twelve constituent republics of the former USSR.

Products Under Investigation

We have determined that the merchandise covered by these investigations constitutes one class or kind of merchandise. We have further determined that HEU is included in the scope of these investigations and hereby amend the preliminary determinations accordingly. For the Department's rationale regarding this issue, see Memorandum to Alan M. Dunn from Francis J. Sailer dated October 16, 1992. The above-referenced memorandum and all other memoranda cited in this notice can be found in the public file in the Central Records Unit, Room B099 of the Main Commerce Building.

The merchandise covered by these investigations includes natural uranium in the form of uranium ores and concentrates; natural uranium metal and natural uranium compounds; alloys, dispersions (including cermets), ceramic

products and mixtures containing natural uranium or natural uranium compounds; uranium enriched in U²³⁵ and its compounds; alloys, dispersions (including cermets), ceramic products, and mixtures containing uranium enriched in U²³⁵ or compounds of uranium enriched in U²³⁵, and any other forms of uranium within the same class or kind of merchandise. The uranium subject to these investigations is provided for under subheadings 2812.10.00.00, 2844.10.10.00, 2844.10.20.10, 2844.10.20.25, 2844.10.20.50, 2844.10.20.55, 2844.10.50.00, 2844.20.00.10, 2844.20.00.20, 2844.20.00.30, and 2844.20.00.50, of the Harmonized Tariff Schedule (HTS). Although the HTS subheadings are provided for convenience and customs purposes, our written description of the scope of these proceedings is dispositive. We will verify all the information used in making our final determinations in accordance with section 776(a) of the Act, if these investigations are continued under section 734(g) of the Act.

In accordance with section 733(f) of the Act, we will notify the ITC of these determinations. In addition, if the investigations are continued, we will make all nonprivileged and nonproprietary information relating to these investigations available to the Commission.

Suspension of Investigations

The Department consulted with the parties to the proceedings and has considered the comments submitted with respect to the proposed suspension agreements. The signed suspension agreements reflect the decisions of the Department with respect to many of the issues parties raised in their comments. In addition, we have placed in the record of these proceedings our position papers on key issues.

The Republic of Tajikistan requested that the Department consider suspension of the investigation on uranium from Tajikistan. Due to civil disturbances in Tajikistan in September, Tajikistan was unable to negotiate a proposed suspension agreement by September 16, 1992, the statutory and regulatory date by which the Department is obligated to notify petitioners of such such initialed agreement. On October 15, 1992, petitioners waived their right to comment on any proposed agreement between the Department and Tajikistan, provided any such agreement is consistent with the terms of the proposed agreements with other CIS states initialed on September 16, 1992.

We have determined that the agreements will prevent the suppression

or undercutting of price levels of United States domestic uranium, that the agreements can be monitored effectively, and that the agreements are in the public interest. We find, therefore, that the criteria for suspension of an investigation pursuant to section 734 of the Act have been met. The terms and conditions of the agreements, signed October 16, 1992, are set forth in Annex 1 to this notice.

Pursuant to section 734(f)(2)(A) of the Act, the suspension of liquidation of all entries, entered or withdrawn from warehouse for consumption, of uranium from Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Ukraine, and Uzbekistan, effective June 3, 1992, as directed in our notice of "Antidumping Preliminary Determination of Sales at Less Than Fair Value, Uranium From Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan," is hereby terminated. Any cash deposits on entries of uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan pursuant to that suspension of liquidation shall be refunded and any bonds shall be released.

Upon receipt of a request during the anniversary month of the publication of these suspension agreements, the Department will conduct an administrative review as provided in section 751 of the Act.

Notwithstanding the suspension agreements, the Department will continue the investigations if we receive such a request in accordance with section 734(g) of the Act within 20 days after the effective date of this notice.

This notice is published pursuant to section 734(f)(1)(A) of the Act and 19 CFR 353.18.

Dated: October 16, 1992.

Alan M. Dunn,
Assistant Secretary for Import
Administration.

I have determined pursuant to section 734(l) of the Act that the provisions of these suspension agreements prevent suppression or undercutting of price levels of domestic products with respect to uranium exported, directly or indirectly, from Kazakhstan, Kyrgyzstan, the Russian Federation, Tajikistan, Ukraine, and Uzbekistan to the United States. Furthermore, I have determined, in accordance with section 734(d) of the Act, that these suspension agreements are in the public interest and that the provisions of Section VIII ensure that these agreements can be monitored effectively.

Dated: October 16, 1992.

Alan M. Dunn,
Assistant Secretary for Import
Administration.

Agreement Suspending the Antidumping Investigation on Uranium from Kazakhstan

For the purpose of encouraging free and fair trade in uranium products for peaceful purposes, establishing more normal market relations, and recognizing that this Agreement is necessary for the protection of the essential security interests of the United States and Kazakhstan, pursuant to the provisions of section 734 of the Tariff Act of 1930, as amended (19 U.S.C. 1673c) (the "Act"), the United States Department of Commerce ("the Department") and the Government of Kazakhstan enter into this suspension agreement ("the Agreement").

The Department finds that this Agreement is in the public interest; that effective monitoring of this Agreement by the United States is practicable; and that this Agreement will prevent the suppression or undercutting of price levels of United States domestic uranium products by imports of the merchandise subject to this Agreement.

On the basis of this suspension agreement, the Department shall suspend its antidumping investigation with respect to uranium from Kazakhstan, subject to the terms and provisions set forth below. Further, the Department will instruct the U.S. Customs Service to terminate the suspension of liquidation and to release any cash deposit or bond posted on the products covered by this Agreement as of the effective date of this Agreement.

I. Basis for the Agreement

In order to prevent the suppression or undercutting of price levels of United States domestic uranium, the Government of Kazakhstan will restrict the volume of direct or indirect exports to the United States of uranium products from all producers/exporters of uranium products in Kazakhstan subject to the terms and provisions set forth below.

II. Definitions

For purposes of this Agreement, the following definitions apply:

(a) Pounds U_3O_8 equivalents are calculated using the following formulas:

- measured uranium (U) content is converted to U_3O_8 by multiplying U by 1.17925
- U_3O_8 is converted to U content by multiplying by 0.84799
- 1 Kg $U_3O_8 = 2.20462$ lbs. U_3O_8
- 1 Kg U in $UF_6 = 2.61283$ lbs. U_3O_8 equivalent

• 1 Kg U in $U_3O_8 = 2.59982$ lbs. U_3O_8 equivalent

(b) Date of Export for imports into the United States accompanied by an export certificate of the merchandise subject to this Agreement shall be considered the date the export certificate was endorsed.

(c) Parties to the Proceeding—means any interested party, within the meaning of § 353.2(k) of the Department's regulations, which actively participates through written submissions of factual information or written argument.

(d) Indirect Exports—means arrangements as defined in section IV.F. of this Agreement and exports from Kazakhstan through one or more third countries, whether or not such export is sold in one or more third country prior to importation into the United States.

III. Product Coverage

The merchandise covered by this Agreement are the following products from Kazakhstan:

Natural uranium in the form uranium ores and concentrates; natural uranium metal and natural uranium compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing natural uranium or natural uranium compounds; uranium enriched in U^{235} and its compounds; alloys, dispersions (including cermets), ceramic products, and mixtures containing uranium enriched in U^{235} or compounds of uranium enriched in U^{235} ; and any other forms of uranium within the same class or kind.

Uranium ore from Kazakhstan milled into U_3O_8 and/or converted into UF_6 in another country prior to direct and/or indirect importation into the United States is considered uranium from Kazakhstan and is subject to the terms of this Agreement.

For purposes of this Agreement, uranium enriched in U^{235} in another country prior to direct and/or indirect importation into the United States is not considered uranium from Kazakhstan and is not subject to the terms of this Agreement.

Imports of uranium ores and concentrates, natural uranium compounds, and all forms of enriched uranium are currently classifiable under Harmonized Tariff Schedule ("HTS") subheadings: 2612.10.00, 2844.10.20, 2844.20.00, respectively. Imports of natural uranium metal and forms of natural uranium other than compounds are currently classifiable under HTS subheadings: 2844.10.10 and 2844.10.50. HTS subheadings are provided for convenience and customs purposes. The written description of the scope of these proceedings is dispositive.

IV. Export Limits

A. The Government of Kazakhstan will restrict the volume of direct or indirect exports on or after the effective date of this Agreement to the United States and the transfer or withdrawal from inventory (consistent with the provisions of paragraph E) of the merchandise subject to this Agreement in accordance with the export limits and schedule set forth in Appendix A.

Export limits are expressed in terms of pounds U_3O_8 equivalent and kilograms uranium (Kg U).

Export limits are applied on the basis of "Date of Export", as defined in section II.

For purposes of this Agreement, United States shall comprise the customs territory of the United States of America (the 50 States, the District of Columbia and Puerto Rico) and foreign trade zones located in the territory of the United States of America.

B. The export limits of this Agreement shall be effective for the periods October 1 through September 30 (the "Relevant Period").

C.1. For purposes of determining the applicable quota level, the Department will determine the market price. In determining the market price for purposes of establishing the quota level, the Department will use price information in terms of U.S. dollars per pound U_3O_8 obtained from the following sources:

Spot Market Price: The Uranium Price Information System Spot Price (UPIS SPI) and the Uranium Exchange Spot Price (Ux Spot). The Department will calculate a simple average of the monthly values as expressed by these two sources to determine the Spot Price.

Long-term Contract Price: The simple average of the UPIS Base Price and the long-term price as determined by the Department on the basis of information provided to the Department by market participants. In determining the long-term price on the basis of information provided to the Department, the Department will use only such information submitted to which the submitter agrees to permit verification.

All information from the identified sources will be subject to review by the Department on the basis of information available from other sources. Furthermore, during the life of the Agreement, the Department can, as appropriate, select alternative sources to use in determining the market price. Should the Department determine that any or all of the identified sources are no longer appropriate, the Department

Appendix C

Note: Appendix C to this Agreement does not exist.

Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation

For the purpose of encouraging free and fair trade in uranium products for peaceful purposes, establishing more normal market relations, and recognizing that this Agreement is necessary for the protection of the essential security interests of the United States and the Russian Federation, pursuant to the provisions of section 734 of the Tariff Act of 1930, as amended (19 U.S.C. 1673c) (the "Act"), the United States Department of Commerce ("the Department") and the Russian Federation Ministry for Atomic Energy (MINATOM) enter into this suspension agreement ("the Agreement").

The Department finds that this Agreement is in the public interest; that effective monitoring of this Agreement by the United States is practicable; and that this Agreement will prevent the suppression or undercutting of price levels of United States domestic uranium products by imports of the merchandise subject to this Agreement.

On the basis of this suspension agreement, the Department shall suspend its antidumping investigation with respect to uranium from the Russian Federation, subject to the terms and provisions set forth below. Further, the Department will instruct the U.S. Customs Service to terminate the suspension of liquidation and to release any cash deposit or bond posted on the products covered by this Agreement as of the effective date of this Agreement.

I. Basis for the Agreement

In order to prevent the suppression or undercutting of price levels of United States domestic uranium, MINATOM will restrict the volume of direct or indirect exports to the United States of uranium products from all producers/exporters of uranium products in the Russian Federation subject to the terms and provisions set forth below.

II. Definitions

For purposes of this Agreement, the following definitions apply:

(a) Pounds U_3O_8 equivalents are calculated using the following formulas:

- measured uranium (U) content is converted to U_3O_8 by multiplying U by 1.17925

- U_3O_8 is converted to U content by multiplying by 0.84799

- 1 Kg U_3O_8 = 2.20462 lbs. U_3O_8
- 1 Kg U in UF_6 = 2.61283 lbs. U_3O_8 equivalent

- 1 Kg U in U_3O_8 = 2.59982 lbs. U_3O_8 equivalent

- the natural feed component for 1 Kg U of enriched uranium product ("EUP") shall be determined using the feed to product factor calculated with the following formulae:

$$[(P_A - T_A)/(F_A - T_A)] = X_A$$

where:

P_A = Actual Product Assay of the imported low enriched uranium ("LEU") as found in the import documents

T_A = For enrichment contracts, the actual tails assay selected by the customer pursuant to the contract; for other contracts calling for the delivery of LEU, 0.3 weight percent U^{235} . During the anniversary month of this Agreement, the tails assay for other contracts calling for the delivery of LEU will be amended, as appropriate, based on the optimum tails assay.

F_A = 0.711 weight percent U^{235} (feed assay)

X_A = Feed-to-Product Factor

The feed-to-product factor shall then be multiplied by 2.61283 to reach the lbs. U_3O_8 equivalent of the imported LEU.

(b) Date of Export for imports into the United States accompanied by an export certificate of the merchandise subject to this Agreement shall be considered the date the export certificate was endorsed.

(c) Parties to the Proceeding—means any interested party, within the meaning of § 353.2(k) of the Department's regulations, which actively participates through written submissions of factual information or written argument.

(d) Indirect Exports—means any arrangement involving the exchange, sale, or delivery of uranium products from the Russian Federation to the degree it can be shown to have resulted in the sale or delivery in the United States of uranium products from a country other than the Russian Federation or exports from the Russian Federation through one or more third countries whether or not such export is sold in one or more third country prior to importation into the United States.

III. Product Coverage

The merchandise covered by this Agreement are the following products from the Russian Federation:

Natural uranium in the form of uranium ores and concentrates; natural uranium metal and natural uranium compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing natural uranium or natural uranium compounds; uranium enriched in U^{235} and its compounds; alloys, dispersions (including cermets), ceramic products, and mixtures containing uranium enriched in U^{235} or compounds of

uranium enriched in U^{235} ; and any other forms of uranium within the same class or kind.

Uranium ore from Russia milled into U_3O_8 and/or converted into UF_6 in another country prior to direct and/or indirect importation into the United States is considered uranium from the Russian Federation and is subject to the terms of this Agreement.

For purposes of this Agreement, uranium enriched in U^{235} or compounds of uranium enriched in U^{235} in the Russian Federation are covered by this Agreement, regardless of their subsequent modification or blending. Uranium enriched in U^{235} in another country prior to direct and/or indirect importation into the United States is not considered uranium from the Russian Federation and is not subject to the terms of this Agreement.

Highly enriched uranium ("HEU") is within the scope of this investigation, and HEU is covered by this Agreement. For the purpose of this Agreement, HEU means uranium enriched to 20 percent or greater in the isotope uranium-235.

Imports of uranium ores and concentrates, natural uranium compounds, and all forms of enriched uranium are currently classifiable under Harmonized Tariff Schedule ("HTS") subheadings: 2612.10.00, 2844.10.20, 2844.20.00, respectively. Imports of natural uranium metal and forms of natural uranium other than compounds are currently classifiable under HTS subheadings: 2844.10.10 and 2844.10.50. HTS subheadings are provided for convenience and customs purposes. The written description of the scope of these proceedings is dispositive.

IV. Export Limits

A. MINATOM will restrict the volume of direct or indirect exports on or after the effective date of this Agreement to the United States and the transfer or withdrawal from inventory (consistent with the provisions of Section IV.E.) of the merchandise subject to this Agreement in accordance with the export limits and schedule set forth in Appendix A.

Export limits are expressed in terms of pounds U_3O_8 equivalent and kilograms uranium (Kg U).

Export limits are applied on the basis of "Date of Export", as defined in section II.

For purposes of this Agreement, United States shall comprise the customs territory of the United States of America (the 50 States, the District of Columbia and Puerto Rico) and foreign trade zones located in the territory of the United States of America.

B. The export limits of this Agreement shall be effective for the periods October 1 through September 30 (the "Relevant Period").

C.1. For purposes of determining the applicable quota level, the Department will determine the market price. In determining the market price for purposes of establishing the quota level, the Department will use price information in terms of U.S. dollars per pound U_3O_8 obtained from the following sources to compute a market price based on the weighted average of the spot market and long-term contract prices.

Spot Market Price: The Uranium Price Information System Spot Price (UPIS SPI) and the Uranium Exchange Spot Price (Ux Spot). The Department will calculate a simple average of the monthly values as expressed by these two sources to determine the Spot Price.

Long-term Contract Price: The simple average of the UPIS Base Price and the long-term price as determined by the Department on the basis of information provided to the Department by market participants. In determining the long-term price on the basis of information provided to the Department, the Department will use only such information submitted to which the submitter agrees to permit verification.

All information from the identified sources will be subject to review by the Department on the basis of information available from other sources. Furthermore, during the life of the Agreement, the Department can, as appropriate, select alternative sources to use in determining the market price. Should the Department determine that any or all of the identified sources are no longer appropriate, the Department will give parties at least 30 days notice of this decision.

This determination will be made semi-annually. The Department will announce the market price and corresponding quota level on October 1 and April 1 of each year, except as provided below with respect to the first period.

With respect to the first period, which begins on the effective date of this Agreement and ends on March 31, 1993, the Department will determine a market price no later than October 30, 1992. The quota level corresponding to this price will apply to covered exports through March 31, 1993.

In determining the market price, the Department will rely on price information from the identified sources covering the previous six-month period for which prices are available. For example, on October 1, the Department will announce the market price as

determined by review of price information relating to the period March 1 through September 1. On April 1, the Department will announce the market price as determined by review of price information relating to the period September 1 through March 1. However, for the first period (October 16, 1992 through March 31, 1993) the Department will utilize price information relating to the period April 1, 1992 through September 30, 1992. For the period beginning on April 1, 1993, the Department will utilize price information relating to the period October 16, 1992, through March 1, 1993.

The quota level announced on October 1 (or October 30, 1992 for the first period) will be equal to one-half of the annualized quota, as expressed in Appendix A, for the corresponding market price. The announced quota level will be the volume, in terms of pounds U_3O_8 equivalent, that may be exported to the United States in any form from the Russian Federation during the six month period beginning on October 1 and ending on the following March 31.

The quota level announced on April 1 will be equal to one-half of the annualized quota, as expressed in Appendix A, for the corresponding market price. The announced quota level will be the volume, in terms of pounds U_3O_8 equivalent, that may be exported to the United States in any form from the Russian Federation during the six month period beginning on April 1 and ending on the following September 30.

2. Except as provided in Section IV.C.3., multi-year contracts entered into after the effective date of this Agreement may not provide for annual deliveries in excess of the quota allowed under the Agreement as of the date of contract. If such multi-year contracts specify a price at or above the minimum price in the Appendix A price band then in effect on the date the contract is entered into, annual deliveries under such contracts will be applied against the annual quotas in effect at the time of delivery, but may be made in the full amount for the full term of the contract even if they exceed annual quotas in effect at the time of delivery.

3. Notwithstanding Section IV.C.2, multi-year contracts entered into after the effective date of this Agreement may provide for annual deliveries in excess of the quota allowed under the Agreement as of the date of contract provided that they are conditioned upon the necessary additional quota being available at the time of delivery. However, annual deliveries under such conditional contracts shall be strictly

subject to the annual quotas in effect at the time of delivery.

4. If, within the maximum limit permitted under this agreement, the Russian Federation exports uranium products to the U.S. under the quota defined in section IV.C. in the form of enriched uranium product, the Russian Federation may take payment for the feed component in the EUP in the form of cash or in the form of an equivalent amount of feed. If Russia takes payment in the form of an equivalent amount of feed from inventories already in the United States, it may sell such feed in the U.S. market without such sale being counted against the applicable quota again so long as such sale is made at a price no less than \$13.00 per pound of U_3O_8 equivalent. Any subsequent exports from the United States of such feed received by the Russian Federation in payment for the feed component of EUP sales will be permitted and may be sold outside the United States, but will not be added back into the quota.

D. For the first 90 days after the effective date of this Agreement, products exported from the Russian Federation shall be admitted to the United States without an export license and certificate only upon notification to the Department by MINATOM.

The volume of such imports will be counted towards the export limit for the covered products for the first identified period.

The volume of such imports shall be determined in terms of pounds U_3O_8 equivalent and kilograms uranium (Kg U) on the basis of U.S. import invoice data. This data will be sorted on the basis of date of export.

E. Any inventories of Russian-origin uranium, currently held by the Russian Federation in the United States and imported into the United States during the period beginning on or after March 5, 1992 (the date corresponding to the Department's critical circumstances determination), through the effective date of this Agreement, will be subject to the following conditions:

Such inventories will not be transferred or withdrawn from inventory for consumption in the United States without an export license and certificate issued under Section V. A request for a license and certificate under this provision shall be accompanied by a report specifying the original date of export, the date of entry into the United States, the identity of the original exporter and importer, the customer, a complete description of the product (including lot numbers and other available identifying documentation),

and the quantity expressed in original units and in pounds of U_3O_8 equivalent.

Any amounts authorized by the issuance of an export certificate under this provision shall be counted toward the export limit for the covered products for the period during which the license and certificate were issued for the product that is transferred or withdrawn. The volume shall be determined on the basis of kilograms and pounds U_3O_8 equivalent as set forth in the license and certificate.

In the event that there is a surge of sales of Russian-origin uranium from such inventory currently held in the United States, the Department will decrease the export limits to take into account such sales.

F. Direct and indirect exports will be counted towards export limits under this Agreement.

G. Where covered products are imported into the United States and are subsequently re-exported or further processed and re-exported, the export limits for the entered product shall be increased by the amount of pounds U_3O_8 equivalent re-exported. This increase will be applicable to the Relevant Period corresponding to the time of such re-export. This increase will be applied only after presentation to the Department and opportunity for verification of such evidence demonstrating original importation, any further processing, and subsequent exportation.

H. For purposes of permitting processing in the United States of uranium products from the Russian Federation, the Government of the Russian Federation may issue re-export certificates for import into the United States of Russian uranium products only where such imports to the United States are not for sale or ultimate consumption in the United States and where re-exports will take place within 12 months of entry into the United States. In no event shall an export certificate be endorsed by the Russian Federation for uranium products previously imported into the United States under such re-export certificate. Such re-export certificates will in no event be issued in amounts greater than one million pounds U_3O_8 equivalent per re-export certificate and in no case shall the total volume of uranium products from Russia covered by re-export certificates exceed three million pounds U_3O_8 equivalent at any one time.

The importer of record must certify on the import certificate that it will ensure re-exportation within 12 months of entry into the United States. If uranium products from the Russian Federation are not re-exported within 12 months of

the date of entry into the United States, the Department will refer the matter to Customs or the Department of Justice for further action and the United States will promptly notify the Government of the Russian Federation and the two governments shall enter into consultations. If the uranium products are not re-exported within 3 months of the referral to Customs or the Department of Justice and the problem has not been resolved to the mutual satisfaction of both the United States and the Russian Federation, the volume of the uranium product entered pursuant to the re-export certificate may be counted against the export limit in effect at such time, or, if there is insufficient quota, the first available quota. This volume may be restored to the export limit if the product is subsequently re-exported.

I. Export limits established for any of the identified Periods may not be used after September 30 of the corresponding Relevant Period, except that limits not so used may be used during the first three months of the respective following period up to a maximum of 20 percent of the export limit for the current Relevant Period.

Export limits for the Relevant Periods may be used as early as August 1 of the previous period within the limit of 15 percent of the export limit for the previous Relevant Period.

J. The Department shall provide fair and equitable treatment for the Russian Federation vis-a-vis other countries that export uranium to the United States, taking into account all relevant factual and legal considerations, including the antidumping laws of the United States.

K. Importation of uranium products from the Russian Federation during each Relevant period pursuant to certain pre-existing contracts entered into before March 5, 1992, with a U.S. utility will be permitted so long as the Department has received a valid copy of such pre-existing contracts and has reviewed each to determine whether importation of the uranium product under the terms of the contract is consistent with the purposes of this Agreement. The contracts which have been approved will be specifically identified in proprietary Appendix C to this Agreement. For contracts approved by the Department, nothing in this Section shall in any way restrict sales of Russian-origin uranium pursuant to transactions which do not involve delivery or transfer of uranium products to the seller, or the seller's account. However, any uranium products delivered or returned to the seller or for the seller's account in connection with

an approved contract, shall be subject to the conditions specified below:

Upon reporting to the Department, the seller may dispose of any uranium products delivered to the seller or to the seller's account under such a preexisting contract through:

(1) Sales to the U.S. Government or any agency thereof or any contractor acting on behalf of the U.S. Government so long as such agency or contractor will use or consume the feed in a market neutral manner;

(2) Sales to a utility in the United States under a contract entered into before March 5, 1992, having fixed price terms and submitted for approval by the Department; such contracts shall be approved by the Department for use by the seller provided that the uranium products are not swapped, loaned, or used as loan repayments;

(3) Sale or delivery to any entity outside the United States, including the shipment of such uranium products to the Russian Federation where permissible;

(4) Sales to any entity in the United States at a price at or above \$13 per lb. U_3O_8 equivalent.

L. Because the Russian Federation has no long-term pre-existing contracts under which deliveries begin before 1994 and because the U.S. Department of Energy ("DOE") can consume EUP in a market-neutral manner which releases no feed into the U.S. market that could lead to the suppression or undercutting of price levels of U.S. uranium products, the Russian Federation will be granted a one-time only opportunity to sell to DOE, its contractors, assigns, or U.S. private parties acting in association with DOE or the U.S. Enrichment Corporation, an amount of 4.1 million pounds U_3O_8 equivalent for delivery during the period from the effective date of this Agreement to December 31, 1994, subject to the same terms and conditions described in section IV.M.2.

M. 1. This Agreement in no way prevents the Russian Federation from selling directly or indirectly any or all of the HEU in existence at the time of the signing of this Agreement and/or low enriched uranium ("LEU") produced in Russia from this HEU to the DOE, its governmental successor, its contractors, assigns, or U.S. private parties acting in association with DOE or the U.S. Enrichment Corporation and in a manner not inconsistent with the Agreement between the United States of America and the Russian Federation concerning the disposition of HEU resulting from the dismantlement of nuclear weapons in Russia.

2. Exports pursuant to such sales will not be counted against the export limits established in accordance with paragraph C of this Section. DOE's disposition of the HEU is in the public interest because: (1) The HEU or products from it are processed or delivered by DOE, its governmental successors, its contractors, assigns, or U.S. private parties acting in a manner not inconsistent with the Agreement between the United States of America and the Russian Federation concerning the disposition of HEU resulting from the dismantlement of nuclear weapons in Russia; (2) any utility-owned uranium products delivered pursuant to enrichment contracts affected by purchase of HEU or HEU products are not resold in the United States, either as natural uranium or as LEU produced in excess of the contractually-specified amount; (3) contracts for the purchase of HEU or HEU products from Russia are provided to the Department; (4) annual summaries of utilization of HEU and HEU products and associated utility feed are provided to the Department, and (5) the Department determines that permitting importation of all or any portion of the HEU or HEU products in question is consistent with the purposes of this Agreement.

3. Exports of HEU, or products made in Russia from HEU, must be accompanied by a certificate endorsed by MINATOM. Such certificate shall specify the amounts of material and certify that such HEU, or products made in Russia from HEU, were derived from HEU in existence as of the signing of this Agreement.

V. Export License/Certificates

A. MINATOM will instruct the Russian Federation Ministry of Foreign Economic Relations ("MFER") to provide export licenses and certificates for all direct or indirect exports to the United States from the Russian Federation of the merchandise covered by this Agreement. Such export licenses and certificates will be issued in a manner determined by MFER, in accordance with laws of the Russian Federation, and this Agreement, and will ensure that established export limits are not exceeded.

MINATOM shall take action, including the imposition of penalties, as may be necessary to make effective the obligations resulting from the export licenses and certificates. MINATOM will inform the Department of any violations concerning the export licenses and/or certificates which come to its attention and the action taken with respect thereto.

The Department will inform MINATOM of violations concerning the export licenses and/or certificates which come to its attention and the action taken with respect thereto.

B. Export licenses shall be issued and export certificates shall be endorsed by MFER for all direct or indirect exports to the United States of the merchandise subject to this Agreement in quantities no greater than the number of pounds U_3O_8 equivalent and the number of kilograms of uranium (Kg U) specified by the Department under section IV.C. for each period. The formulas for converting uranium in its various forms to pounds U_3O_8 equivalent are set forth in section II. of this Agreement.

C. Export licenses will be issued and export certificates will be endorsed against the export limits for Relevant Periods.

Export certificates for the Relevant Periods may be used as early as August 1 of the previous Relevant Period within a limit of 15 percent of the export limit for the previous Relevant Period.

Export certificates issued for each Relevant Period may not be used after September 30 for each subsequent year except that certificates not so used may be used during the first three months of the respective following period, up to a maximum of 20 percent of the export limit for the current period.

D. MINATOM will require that all exports of the merchandise subject to this Agreement shall be accompanied by a certificate (form to be agreed). The certificate shall be endorsed pursuant to a license and issued no earlier than one month before the day, month, and year on which the merchandise is accepted by a transportation company, as indicated in the bill-of-lading or a comparable transportation document, for export. The certificate will also indicate the customer, the complete description of the product exported, country of origin of the uranium ore, and quantity expressed in the original units and kilograms U_3O_8 equivalent, and as appropriate, number of separate work units (SWU). If any of this information is in a language other than English, the certificate must also contain an English language translation of this information.

E. The United States shall require presentation of such certificates as a condition for entry into the United States of the merchandise subject to this Agreement on or after the effective date of this Agreement. The United States will prohibit the entry of such products not accompanied by such a certificate, except as provided in Sections IV.D. and IV.H. of this Agreement.

VI. Implementation

In order to effectively restrict the volume of exports of uranium to the United States, MINATOM agrees to implement the following procedures no later than 90 days after the effective date of this Agreement:

A. Establish an export licensing and certification program for all exports of uranium from the Russian Federation to, or destined directly or indirectly for consumption in, the United States.

B. Ensure compliance by all the Russian Federation producers, exporters, brokers, traders, users, and/or related parties of such uranium with all procedures established in order to effectuate this Agreement.

C. Collect information from all the Russian Federation producers, exporters, brokers, traders, users, and/or related parties of such on the production and sale of uranium.

D. Require that purchasers agree not to circumvent this Agreement, report to the Russian Federation subsequent arrangements entered into for the sale, exchange, or loan to the United States of uranium purchased from Russia, and include these same provisions in any subsequent contracts involving uranium purchased from Russia.

VII. Anticircumvention

A. MINATOM will take all appropriate measures under Russian law to prevent circumvention of this Agreement. It will not enter into any arrangement for the purpose of circumventing the export limits in Section IV of this Agreement. It will require that purchasers agree not to circumvent this Agreement. It will require that all purchasers report to the Russian Federation subsequent arrangements entered into for the sale, exchange or loan to the United States of uranium purchased from Russia. It will also require that all purchasers include the same provisions in any subsequent contracts involving uranium purchased from Russia.

B. In addition to the reporting requirements of Section VIII of this suspension agreement, MINATOM will share within 15 days of an official request from the U.S. Department of Commerce, unless a longer time is mutually agreed, all particulars known to MINATOM regarding initial and subsequent arrangements of uranium between the Russian Federation and any party regardless of the original intended destination.

C. The Department of Commerce will accept comments from all parties for fifteen days after the receipt of

information requested under paragraph B of this section. The Department will determine within 45 days of the date of the information request under paragraph B whether subject arrangements circumvent the export limits of this agreement.

D. In addition to the above requirements, the Department shall direct the U.S. Customs Service to require all importers of uranium into the United States, regardless of stated country of origin, to submit at the time of entry a written statement certifying that the uranium being imported was not obtained under any arrangement, swap, or other exchange designed to circumvent the export limits for uranium of Russian Federation origin established by this Agreement. Where there is reason to believe that such a certification has been made falsely, the Department will refer the matter to Customs or the Department of Justice for further action.

E. The Department of Commerce and MINATOM will consult regarding any arrangement determined by the Department of Commerce to constitute circumvention of this Agreement. If the Department determines that the Russian Federation and its related parties did not actively participate in the arrangement, the Department will request consultations with the Russian Federation to resolve the problem. If the problem has not been resolved to the mutual satisfaction of both the United States and the Russian Federation, the volume of the uranium product involved in the circumvention may be counted against the export limit in effect at such time. If the Department determines that the Russian Federation actively participated in the arrangement, the volume of such arrangement will be counted against the export limits for the Russian Federation in effect at such time or, to the extent the Russian Federation has utilized such export limits, to the next available quota.

F. If the Department of Commerce or Government of the Russian Federation determines that any uranium has been intentionally exported to the United States without the required export certificates, MINATOM shall thereafter prohibit any Russian producer, exporter, broker, trader, user, and/or related party from supplying uranium to the customer responsible for such circumvention, impose other penalties as allowed by law, and/or take other actions to prevent such circumvention in the future.

G. Given the fungibility of the world uranium market, the Department of Commerce will take into account the following factors in distinguishing

normal uranium market arrangements, swaps, or other exchanges from arrangements, swaps, or other exchanges which may be intentionally designed to circumvent the export limits of this suspension agreement:

1. Existence of any verbal or written arrangements which may be designed to circumvent the export limits;

2. Existence of any arrangement as defined in Section II.(d) that was not reported to the Department pursuant to Section VIII.A.;

3. Existence and function of any subsidiaries or affiliates of the parties involved;

4. Existence and function of any historical and/or traditional trading patterns among the parties involved;

5. Deviations (and reasons for deviation) from the above patterns, including physical conditions of relevant uranium facilities;

6. Existence of any payments unaccounted for by previous or subsequent deliveries, or any payments to one party for merchandise delivered or swapped by another party;

7. Sequence and timing of the arrangements; and

8. Any other information relevant to the transaction or circumstances.

H. "Swaps" include, but are not limited to:

Ownership swaps—involve the exchange of ownership of any type of uranium product(s), without physical transfer. These may include exchange of ownership of uranium products in different countries, so that the parties obtain ownership of products located in different countries; or exchange of ownership of uranium products produced in different countries, so that the parties obtain ownership of products of different national origin.

Flag swaps—involve the exchange of indicia of national origin of uranium products, without any exchange of ownership.

Displacement swaps—involve the sale or delivery of any type of uranium product(s) from the Russian Federation to an intermediary country (or countries) which can be shown to have resulted in the ultimate delivery or sale into the United States of displaced uranium products of any type, regardless of the sequence of the transactions.

I. The Department will enter its determinations regarding circumvention into the record of the suspension agreement.

VIII. Monitoring

MINATOM and the Department will engage in a mutual exchange of such information as is necessary and appropriate to monitor the

implementation of and compliance with the terms of this Agreement consistent with the Department's statutory and regulatory obligations. Notwithstanding the above, in cases where information cannot be provided by reason of national security, it is understood that the Department of Commerce will make a determination as to what is reasonable alternative information.

A. Reporting of Data

Beginning on the effective date of this Agreement, MINATOM shall collect and provide to the Department the information set forth in the agreed format in Appendix B. All such information will be provided to the Department upon official request, but not more than two times a year unless such information is necessary for consultations. Such information will be subject to the verification provision identified in section VIII.C of this Agreement. The Department may disregard any information not submitted in a timely manner or any information which it is unable to verify to its satisfaction.

The Department shall provide semi-annual reports to MINATOM indicating the volume of imports of the subject merchandise to the United States, together with such additional information as is necessary and appropriate to monitor the implementation of this Agreement.

Both governments recognize that the effective monitoring of this Agreement may require that MINATOM provide information additional to that which is identified above. Accordingly, the Department may establish, with MINATOM's assistance, additional reporting requirements, as appropriate, during the course of this Agreement. The Department shall provide notice to MINATOM of any additional reporting requirements no later than 45 days prior to the period covered by such reporting requirements unless a shorter notice period is mutually agreed.

B. Other Sources for Monitoring

The Department will review publicly-available data as well as Customs form 7501, entry summaries, and other official import data from the Bureau of the Census, on a monthly basis, to determine whether there have been imports that are inconsistent with the provisions of this Agreement.

The Department will monitor Bureau of the Census IM-115 computerized records, which include the quantity and value of each entry. Because these records do not provide other specific entry information, such as the identity of

the producer/exporter which may be responsible for such sales, the Department may request the U.S. Customs Service to provide such information. The Department may request other additional documentation from the U.S. Customs Service.

The Department may also request the U.S. Customs Service to direct ports of entry to forward an Antidumping Report of Importations for entries of the subject merchandise during the period this Agreement is in effect.

C. Verification

MINATOM agrees to permit full verification of all information related to the administration of this Agreement, on an annual basis or more frequently, as the Department deems necessary to ensure full compliance with the terms of the Agreement.

IX. Disclosure and Comment

A. The Department shall make available to representatives of each party to the proceeding, under appropriately-drawn administrative protective orders consistent with the Department's Regulations, business proprietary information submitted to the Department semi-annually or upon request, and in any administrative review of this Agreement.

B. Not later than 30 days after the date of disclosure under Section IX.A., the parties to the proceeding may submit written comments to the Department, not to exceed 30 pages.

C. During the anniversary month of this Agreement, each party to the proceeding may request a hearing on issues raised during the preceding Relevant Period. If such a hearing is requested, it will be conducted in accordance with section 751 of the Act (19 U.S.C. 1675) and applicable regulations.

X. Consultations

A. MINATOM and the Department shall hold consultations regarding matters concerning the implementation, operation, or enforcement of this Agreement. Such consultations will be held each year during the anniversary month of this Agreement, except that in the initial year following the signing of the Agreement, consultations will be held semi-annually. Additional consultations may be held at any other time upon request of either MINATOM or the Department. Emergency consultations may be held in accordance with section XI.A.

B. If either MINATOM or the Department discovers that substantial quantities of uranium product(s) not subject to this Agreement and produced

from Russian ore are being exported to the United States, MINATOM and the Department will promptly enter into consultations to ensure that such exports to the United States are not undermining this Agreement.

C. If, for reasons unrelated to sales of Russian uranium, the market price determined under Section IV.C.1. of uranium products remains below U.S. \$13 per pound U₃O₈ equivalent after September 30, 1993, or for any two consecutive periods thereafter, MINATOM and the Department will promptly enter into consultations in order to review the market situation and consider adjustments to the quota.

XI. Violations of the Agreement

A. Violation

"Violation" means noncompliance with the terms of this Agreement caused by an act or omission by MINATOM except, at the discretion of the Secretary, an act or omission which is inadvertent or inconsequential.

MINATOM will inform the Department of any violations which come to its attention and the action taken with respect thereto.

Imports in excess of the export limits set out in this Agreement shall not be considered a violation of this Agreement, or an indication the Agreement no longer meets the requirements of section 734(l) of the Act, where such imports are minimal in volume, are the result of technical shipping circumstances, and are applied against the export limits of the following year. Technical shipping circumstances that would result in a minimal volume of imports in excess of the export limits are, for example, those where the shipment of a full drum is required for safety factors and such amount is beyond the existing export limit.

Prior to making a determination of an alleged violation, the Department will engage in emergency consultations. Such consultations shall begin no later than 14 days from the day of request and shall provide for full review, but in no event will exceed 30 days. After consultations, the Department will provide MINATOM 10 days within which to provide comments. The Department will make a determination within 20 days.

B. Appropriate Action

If the Department determines that this Agreement is being or has been violated, the Department will take such action as it determines is appropriate under section 734(i) of the Act and § 353.19 of the Department's Regulations.

XII. Duration

In consideration of the role of long-term contracts in the uranium market, subject to the provisions of Section XIII of this Agreement and § 353.25 of the Department's regulations, the export limits provided for in Section IV of this Agreement shall remain in force from the effective date of this Agreement through October 15, 2000. Thereafter, the volume of exports to the United States of uranium products from Russia shall not be limited by the export limitations provided for in Section IV of this Agreement. For the period October 16, 2000, through October 15, 2002, both MINATOM and the Department will pay particular attention to the requirements for monitoring by MINATOM and the Department, as provided in Sections VI and VIII of this Agreement. Should such monitoring indicate that, in the absence of the export limits provided for in Section IV, this Agreement no longer prevents the suppression or undercutting of price levels of domestic products by imports of uranium products from Russia, as identified and discussed during consultations, the export limits set forth in Section IV may be reinstated within 30 days after completion of the consultations. If it is determined in subsequent consultations that the conditions that led to the reinstatement of the export limits provided for in Section IV no longer exist, such export limits shall not remain in force and the monitoring specified above shall resume.

The Department will, upon receiving a proper request no later than October 31, 2001, conduct an administrative review under Section 751 of the Act. The Department expects to terminate this Agreement and the underlying investigation no later than October 15, 2002, as long as the Russian Federation has not been found to have violated the Agreement in any substantive manner. Such review and termination shall be conducted consistent with § 353.25 of the Department's regulations.

MINATOM may terminate this Agreement at any time upon notice to the Department. Termination shall be effective 60 days after such notice is given to the Department. Upon termination at the request of MINATOM, the provisions of Section 734 of the Act shall apply.

If the Department has determined that a sufficient amount of time has elapsed between the effective date of this Agreement and the date of termination, the Department will follow the provisions of Sections XIII.(b). or XIII.(c). of this Agreement.

XIII. Conditions

During the underlying investigation, the Department determined that the Russian Federation is a non-market economy country. Because the two governments share an interest in promoting the transformation of the Russian Federation into a market economy, the Department recognizes that it may determine during the life of this Agreement that the Russian uranium industry is a market-oriented industry, or that the Russian Federation is a market economy country. In either event, the Department may:

(a) Enter into a new suspension agreement under Section 734(b) or 734(c) of the Act; or

(b) If the investigation was not completed under section 353.18(j) of the Department's regulations, afford MINATOM a full opportunity to submit new information, and take such information into account in reaching its final determination; or

(c) If the investigation was completed under § 353.18(i), consider a request made no later than 30 days after termination of the Agreement to conduct a changed circumstances review under section 751(b).

XIV. Other Provisions

A. In entering into this Agreement, MINATOM does not admit that any sales of the merchandise subject to this Agreement have been made at less than fair value or that such sales have materially injured, or threatened, material injury to, an industry or industries in the United States.

B. For all purposes hereunder, the Department and MINATOM shall be represented by, and all communications and notices shall be given and addressed to:

Department of Commerce Contact United States Department of Commerce Assistant Secretary for Import Administration International Trade Administration Washington, DC 20230
Ministry for Atomic Energy Contact Deputy Minister Moscow 109108 Russia

XV. Effective Date

The effective date of this Agreement suspending the antidumping investigation on uranium from the Russian Federation is October 16, 1992.

The English language version of this Suspension Agreement shall be controlling.

Signed on this sixteenth day of October, 1992.

For the Russian Federation Ministry of Atomic Energy.

Vladimir Lukin,

His Excellency Ambassador of the Russian Federation.

For U.S. Department of Commerce.

Alan M. Dunn,

Assistant Secretary for Import Administration.

APPENDIX A: RUSSIAN FEDERATION

| Price level (\$) | Quota in millions of pounds U ₃ O ₈ |
|--------------------|---|
| 13.00-13.99 | 0.5 |
| 14.00-14.99 | 0.7 |
| 15.00-15.99 | 1.0 |
| 16.00-16.99 | 1.4 |
| 17.00-17.99 | 2.0 |
| 18.00-18.99 | 3.3 |
| 19.00-19.99 | 3.8 |
| 20.00-20.99 | 4.8 |
| 21.00 and up | Unlimited U ₃ O ₈ * |

*Russia may only export a quantity of LEU which contains a maximum of 10-12% of the U.S. enrichment market's annual demand under the sum of this quota plus the long-term contract mechanism quota.

Note 1: Price is measured in U.S. \$/lbs. and is an observed price in the U.S. market as defined in the suspension agreement and reviewed every six months for adjustment.

Note 2: Quota levels are expressed in millions of pounds of U₃O₈ equivalent as converted by the conversion formulae outlined in the suspension agreement.

Appendix B

In accordance with the established format, MINATOM shall collect and provide to the Department all information necessary to ensure compliance with this Agreement.

MINATOM will collect and maintain sales data to the United States and to countries other than the United States on a continuous basis and in the following agreed formats. MINATOM will provide a narrative explanation to substantiate all data collected in accordance with the following formats. MINATOM will also collect and provide data on the total quantity of home market sales, expressed in the units of measure sold. Unless such information is necessary for consultations, MINATOM will provide the information to the Department not more than two times a year. Unless otherwise specified in the official request, the information provided shall cover all sales for the six-month period identified in the official request. In response to an official request from the Department, MINATOM will provide the Department within 30 days all such information, unless otherwise mutually agreed.

Report of Inventories

Report, by location, the inventories held by the Russian Federation in the United States and imported into the United States between the period

beginning March 5, 1992, through the effective date of the agreement.

1. Quantity: Indicate original units of measure (e.g., pounds U₃O₈, Kilograms U, etc.) and in pounds U₃O₈ equivalent.
2. Location: Identify where the inventory is currently being held. Provide the name and address for the location.
3. Titled Party: Name and address of party who legally has title to the merchandise.
4. License Number(s): Indicate the number(s) relating to each entry now being held in inventory.
5. Certificate Number(s): Indicate the number(s) relating to each entry now being held in inventory.
6. Date of Original Export: Date of export certificate is endorsed.
7. Date of Entry: Date the merchandise entered the United States or the date book transfer took place.
8. Original Importer: Name and address.
9. Original Exporter: Name and address.
10. Complete Description of Merchandise: Include lot numbers and other available identifying information.

United States Sales

1. License Number(s): Indicate the number(s) relating to each sale and/or entry.
2. Certificate Number(s): Indicate the number(s) relating to each sale and/or entry.
3. Complete Description of Merchandise: Include lot numbers and other available identifying of documentation.
4. Quantity: Indicate units of measure sold and/or entered e.g., pounds U₃O₈, Kilograms U, etc.
5. Total Sales Value: Indicate currency used.
6. Unit Price: Indicate currency used.
7. Date of Sale: The date all terms of order are confirmed.
8. Sales Order Number(s): Indicate the number(s) relating to each sale and/or entry.
9. Date of Export: Date the export certificate is endorsed.
10. Date of Entry: Date the merchandise entered the United States or the date book transfer took place.
11. Importer of Record: Name and address.
12. Customer: Name and address.
13. Customer Relationship: Indicate whether related or unrelated.
14. Final Destination: Name and address of location for consumption in the United States, if known.
15. Other: *i.e.*, used as collateral, will be re-exported, etc.

Sales Other Than United States

1. License Number(s): Indicate the number(s) relating to each sale and/or entry.
2. Certificate Number(s): Indicate the number(s) relating to each sale and/or entry.
3. Quantity: Indicate units of measure sold and/or entered, e.g., pounds U_3O_8 , Kilograms U, etc.
4. Date of Sale: The date all terms of order are confirmed.
5. Sale Order Number(s): Indicate the number(s) relating to each sale and/or entry.
6. Date of Export: Date the export certificate is endorsed or the date as indicated in the bill-of-lading or a comparable transportation document.
7. Date of Entry: Date the merchandise entered the United States or the date a book transfer took place.
8. Importer of Record: Name and address.
9. Customer: Name and address.
10. Customer Relationship: India whether related or unrelated.
11. Final Destination: Name and address of location for consumption, if known.
12. Other: *i.e.*, used as collateral, will be re-exported, etc.

Appendix C—Russian Federation

Proprietary Document, Public Version.
(No text in Public Version.)

Agreement Suspending the Antidumping Investigation on Uranium from the Republic of Tajikistan

For the purpose of encouraging free and fair trade in uranium products for peaceful purposes, establishing more normal market relations, and recognizing that this Agreement is necessary for the protection of the essential security interests of the United States and the Republic of Tajikistan, pursuant to the provisions of section 734 of the Tariff Act of 1930, as amended (19 U.S.C. 1673c) (the "Act"), the United States Department of Commerce ("the Department") and the Government of Tajikistan into this suspension agreement ("the Agreement").

The Department finds that this Agreement is in the public interest; that effective monitoring of this Agreement by the United States is practicable; and that this Agreement will prevent the suppression or undercutting of price levels of United States domestic uranium products by imports of the merchandise subject to this Agreement.

On the basis of this suspension agreement, the Department shall suspend its antidumping investigation with respect to uranium from Tajikistan subject to the terms and provisions set

forth below. Further, the Department will instruct the U.S. Customs Service to terminate the suspension of liquidation and to release any cash deposit or bond posted on the products covered by this Agreement as of the effective date of this Agreement.

I. Basis for the Agreement

In order to prevent the suppression or undercutting of price levels of United States domestic uranium, the Government of Tajikistan will restrict the volume of direct or indirect exports to the United States of uranium products from all producers/exporters of uranium products in Tajikistan subject to the terms and provisions set forth below.

II. Definitions

For purposes of this Agreement, the following definitions apply:

- (a) Pounds U_3O_8 equivalents are calculated using the following formulas:
- Measured uranium (U) content is converted to U_3O_8 by multiplying U by 1.17925.
 - U_3O_8 is converted to U content by multiplying by 0.84799.
 - 1 Kg U_3O_8 = 2.20462 lbs. U_3O_8 .
 - 1 Kg U in UF_6 = 2.61283 lbs. U_3O_8 equivalent.
 - 1 Kg U in U_3O_8 = 2.59982 lbs. U_3O_8 equivalent.

(b) Date of Export for imports into the United States accompanied by an export certificate of the merchandise subject to this Agreement shall be considered the date the export certificate was endorsed.

(c) Parties to the Proceeding—means any interested party, within the meaning of § 353.2(k) of the Department's regulations, which actively participates through written submissions of factual information or written argument.

(d) Indirect Exports—means arrangements as defined in section IV.F. of this Agreement and exports from Tajikistan through one or more third countries, whether or not such export is sold in one or more third country prior to importation into the United States.

III. Product Coverage

The merchandise covered by this Agreement are the following products from Tajikistan:

Natural uranium in the form of uranium ores and concentrates; natural uranium metal and natural uranium compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing natural uranium or natural uranium compounds; uranium enriched in U^{235} and its compounds; alloys, dispersions (including cermets), ceramic products, and mixtures containing uranium

enriched in U^{235} or compounds of uranium enriched in U^{235} ; and any other forms of uranium within the same class or kind.

Uranium ore from Tajikistan milled into U_3O_8 and/or converted into UF_6 in another country prior to direct and/or indirect importation into the United States is considered uranium from Tajikistan and is subject to the terms of this Agreement.

For purposes of this Agreement, uranium enriched in U^{235} in another country prior to direct and/or indirect importation into the United States is not considered uranium from Tajikistan and is not subject to the terms of this Agreement.

Imports of uranium ores and concentrates, natural uranium compounds, and all forms of enriched uranium are currently classifiable under Harmonized Tariff Schedule ("HTS") subheadings: 2612.10.00, 2844.10.20, 2844.20.00, respectively. Imports of natural uranium metal and forms of natural uranium other than compounds are currently classifiable under HTS subheadings: 2844.10.10 and 2944.10.50. HTS subheadings are provided for convenience and customs purposes. The written description of the scope of these proceedings is dispositive.

IV. Export Limits

A. The Government of Tajikistan will restrict the volume of direct or indirect exports on or after the effective date of this Agreement to the United States and the transfer or withdrawal from inventory (consistent with the provisions of paragraph E) of the merchandise subject to this Agreement in accordance with the export limits and schedule set forth in Appendix A.

Export limits are expressed in terms of pounds U_3O_8 equivalent and kilograms uranium (Kg U).

Export limits are applied on the basis of "Date of Export", as defined in section II.

For purposes of this Agreement, United States shall comprise the customs territory of the United States of America (the 50 States, the District of Columbia and Puerto Rico) and foreign trade zones located in the territory of the United States of America.

B. The export limits of this Agreement shall be effective for the periods October 1 through September 30 (the "Relevant Period").

C.1. For purposes of determining the applicable quota level, the Department will determine the market price. In determining the market price for purposes of establishing the quota level, the Department will use price

Specifically, the CIT rejected the Department's methodology for calculating the amount of the tax adjustment that was added to United States price. The CIT entered final judgment on all issues in *Torrington*, and entered final judgment on all issues in *Federal-Mogul*. The results covered the period November 9, 1988, through April 30, 1990.

EFFECTIVE DATE: December 10, 1993.

FOR FURTHER INFORMATION CONTACT: Joseph A. Fargo or Richard Rimlinger, Office of Antidumping Compliance, International Trade Administration, U.S. Department of Commerce, Washington DC, 20230; telephone (202) 482-4733.

SUPPLEMENTARY INFORMATION:

Background

On September 8, 1993, in *The Torrington Corp. v. United States*, (Slip Op. 93-175), and on June 2, 1993, in *Federal-Mogul Corp. v. United States*, (Slip Op. 93-90), the CIT remanded the final results of the first administrative review of the antidumping duty order on Antifriction Bearings (Other than Tapered Roller Bearings) and parts thereof from Sweden (56 FR 31762, July 11, 1991) to the Department for reconsideration of a number of issues. For one of these issues, in both cases, the Court ordered the Department to determine the exact monetary amount of the value added tax (VAT) paid on each sale in the home market, to make certain that the amount of the VAT adjustment added to the comparable U.S. sale is less than or equal to this amount, and to add the full amount of the VAT in the home market to foreign market value (FMV) without adjustment. On October 8, 1993, and on September 1, 1993, in *Torrington* and *Federal-Mogul* respectively, the Department submitted to the CIT its redeterminations on remand on the VAT and other issues. On November 30, 1993, the CIT ruled upon Commerce's redeterminations in *Torrington* and *Federal-Mogul*. In this decision, the CIT rejected the Department's redetermination methodology for calculating the amount of the VAT adjustment added to USP.

In its decision in *Timken Co. v. United States*, 893 F.2d 337 (Fed. Cir. 1990) (*Timken*), the United States Court of Appeals for the Federal Circuit held that, pursuant to 19 U.S.C. 1516a(e), the Department must publish a notice of a court decision which is not "in harmony" with a Department determination, and must suspend liquidation of entries pending a "conclusive" court decision. The CIT's decisions in *Torrington* and *Federal-*

Mogul on November 30, 1993, which rejected the Department's redetermination methodology for calculating the amount of the VAT adjustment added to USP, constitute decisions not in harmony with the Department's final results.

Accordingly, the Department will continue the suspension of liquidation of the subject merchandise covered by each of these cases. Further, the Department will amend the final results of review (to reflect the change in VAT methodology ordered by the CIT) in either or both of these cases if a "conclusive" decision(s) is rendered affirming the CIT's opinion.

Dated: March 23, 1994.

Joseph A. Spetrini,

Acting Assistant Secretary for Import Administration.

[FR Doc. 94-7851 Filed 3-31-94; 8:45 am]

BILLING CODE 3510-DS-P

Secretariat File No.: USA-93-1904-04

Amended Final Determination Pursuant to Binational Panel Order Certain Cut-to-Length Carbon Steel Plate From Canada

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

EFFECTIVE DATE: March 25, 1994.

FOR FURTHER INFORMATION CONTACT: Jonathan Freilich or Jean Kemp, Office of Agreements Compliance, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, DC 20230; telephone: (202) 482-3793.

SUMMARY: The Department of Commerce has prepared this final correction of clerical errors pursuant to the order from the Binational Panel, Secretariat File No.: USA-93-1904-04.

BACKGROUND: On March 15, 1994, the Binational Panel in the case of IPSCO, Inc. (IPSCO), Secretariat File No. USA-93-1904-04 (March 15, 1994), granted a motion by respondent, IPSCO, asking the Department of Commerce (Department) to correct two ministerial errors in the Department's Final Determination of Sales at Less Than Fair Value: Certain Cut-to-Length Carbon Steel Plate From Canada, published at 58 FR 37099 (July 9, 1993). The results covered the period from January 1, 1992, through June 30, 1992.

In this case, the Binational Panel ordered the Department to correct the following two errors which appeared in the computer program for IPSCO cut-to-length plate:

1. The computer program's mistaken elimination of home market sales of control number 0019.

2. The computer program's mistaken inclusion of imputed credit expenses in the costs used for the less-than-cost comparisons.

The Department corrected these computer programming errors in the manner suggested by petitioners, and agreed to by respondent.

RESULTS OF ORDER: The recalculated weighted-average dumping margin is:

| Company | Margin percentage |
|-------------|-------------------|
| IPSCO | 1.69 |

This final correction is in accordance with the order of the Binational Panel, Secretariat File No.: USA-93-1904-04.

Dated: March 25, 1994.

Joseph A. Spetrini,

Acting Assistant Secretary for Import Administration.

[FR Doc. 94-7850 Filed 3-31-94; 8:45 am]

BILLING CODE 3510-DS-P

[A-821-802]

Amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation

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

EFFECTIVE DATE: March 11, 1994.

FOR FURTHER INFORMATION CONTACT: Sally C. Gannon, Eric Hassman, or Melissa Skinner, Office of Agreements Compliance, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, DC 20230; telephone: (202) 482-1391, (202) 482-1382, or (202) 482-0159, respectively.

SUMMARY: The Department of Commerce (the Department) and the Government of the Russian Federation (GRF) have signed an Amendment (the Amendment) to the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation (the Agreement). The parties signed the Amendment recognizing that the Agreement to date had not generated the anticipated increase in the price of U.S.-origin natural uranium that would have permitted renewed sales of Russian uranium under the price-tied quota mechanism nor increased sales of U.S.-origin natural uranium or employment in the U.S. uranium industry.

SUPPLEMENTARY INFORMATION:

Background

On October 16, 1992, the Department and the GRF signed the suspension agreement on uranium and, on October 30, 1992, the Agreement was published in the *Federal Register* (57 FR 49220, 49235). The Department's latest price calculation, under the terms of the Agreement, on October 1, 1993, did not reach the threshold price of \$13.00 per pound which would allow for Russian Federation imports of uranium into the U.S. market under the price-tied quota mechanism (Appendix A of the Agreement). Thus, the GRF requested consultations with the Department, as specified in Section X.C of the Agreement, in order to review the market situation and consider adjustments to the quota.

As a result of these consultations, a proposed amendment to the Russian suspension agreement, based on the concept of joint sales between U.S. and Russian producers, was initiated on December 15, 1993, by the Department and the GRF. The Department subsequently released the proposed amendment to interested parties for comment. After careful consideration by the Department of the comments submitted and further consultations between the two parties, the Department and the GRF signed the final amendment on March 11, 1994. The text of the Amendment follows in Annex 1 to this notice.

Information on the amount of annual matched imports remaining available for the year, as noted in Section IV.E of the Amendment, may be obtained from the above-noted contacts in the Office of Agreements Compliance. Confirmation requests should be submitted, in accordance with 19 CFR 353.31 and 353.32, to: Secretary of Commerce, Attention: Import Administration (Office of Agreements Compliance), Central Records Unit, Room B-099, U.S. Department of Commerce, Pennsylvania Avenue and 14th St. NW., Washington, DC 20230.

Dated: March 25, 1994.

Joseph A. Spetrini,
Acting Assistant Secretary for Import Administration.

Annex 1—Amendment to the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation

The parties recognize that the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation ("the Agreement") has not generated the anticipated increase in the price of U.S.-

origin natural uranium that would have permitted renewed sales of Russian uranium under the price-tied quota mechanism; nor has the Agreement increased sales of U.S.-origin natural uranium or employment in the U.S. uranium industry. Because an objective of this Agreement is to restore the competitive position of the U.S. industry, the parties agree as follows.

The Agreement is hereby extended until March 31, 2004. Consistent with the requirement of Section 734(l) of the U.S. Tariff Act of 1930, as amended (the Act) to prevent the suppression or undercutting of price levels of domestic products in the United States, Sections II, IV, VIII and XIV are amended as set forth below. Appendix A of the Agreement is suspended until March 31, 2004, in accordance with amended Section XIV. All other provisions of the Agreement, particularly Section VII, remain in force and apply to this Amendment.

The following definitions are added to Section II.

II. Definitions

(e) For purposes of this Agreement, "United States" shall comprise the customs territory of the United States of America (the 50 States, the District of Columbia and Puerto Rico) and foreign trade zones located in the territory of the United States of America. (f) Separative work unit, or SWU, means the standard measure of enrichment services. The effort expended in separating a mass F of feed of assay x_f into a mass P of product of assay x_p and waste of mass W and assay x_w is expressed in terms of the number of separative work units needed, given by the expression $SWU = WV(x_w) + PV(x_p) - FV(x_f)$, where $V(x)$ is the "value function," defined as $V(x) = (1-2x) \ln[(1-x)/x]$.

(g) "U.S. producer" means: (1) a company that owns a production interest in a licensed or permitted mine capable of producing uranium with sufficient economically recoverable reserves to justify production or (2) a U.S. converter or enricher.

(h) "For consumption" means for further processing (as necessary) and use as nuclear fuel. Consumption may include such uses as swaps or exchanges of material, only where such swaps or exchanges are documented to be conducted solely for the purpose of facilitating the further processing and use as nuclear fuel by the end-user. The material shall not be loaned. The material shall not be resold except as a result of force majeure.

(i) "End-user" means an entity, such as an electric utility, hospital, or

scientific institution, which consumes uranium.

(j) A "Spot Contract" means any contract for natural uranium and/or SWU that specifies that all deliveries must be completed within 12 months of contract execution. A "Long-Term" contract means any contract that is not a spot contract.

(k) "Newly-produced" natural uranium in the form of U_3O_8 means uranium produced, on or after the effective date of this Amendment, by conventional mining, in-situ leaching ("ISL") production, co-product or by-product production, or mine water recovery production. Newly-produced natural uranium in the form of UF_6 means UF_6 containing newly-produced U_3O_8 . If the Russian Federation Ministry of Atomic Energy (MINATOM) has not concluded sales of at least 2,204,620 pounds U_3O_8 -equivalent during the first six months of this Amendment, up to 1,000,000 pounds U_3O_8 -equivalent mined prior, and milled subsequent to, the effective date of the Amendment, may be used for the purpose of matched sales for the remainder of that year.

Section IV.A., IV.B., and IV.C.1., and to the extent that they relate to Appendix A, other portions of Section IV, are replaced with:

IV. Matched Imports. Matched imports are imports of Russian-origin natural uranium or SWU that are matched with U.S.-origin natural uranium or SWU for delivery to end-users for consumption in the United States in accordance with the terms of this Amendment. Russian-origin natural uranium or SWU may be imported into the United States under this Amendment only if they qualify as matched imports as described below. The importer must document that the United States Department of Commerce ("the Department") has issued a confirmation under which the shipment may be imported and any prior imports under that confirmation. Notwithstanding other provisions of this Amendment, matched imports are authorized up to the limits, and subject to the conditions, set forth below.

To qualify as a matched import under this section, "Russian-origin" natural uranium (i.e. U_3O_8 or UF_6) or SWU must be matched with an equal portion of "newly-produced" U.S.-origin natural uranium (i.e. U_3O_8 or UF_6) or SWU, subject to adjustment under Section D. For purposes of this Section, Russian-origin means natural uranium (i.e. U_3O_8 or UF_6) or SWU which is produced in Russia, and which is exported from Russia for the first time after the effective date of this Amendment.

Matched imports are subject to the following conditions:

(a) The U.S.-origin natural uranium must be mined in the United States, and/or the U.S.-produced SWU must be or have been performed in the United States, subsequent to the effective date of this Amendment and must be delivered pursuant to a new contract, or a new extension or modification of a contract, to supply the needs of an end-user which are uncommitted as of the date of the Amendment;

(b) In the case of SWU, prior to the presentation of the matched sale to the Department for confirmation, the U.S. producer must be informed of all material terms of the matched sale to the end-user and must consent to the matching of its SWU in that sale with the imported Russian SWU;

(c) In the case of natural uranium, if the U.S. producer is not the contracting party with the end-user, then, prior to the presentation of the matched sale to the Department for confirmation, the U.S. producer must consent to the matching of its uranium in that sale with the imported Russian uranium; and

(d) Prior to the presentation of the matched sales contract to the Department for confirmation, the U.S. producer and the Russian producer must agree to the schedule of deliveries to the end-user of the imported Russian uranium or SWU and of the U.S. uranium or SWU.

Matched sales may be made only by matching spot contracts to spot contracts and long-term contracts to long-term contracts, as defined in Section II, and uranium-type to uranium-type (i.e., U_3O_8 or UF_6). Consistent with Section III of the Agreement, conversion does not change the country-of-origin of uranium ore, and, thus, U.S.-origin UF_6 is U.S.-origin U_3O_8 converted at any converter.

A. Limits for Matched Imports

For 1994 (April 1, 1994-March 31, 1995) and 1995 (April 1, 1995-March 31, 1996), this Amendment authorizes annual matched sales of up to 3,000 metric tons (6,613,860 pounds U_3O_8 equivalent) per year of Russian-origin natural uranium and up to 2 million Russian-origin SWU per year from the Russian Federation to the United States. The matching natural uranium must be sold during 1994 and 1995 but may be imported for delivery at any time during the life of the Amendment, subject to the conditions contained herein. For the years 1996 through 2003, this Amendment authorizes additional matching deliveries of natural uranium up to, but not exceeding, the levels

listed in Attachment 1. Deliveries pursuant to the 3,000 metric ton matched natural uranium quotas, confirmed in 1994 and 1995 and delivered in subsequent years, shall not be counted against the quota limitations listed in Attachment 1 for the years 1996 through 2003. Because the annual matching SWU quota expires two years from the effective date of this Amendment, no additional matched SWU sales, or corresponding imports of SWU, will be allowed. However, the matching SWU sold during 1994 and 1995 may be delivered at any time during the life of the matched sales contract.

For purposes of counting against the 1994 and 1995 sales quota limitations for both natural uranium and SWU, the date of the Department's confirmation (see Section IV.E) shall determine whether a matched import comes within the annual limit. However, for purposes of counting against the natural uranium delivery quota limitations for the years 1996 through 2003, the date of delivery of the Russian component of the confirmed matched sale (see Section IV.E) shall determine whether a matched import comes within the annual limit. The sales quotas in the first two years and the delivery quotas in subsequent years of the Amendment for natural uranium are separate and distinct.

Enriched uranium from Russia may be imported only if there is a matched sale for the SWU component of such enriched uranium. When Russian enriched UF_6 is imported pursuant to a matching SWU sale, an equivalent amount of natural uranium (based on the U_{235} assay of the product assuming a 0.3 tails assay) must be deposited with, exchanged, or returned to the seller's account on, before, or up to five days after the date of delivery of the imported enriched UF_6 to the buyer or the buyer's account. The feed component shall be counted against the natural uranium matched sales quota, through use in a matched sale, unless the feed material or its equivalent that is returned to the seller is either exported or quarantined from the U.S. market. Regardless of the ultimate disposition of the natural feed component associated with a sale of Russian-origin SWU, from the time any uranium products are delivered or returned to the seller or for the seller's account until the time such material is disposed of in accordance with the terms of this Section of the Amendment, the seller agrees to the following:

- To maintain the material in a separate account exclusively for the

accounting of this material at the converter, enricher, or fabricator;

- To make available to the Department, quarterly, a full accounting of all deliveries into and out of this account at the converter, enricher, or fabricator including delivery from the account, to whom delivery was made, pursuant to which contract, in what quantity, and confirmation of the status of any transaction that occurred from the account; and

- To certify not to use the imported uranium for loans, swaps, or use as loan repayment or any purpose other than delivery in accordance with this Section of the Amendment, unless: (i) The amount is destined for consumption as defined in Section II(h); (ii) the amount is counted against the quota in connection with a confirmed matched sale; and (iii) the Department is notified of the transaction.

Any natural uranium deposited with, exchanged, or returned to the seller or the seller's account as a result of sales of Russian SWU under matched contracts shall be deemed to be of Russian origin at the time of deposit, exchange or return, and, if re-exported, shall clearly be identified as Russian origin in all accompanying documentation and packaging.

MINATOM will restrict the volume of direct or indirect exports to the United States of the merchandise subject to this Amendment on or after the effective date of this Amendment, and will continue to restrict the transfer or withdrawal from inventory (consistent with the provisions of this Section) of the merchandise subject to this Amendment.

MINATOM will ensure that all exports of merchandise made under this provision qualify as matched imports made in conjunction with a U.S. producer or enricher, composed of equal parts Russian and newly-produced U.S.-origin natural uranium (subject to adjustment under Section D) or SWU.

B. Per Company Limits for Matched Imports

For each calendar year's quantity of confirmed matched imports, no more than 20 percent of the total allowable limit of matched imports of uranium may be matched with uranium sourced from any single U.S. producer. Nor may more than fifty (50) percent of the total allowable limit be matched with uranium from any single group of producers under common ownership or control. For purposes of this section, "ownership or control" shall be defined consistent with Section 771(13) of the Act.

C. Price Limits for Matched Imports

The unit price paid to the U.S. producer for the U.S. component for each sale involving matched imports must be greater than the unit price paid by the end-user for consumption in the United States. (If the producer is the seller to the end-user, there may be no separate payment for the U.S. component.)

D. Monitoring of U.S. Production

Given that a goal of this Amendment is to stimulate the production of natural uranium in the United States, the Department will monitor the level of uranium production in the United States through information obtained from the U.S. Energy Information Administration.

Regardless of the level of U.S. production, matched imports during the first year of this Amendment will be on a 50-50 basis. Depending on the level of U.S. uranium production achieved in the first year, the matching requirements for matched imports in the second year may be modified as described below.

The Department will determine the annualized level of U.S. production of natural uranium in 1994 using data from April 1, 1994, through March 31, 1995. On April 30, 1995, the Department will announce the level of U.S. production for 1994 for the purpose of possible adjustment to the matching requirement ratio for the following year. If the annualized level of U.S. production in the first year is less than 9 million pounds or more than 10 million pounds, then the ratio required for matched import limits during the second year of this Amendment will be adjusted in accordance with the following schedule:

| U.S. production for first year (millions of lbs.) | Matching requirement for second year (percentages) | |
|---|--|---------|
| | U.S. | Russian |
| 4-5 | 55 | 45 |
| 5-6 | 54 | 46 |
| 6-7 | 53 | 47 |
| 7-8 | 52 | 48 |
| 8-9 | 51 | 49 |
| 9-10 | (1) | (1) |
| 10-11 | 49 | 51 |
| 11-12 | 48 | 52 |
| 12-13 | 47 | 53 |
| 13-14 | 46 | 54 |
| 14-15 | 45 | 55 |

¹No change.

Any changes in the ratio required for matched imports during the second year of this Amendment will not affect matched imports confirmed by the Department during the first year of this Amendment.

Such a ratio adjustment will only be in force during 1995. For all subsequent years of the Amendment, the ratio for matching sales will remain at 50-50.

E. Department Confirmation of Matched Imports:

Any matched sales contract to the end-user to be used in a matched sale under this Amendment must be submitted to and confirmed by the Department in accordance with this Section. To be confirmed as a matched contract, the party submitting the contract must provide the following information:

- The date and terms, including price, of the contract with the end-user pursuant to which the matched import(s) will be made;
- A description of the physical material being imported;
- Identification of the Russian supplier of the matched import(s);
- The estimated date on which the matched import(s) will enter the customs territory of the United States;
- The export license number under which the import(s) will be exported;
- The U.S. producer and specific production facility from which the matched material was or will be sourced;
- Explanation of the U.S. producer's relation to any other enterprise involved in the production and/or sale of uranium in the United States;
- A copy of the contract with the end-user pursuant to which the matched import(s) are to be made;
- A copy of any separate contract or agreement made for the U.S. material;
- Certification from the U.S. producer that its production will be "newly-produced" (within the meaning of this Amendment) to fulfill the contract, and its ability and commitment to provide, at the time specified in the contract, the contracted volume of natural uranium and/or SWU;
- Certification from the U.S. producer that it consents to the matching of its material and the estimated delivery schedule;
- An estimated delivery schedule;
- Certification from the end-user that it will consume the matched product in the United States in accordance with Section II(h) of this Amendment;
- All documentation relating to the escrow account set up for the matched sale; and
- Any other information that the Department, after consultation with MINATOM, determines necessary to confirm that the requirements of this Amendment have been met.

Within 15 days of filing with the Import Administration's Central

Records Unit a complete confirmation request, the Department will confirm that the matched sales contract qualifies for matching under this Amendment or will state specifically why it does not qualify. In making such a determination, the Department will limit its review to determining (i) whether the contract under review comes within total annual limits remaining available for the year in which the request was submitted; (ii) whether the U.S. uranium matched under the matched sales contract exceeds the per company limitations set forth in Section IV.B; and (iii) whether the sales price for the newly-produced U.S. uranium, if there is such a separate sale, meets the requirements set forth in Section IV.C. Further, in the process of confirmation request and approval, the Department will review the specific terms of the escrow account documentation.

The end-user must pay a blended price for all deliveries. When deliveries of Russian uranium are made prior to deliveries of the matching U.S. product, either:

- a. The U.S. product must be delivered to the end-user within 1 month of delivery of the Russian component to the end-user, or
- b. The difference between the price paid to the Russian producer and the blended price will be paid into a properly drawn escrow account specified in the contract. However, the amount deposited in the escrow account shall in no case be less than 10 percent of the total contracted value of the U.S. component of the matched sale. The escrow funds will be forfeited if the U.S. producer fails to deliver any portion of the U.S. component of the matched sale. The Department and MINATOM will develop a way to dispose of any forfeited escrow funds, but in no event will such funds be returned to any matched sales participant, e.g., the U.S. or Russian producer, the end-user, or the importer.

If the Department determines upon review that any party has failed to deliver or cancelled delivery of uranium or SWU in a matched sale contract for any reason other than force majeure, or has otherwise not complied with the terms of the Amendment, that party shall be precluded from participation in any further matched sales.

Upon confirmation, the Department will subtract the total amount of contracted Russian-origin matched-import uranium and/or SWU from the remaining quota for that year. The Department shall also make available on a current and continuous basis the amount of annual matched imports that remain available for the year. The

Department will publish the contact office (and telephone number) for obtaining such information and the office to which confirmation requests should be sent. If the Department fails to respond to a confirmation request for a matched import within 15 days, the request shall be deemed to be approved notwithstanding any other provisions of this Amendment.

Russian natural uranium or SWU may be imported into the United States prior to the scheduled time for delivery pursuant to a confirmed matched sales contract only if:

(1) The material is placed in a dedicated account for the approved contract;

(2) The importer (if the owner of material, or the person for whom or on whose behalf the material is imported) or his consignee, certifies to the Department that such material will not be sold, loaned, swapped, or utilized other than for delivery to the U.S. end-user for consumption in accordance with Section II(h) of this Amendment; and

(3) The material enters the U.S. but is not liquidated until such time as it is delivered to the end-user.

Prior to U.S. Customs clearance of the Russian-origin uranium, the importer (if the owner of material, or the person for whom or on whose behalf the uranium is imported) will notify the Department of the date of import, the quantity and declared value of the shipment, the vessel name, the port of entry, and the pre-confirmed individual contract pursuant to which the shipment is entering. If such information is consistent with a pre-confirmed contract and the notice of request for delivery from the end-user, the Department will notify the U.S. Customs Service within five business days. The importer will provide certification to U.S. Customs at time of import that the material will be used only for a matched sale subject to the conditions of this Amendment and will be consumed in accordance with Section II(h) of this Amendment. Once the U.S. Customs Service has received the foregoing notification and certification, it will promptly release the shipment.

The following paragraph constitutes an addendum to Section VIII of the Agreement:

MINATOM agrees to adhere to all reporting requirements specified in Section VIII.A. of the Agreement. Appendix B data will be submitted to the Department according to the reporting requirements specified in Section VIII.A. of the Agreement, and will be treated and verified in accordance with the Letter of

Administration exchanged between the Department and MINATOM simultaneously with the signing of this Amendment. The Department and MINATOM agree that the Letter of Administration constitutes an integral part of this Amendment.

Section XIV of the Agreement is amended by adding the following:

C. Miscellaneous

The parties agree to consult on a regular basis during the term of this Agreement on Russia being treated as a market economy or the Russian uranium industry being treated as a market-oriented industry under U.S. antidumping laws. During such consultations the Department will identify the criteria that Russia or the Russian uranium industry would need to satisfy to be accorded such treatment by the Department.

The parties further agree that their intention is, consistent with Section IV.J of the Agreement, that Russia be accorded treatment no less favorable than any other Republic of the former Soviet Union that also has a suspension agreement with the United States with respect to trade in uranium. Accordingly, if U.S. law, regulation, administrative practice, or policy should change in any manner that would result in relatively less favorable treatment for Russia, or if the United States should enter into any agreement or understanding or take any action that would cause that result, the parties will promptly enter into consultations with a view to amending this Agreement so as to eliminate such less favorable treatment.

The Parties agree that this Amendment constitutes an integral part of the Agreement.

The English language version of this Amendment shall be controlling.

Signed on this 11th day of March, 1994.

For the Ministry of Atomic Energy of the Russian Federation:

Nikolai Yegorov.

For the United States Department of Commerce:

Joseph A. Spetrini,

Acting Assistant Secretary for Import Administration.

ATTACHMENT 1—Continued

| Year | Natural uranium (lbs U ₃ O ₈ e) | SWU |
|------------|---|-----|
| 1999 | 4,040,000 | n/a |
| 2000 | 4,230,000 | n/a |
| 2001 | 4,040,000 | n/a |
| 2002 | 4,890,000 | n/a |
| 2003 | 4,300,000 | n/a |

¹ The quota volume in these years apply to sales. Deliveries pursuant to these contracts may be delivered in subsequent years.

[FR Doc. 94-7849 Filed 3-31-94; 8:45 am]

BILLING CODE 3510-DS-P

Quarterly Update to Annual Listing of Foreign Government Subsidies on Articles of Quota Cheese

AGENCY: International Trade Administration/Import Administration Department of Commerce.

ACTION: Publication of quarterly update to annual listing of foreign government subsidies on articles of quota cheese.

SUMMARY: The Department of Commerce, in consultation with the Secretary of Agriculture, has prepared a quarterly update to its annual list of foreign government subsidies on articles of quota cheese. We are publishing the current listing of those subsidies that we have determined exist.

EFFECTIVE DATE: April 1, 1994.

FOR FURTHER INFORMATION CONTACT: Patricia W. Stroup or Karn Goff, Office of Countervailing Compliance, International Trade Administration, U.S. Department of Commerce, Washington, DC 20230, telephone: (202) 482-2786.

SUPPLEMENTARY INFORMATION: Section 702(a) of the Trade Agreements Act of 1979 ("the TAA") requires the Department of Commerce ("the Department") to determine, in consultation with the Secretary of Agriculture, whether any foreign government is providing a subsidy with respect to any article of quota cheese, as defined in section 701(c)(1) of the TAA, and to publish an annual list and quarterly updates of the type and amount of those subsidies.

The Department has developed, in consultation with the Secretary of Agriculture, information on subsidies (as defined in section 702(h)(2) of the TAA) being provided either directly or indirectly by foreign governments on articles of quota cheese. The appendix to this notice lists the country, the subsidy program or programs, and the gross and net amount of each subsidy on

ATTACHMENT 1

| Year | Natural uranium (lbs U ₃ O ₈ e) | SWU |
|-------------------------|---|-----------|
| 1994 ¹ | 6,613,860 | 2,000,000 |
| 1995 ¹ | 6,613,860 | 2,000,000 |
| 1996 | 1,930,000 | n/a |
| 1997 | 2,710,000 | n/a |
| 1998 | 3,600,000 | n/a |

SUMMARY: The Department of Commerce (the Department) is notifying the public of its revocation of the antidumping duty order on pads for woodwind instrument keys from Italy because it is no longer of any interest to domestic interested parties.

EFFECTIVE DATE: November 4, 1996.

FOR FURTHER INFORMATION CONTACT: Lyn Johnson or Michael Panfeld, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street & Constitution Avenue, N.W., Washington, D.C. 20230, telephone (202) 482-5287.

SUPPLEMENTARY INFORMATION:

Background

The Department may revoke an antidumping duty order if the Secretary concludes that the duty order is no longer of any interest to domestic interested parties. We conclude that there is no interest in an antidumping duty order when no interested party has requested an administrative review for five consecutive review periods and when no domestic interested party objects to revocation (19 CFR § 353.25(d)(4)(iii)).

On September 3, 1996, the Department published in the Federal Register (61 FR 46437) its notice of intent to revoke the antidumping duty order on pads for woodwind instrument keys from Italy (September 21, 1984). Additionally, as required by 19 CFR § 353.25(d)(4)(ii), the Department served written notice of its intent to revoke this antidumping duty order on each domestic interested party on the service list. Domestic interested parties who might object to the revocation were provided the opportunity to submit their comments not later than the last day of the anniversary month.

In this case, we received no requests for review for five consecutive review periods. Furthermore, no domestic interested party, as defined under § 353.2 (k)(3), (k)(4), (k)(5), or (k)(6) of the Department's regulations, has expressed opposition to revocation. Based on these facts, we have concluded that the antidumping duty order on pads for woodwind instrument keys from Italy is no longer of any interest to interested parties. Accordingly, we are revoking this antidumping duty order in accordance with 19 CFR § 353.25(d)(4)(iii).

Scope of the Order

Imports covered by the revocation are shipments of pads for woodwind instrument keys from Italy. This merchandise is currently classifiable under Harmonized Tariff Schedules

(HTS) item number 9209.99.40. The HTS number is provided for convenience and customs purposes. The written description remains dispositive.

This revocation applies to all unliquidated entries of pads for woodwind instrument keys from Italy entered, or withdrawn from warehouse, for consumption on or after September 1, 1996. Entries made during the period September 1, 1995, through August 31, 1996, will be subject to automatic assessment in accordance with 19 CFR § 353.22(e). The Department will instruct the Customs Service to proceed with liquidation of all unliquidated entries of this merchandise entered, or withdrawn from warehouse, for consumption on or after September 1, 1996, without regard to antidumping duties, and to refund any estimated antidumping duties collected with respect to those entries. This notice is in accordance with 19 CFR § 353.25(d).

Dated: October 23, 1996.
Barbara R. Stafford,
Deputy Assistant Secretary for AD/CVD Enforcement.
[FR Doc. 96-28248 Filed 11-1-96; 8:45 am]
BILLING CODE 3510-DS-P

[A-821-802]

Amendments to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation

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

ACTION: Notice of amendments to the agreement suspending the antidumping investigation on uranium from the Russian Federation.

SUMMARY: The Department of Commerce (the Department) and the Ministry of Atomic Energy of the Russian Federation (MINATOM) have signed two amendments to the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation, as amended (the Suspension Agreement). One amendment provides for the sale in the United States of feed associated with imports of low-enriched uranium (LEU) derived from high-enriched uranium (HEU) which makes the Suspension Agreement consistent with the USEC Privatization Act. The second amendment restores previously unused quota for separative work units, and covers Russian uranium which has been enriched in a third country within the terms of the Suspension Agreement, for

a period of two years from the effective date of the amendments.

EFFECTIVE DATE: October 3, 1996.

FOR FURTHER INFORMATION CONTACT: James Doyle, Sally C. Gannon, or Karla Whalen, Office of Antidumping Countervailing Duty Enforcement, Group 3, Office 7, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, DC 20230; telephone: (202) 482-0172, (202) 482-1391, or (202) 482-0408, respectively.

SUPPLEMENTARY INFORMATION:

Background

On October 16, 1992, the Department and the GRF signed the Suspension Agreement on uranium and, on October 30, 1992, the Agreement was published in the Federal Register (57 FR 49220, 49235). On March 11, 1994, the Department and the GRF signed an amendment to the Suspension Agreement on uranium and, on April 1, 1994, this amendment was published in the Federal Register (59 FR 15373). This amendment provided for entry of Russian uranium into the United States based on a concept of matched sales between the United States and Russian producers. Although this amendment has operated to the benefit of all parties concerned, substantial quantities of uranium products not subject to the Suspension Agreement which were produced from Russian ore began to undermine the Suspension Agreement. Thus, pursuant to Section X.B. of the Suspension Agreement, the Department and the GRF entered into consultations. A proposed amendment providing for coverage of Russian ore which has been enriched in a third country was initialled on August 16, 1996. In addition, on August 16, 1996, the Department and the GRF initialled an amendment in order to allow HEU feed¹ to be used in matched sales.² The Department subsequently released the proposed amendments to interested parties for comment. After careful consideration by the Department of the comments submitted and further consultations between the two parties, the Department and the GRF signed the final amendments on October 3, 1996.

¹ HEU feed refers to the natural uranium feed associated with the LEU (derived from HEU), which is imported pursuant to the Agreement Between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons (The HEU Agreement), signed February 18, 1993.

² A third amendment dealing with the re-export provision was initialled on August 16, 1996 as well, but this amendment has not yet been finalized.

The text of these amendments follow in the Annex to this notice.

Dated: October 24, 1996.

Robert S. LaRussa,

Acting Assistant Secretary for Import Administration.

Annex

(Amendment Regarding HEU Feed)

Amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation

Consistent with the requirement of Section 734(1) of the U.S. Tariff Act of 1930, as amended, to prevent the suppression or undercutting of price levels of domestic products in the United States, Section IV of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation, as amended on March 11, 1994, (the Agreement) is amended as set forth below. All other provisions of the Agreement, particularly Section VII, remain in force and apply to this Amendment.

1. Section IV.M.2 is replaced with:

2. Exports pursuant to such sales will not be counted against the export limits established in accordance with this Section IV. Permitting importation and disposition of the HEU, or LEU derived from the HEU, is consistent with the purposes of this Agreement, subject to the following requirements: (1) The HEU or LEU must be disposed of by DOE or the United States Executive Agent(s) consistent with the Agreement between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons; (2) Uranium products deemed to be of Russian origin pursuant to section 3112(b) of P.L. 104-134, the USEC Privatization Act, must be sold only in accordance with section 3112(b) and the relevant provisions of this Agreement, as amended; (3) Contracts for the purchase of the HEU or LEU must be provided to the Department; and (4) Annual summaries of disposition of the HEU and LEU, and uranium products deemed to be of Russian origin pursuant to section 3112(b) of P.L. 104-134, the USEC Privatization Act, must be provided to the Department.

2. Paragraph two of Section IV of the Agreement is amended as follows:

Sentence two, beginning "For purposes of this Section, Russian-origin means," is replaced by:

For purposes of this Section, Russian-origin means natural uranium (*i.e.* U₃O₈

or UF₆) or SWU which is produced in Russia and exported from Russia for the first time after March 11, 1994, or uranium hexafluoride (and U₃O₈ derived therefrom) deemed to be of Russian origin pursuant to section 3112(b) of P.L. 104-134, the USEC Privatization Act.

The Parties agree that this Amendment constitutes an integral part of the Agreement.

The English language version of this Amendment shall be controlling.

Signed on this 27th day of September, 1996.

For the Ministry of Atomic Energy of the Russian Federation:

N. N. Yegorov,

Deputy Minister, Ministry of Atomic Energy of the Russian Federation.

Signed on this 3rd day of October, 1996.

For the United States Department of Commerce:

(Joseph A. Spetrini, for)

Robert S. LaRussa,

Acting Assistant Secretary for Import Administration.

(Amendment Regarding Russian Uranium Enriched in a Third Country Prior to Entry Into the United States and the Separative Work Unit Quota)

Amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation

Consistent with the requirement of Section 734(1) of the U.S. Tariff Act of 1930, as amended (the Act) to prevent the suppression or undercutting of price levels of domestic products in the United States, Sections III, IV, VII, X, and Attachment 1 of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation, as amended on March 11, 1994 (the Agreement), are amended as set forth below. All other provisions of the Agreement, particularly Section VII, remain in force and apply to this Amendment.

1. Section III, "Product Coverage," is amended as follows:

The second paragraph of Section III, beginning "Uranium ore * * *," is replaced by:

Further, uranium ore from Russia that is milled into U₃O₈ and/or converted into UF₆ and/or enriched in U²³⁵ in another country prior to direct and/or indirect importation into the United States is considered uranium from Russia and is subject to the terms of this Agreement. When imported as enriched uranium (excluding highly enriched uranium (HEU) and LEU derived from HEU, imported pursuant to Section IV.M of this Agreement and subject to

the provisions of the USEC Privatization Act, P.L. 104-134), the full amount of the natural uranium equivalent required to produce the enriched product will be counted against the existing quota under this Agreement. For the purposes of calculating this amount of natural uranium, the terms of the last bullet of definition II (a) shall apply unless otherwise reported.

The second sentence in the third paragraph of Section III, beginning "Uranium enriched in U²³⁵ in another country * * *," is deleted.

2. Paragraph D of Section VII, "Anticircumvention," is amended as follows:

D. In addition to the above requirements, the Department shall direct the U.S. Customs Service to require all importers of uranium into the United States, regardless of stated country of origin, to submit at the time of entry written statements certifying the following:

(A) The country(ies) in which the ore was mined and, if applicable, converted, enriched, and/or fabricated (unless for use as a fuel assembly in the United States as fabricated), for all imports; and

(B) That the uranium being imported was not obtained under any arrangement, swap, or other exchange designed to circumvent the export limits for uranium of Russian origin established by this agreement.

Where there is reason to believe that such a certification has been made falsely, the Department will refer the matter to Customs or the Department of Justice for further action.

The Department and MINATOM reaffirm that an export certificate endorsed by the Ministry of Foreign Economic Relations (MFER) is required as a condition of entry into the United States. Under no circumstances will uranium from the Russian Federation be allowed entry into the United States without an authorized export certificate allowing importation into the United States.

3. Paragraph one of Section IV.A of the Agreement, as amended on March 11, 1994, is amended as follows:

- Sentence five, beginning "Because the annual matching SWU quota expires," is deleted, and replaced with "The SWU available for matching under this section which was not matched by March 31, 1996, 1,608,840 SWU, may be sold through matched sales at any time on or before [the date two years after the effective date of this Amendment]. After that date, no further matched SWU sales will be allowed."

- Sentence six, beginning "However," is deleted, and replaced with the following: "However, the matching

SWU sold during 1994 and 1995, as well as on or before [the date two years after the effective date of this Amendment], may be delivered at any time during the life of the relevant matched sales contract."

5. Attachment 1 is amended as follows:

Add footnote 2 to the "2,000,000" volumes in the "SWU" column for the years 1994 and 1995. Footnote 2 shall read:

Beginning on the effective date of this Amendment, the remaining SWU quota from 1994 and 1995, 1,608,840 SWU, may be used for matched sales consistent with Section IV.A of this Agreement.

6. Section X., Consultations, is amended by adding the following:

C. No later than [the date one year after the effective date of this Amendment], the Department and MINATOM shall enter into consultations toward the consideration of a possible successor plan for containing their cooperative efforts on the issues addressed by this amendment.

These modifications to Sections III, IV, VII, X, and Attachment 1 will remain in effect until [the date two years after the effective date of this Amendment].

The Parties agree that this Amendment constitutes an integral part of the Agreement.

The English language version of this Amendment shall be controlling.

Signed on this 27th day of September, 1996.

For the Ministry of Atomic Energy of the Russian Federation:

N.N. Yegorov,

Deputy Minister, Ministry of Atomic Energy of the Russian Federation.

Signed on this 3rd day of October, 1996.

For the United States Department of Commerce:

(Joseph A. Spetrini, for)

Robert S. LaRussa,

Acting Assistant Secretary for Import Administration.

[FR Doc. 96-28246 Filed 11-1-96; 8:45 am]

BILLING CODE 3510-DS-M

National Oceanic and Atmospheric Administration

[I.D. 102896F]

Gulf of Mexico Fishery Management Council; Public Meeting

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of a public meeting.

SUMMARY: The Gulf of Mexico Fishery Management Council (Council) will convene a public meeting of the Socioeconomic Assessment Panel (SEP).

DATES: The meeting will be held beginning at 1:00 p.m. on December 2, 1996, and will conclude at 5:00 p.m. on December 4, 1996.

ADDRESSES: This meeting will be held at the Radisson Bay Harbor Inn, 7700 Courtney Campbell Causeway, Tampa, FL; telephone: 813-281-8900.

Council address: Gulf of Mexico Fishery Management Council, 5401 West Kennedy Boulevard, Suite 331, Tampa, FL 33609.

FOR FURTHER INFORMATION CONTACT:

Antonio B. Lamberte, Economist; telephone: 813-228-2815.

SUPPLEMENTARY INFORMATION: The purpose of the meeting will be to review available social and economic data on the Gulf of Mexico red snapper, vermilion, and amberjack fisheries and to determine the social and economic implications of the levels of acceptable biological catch recommended by the Council's Reef Fish Stock Assessment Panel. The SEP may recommend to the Council total allowable catch levels for the 1996-97 fishing year. The SEP will also review a draft of Amendment 15 to the Reef Fish Fishery Management Plan. This amendment proposes a license limitation program for the commercial red snapper fishery.

A copy of the agenda can be obtained by contacting the Council (see **ADDRESSES**).

Special Accommodations

This meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Anne Alford at the Council (see **ADDRESSES**) by November 22, 1996.

Dated: October 28, 1996.

Bruce Morehead,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 96-28251 Filed 11-1-96; 8:45 am]

BILLING CODE 3510-22-F

[I.D. 100796B]

Endangered Species; Permits

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Issuance of scientific research permit 1018.

SUMMARY: Notice is hereby given that on September 27, 1996, NMFS issued scientific research permit 1018 to Thomas S. Squiers, Jr., of the Maine Department of Marine Resources (P618), to take listed shortnose sturgeon for the purpose of scientific research subject to certain conditions set forth therein.

ADDRESSES: The application, permit, and related documents are available for review by appointment in the following offices:

Office of Protected Resources, F/PR3, NMFS, 1315 East-West Hwy., Room 13307, Silver Spring, MD 20910-3226 (301-713-1401); and

Director, Northeast Region, NMFS, NOAA, One Blackburn Drive, Gloucester, MA 01930-2298 (508-281-9250).

SUPPLEMENTARY INFORMATION: Notice was published on August 16, 1996 (61 FR 42592) that an application had been filed by Thomas S. Squiers, Jr., Maine Department of Marine Resources (P618), to take listed shortnose sturgeon as authorized by the Endangered Species Act of 1973 (ESA) (16 U.S.C. 1531-1543) and NMFS regulations governing listed fish and wildlife permits (50 CFR parts 217-222).

The applicant requested a five-year permit to capture, examine, tag, and take tissue samples of 500 adult listed shortnose sturgeon annually in Maine waters. 50 of these adult shortnose sturgeon may be fitted with a sonic transmitter and a Carlin tag. The applicant has requested authorization to capture and release 25 juvenile shortnose sturgeon, and to lethally take 200 eggs and 50 larvae. The applicant also has requested two incidental mortalities per year. The purpose of the research is to determine migratory movements and to help identify spawning, feeding, and overwintering areas.

Issuance of this permit, as required by the ESA, was based on a finding that such permit: (1) Was applied for in good faith, (2) will not operate to the disadvantage of the listed species that is the subject of this permit, and (3) is consistent with the purposes and policies set forth in section 2 of the ESA.

Dated: October 29, 1996.

Robert C. Ziobro,

Acting Chief, Endangered Species Division, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 96-28198 Filed 11-1-96; 8:45 am]

BILLING CODE 3510-22-F

This notice also serves as the only 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 CFR 353.34(d). Timely written notification of return/destruction of APO materials or conversion to judicial protective order is hereby requested. Failure to comply with the regulations and terms of the APO is a sanctionable violation.

This administrative review and this notice are in accordance with section 751(a)(1) of the Act (19 U.S.C. 1675(a)(1)) and 19 CFR 353.22.

Dated: July 8, 1997.

Robert S. LaRussa,

Acting Assistant Secretary for Import Administration.

[FR Doc. 97-18582 Filed 7-14-97; 8:45 am]

BILLING CODE 3510-DS-P

DEPARTMENT OF COMMERCE

International Trade Administration

[A-821-802]

Amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation

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

EFFECTIVE DATE: May 7, 1997.

ACTION: Notice of Amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation.

FOR FURTHER INFORMATION CONTACT:

James Doyle or Karla Whalen, Office of Antidumping Countervailing Duty Enforcement, Group III, Office 7, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, DC 20230; telephone: (202) 482-0159 or (202) 482-0408, respectively.

SUMMARY: On May 7, 1997, the Department of Commerce (the Department) and the Ministry of Atomic Energy of the Russian Federation (MINATOM) signed an amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation, as amended (the Suspension Agreement). This amendment doubles the amount of Russian-origin uranium which may be imported into the United States for further processing prior to re-exportation. In addition, it lengthens the

period of time uranium may remain in the United States for such processing to up to three years.

SUPPLEMENTARY INFORMATION:

Background

On October 16, 1992, the Department and MINATOM signed the Suspension Agreement on uranium and, on October 30, 1992, the Suspension Agreement was published in the **Federal Register** (57 FR 49220, 49235). On March 11, 1994, the Department and MINATOM signed an amendment to the Suspension Agreement on uranium and, on April 1, 1994, this amendment was published in the **Federal Register** (59 FR 15373). This amendment provided for entry of Russian uranium into the United States based on a concept of matched sales between the United States and Russian producers.

On October 3, 1996, the Department and MINATOM signed two amendments to the Suspension Agreement. One amendment provided for the sale in the United States of feed associated with imports of low-enriched uranium (LEU) derived from high-enriched uranium (HEU) which made the Suspension Agreement consistent with the USEC Privatization Act. The second amendment restored previously unused quota for separative work units (SWU), and covered Russian uranium which had been enriched in a third country within the terms of the Suspension Agreement, for a period of two years from the effective date of the amendment. On November 6, 1996, both amendments were published in the **Federal Register** (61 FR 56665).

On August 16, 1996, the Department and MINATOM initialed a proposed amendment regarding the re-export provision of the Suspension Agreement. The amendment extended the 12 month limitation up to 36 months and increased the amount of Russian Federation uranium which could enter the United States for further processing from 3 million pounds U3O8 to 6 million pounds U3O8. The Department subsequently released the proposed amendment to interested parties for comment. After careful consideration by the Department of the comments submitted and further consultations between the two parties, the Department and MINATOM signed the final amendment in its initialed form in Moscow on May 7, 1997. The text of this amendment follows in the Annex to this notice.

Dated: June 12, 1997.

Robert S. LaRussa,

Acting Assistant Secretary for Import Administration.

Amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation

Consistent with the requirement of Section 734(l) of the U.S. Tariff Act of 1930, as amended, to prevent the suppression or undercutting of price levels of domestic products in the United States, Section IV of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation, as amended on March 11, 1994, (the Agreement) is amended as set forth below. All other provisions of the Agreement, particularly Section VII, remain in force and apply to this Amendment.

1. The following paragraphs replace Section IV.H:

For purposes of permitting processing in the United States of uranium products from the Russian Federation, the Government of the Russian Federation may issue re-export certificates for import into the United States of Russian uranium products only where such imports to the United States are not for sale or ultimate consumption in the United States and where re-exports will take place within 12 months or within 36 months of entry into the United States as indicated by the importer or record at the time of entry.

In no event shall an export certificate be endorsed by the Russian Federation for uranium products previously imported into the United States under such re-export certificate. Such re-export certificates will in no event be issued in amounts greater than one million pounds U3O8 equivalent per re-export certificate.

The importer of record must specify at the time of entry whether it will re-export the entered material under the 12 month limitation or under the 36 month limitation (which requires additional certifications as noted below).

Re-export certificates issued under the 12 month limitation shall not exceed three million pounds U3O8 equivalent at any one time.

Additional re-export certificates may be issued under the 36 month limitation as long as the total amount of uranium products entered pursuant to re-export certificates issued (under both the 12 month and 36 month limitations) does not exceed six million pounds U3O8 equivalent at any one time.

For re-exports entered under the 36 month limitation, the importer of record must provide the Department with the following at the time of entry: 1) certification that it will ensure re-exportation within 36 months of entry into the United States; 2) certification from the end-user that the uranium products will not be sold, loaned, swapped, used as loan repayments, or utilized other than for re-export in accordance with Section IV.H of the suspension agreement; and 3) certification from the U.S. convertor and/or enricher and/or fabricator, as applicable, that the uranium products will not be sold, loaned, swapped, used as loan repayments, or utilized other than for re-export in accordance with Section IV.H of the suspension agreement while held at the respective entity's facility. Liquidation will be suspended for all such entries of uranium products which are covered by the 36 month re-export certificates. Suspension of liquidation will be continued for each such entry until all uranium products covered by the respective entries are re-exported and the Department of Commerce has notified Customs that the relevant entries may be liquidated.

If uranium products from the Russian Federation are: (A) If subject to the 12 month limitation, not re-exported within 12 months; (B) if subject to the 36 month limitation, not re-exported within 36 months, or (C) if subject to the 36 month limitation, sold, loaned, swapped, used as loan repayments, or utilized other than for re-export in accordance with Section IV.H of the Agreement, the Department will refer the matter to Customs or the Department of Justice for further action and the United States will promptly notify the Government of the Russian Federation and the two governments shall enter into consultations. If the uranium products are not re-exported within 3 months of the referral to Customs or the Department of Justice and the problem has not been resolved to the mutual satisfaction of both the United States and the Russian Federation, the volume of the uranium products entered pursuant to the re-export certificate may be counted against the export limit in effect at such time, or, if there is insufficient quota, the first available quota. This volume may be restored to the export limit if the product is subsequently re-exported.

The Parties agree that this Amendment constitutes an integral part of the Agreement.

The English language version of this Amendment shall be controlling.

Signed on this 7th day of May, 1997.

For the Ministry of Atomic Energy of the Russian Federation:

N.N. Yegorov,

Deputy Minister, Ministry of Atomic Energy of the Russian Federation.

For the United States Department of Commerce:

Robert S. LaRussa,

Acting Assistant Secretary for Import Administration.

[FR Doc. 97-18449 Filed 7-14-97; 8:45 am]

BILLING CODE 3510-DS-P

DEPARTMENT OF COMMERCE

International Trade Administration

[C-423-806]

Amended Final Affirmative Countervailing Duty Determinations; Certain Carbon Steel Products From Belgium

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

SUMMARY: The appeal of the court decision in *Geneva Steel et al. v. United States*, 937 F. Supp. 946 (CIT 1996) (*Geneva II*) has been dismissed. *Geneva Steel et al. v. United States*, Appeal No. 97-1123 (Fed. Cir., Feb. 27, 1997). On April 18, 1997, the U.S. Court of International Trade (CIT) vacated that part of its decision in *Geneva II* which pertained to Sidmar, N.V. (Sidmar). Therefore, Commerce is amending its final affirmative determinations in the countervailing duty investigations of certain steel products from Belgium in accordance with *Geneva II*, subject to the order of vacatur.

FOR FURTHER INFORMATION CONTACT: Vincent Kane at (202) 482-2815, Office of Antidumping/Countervailing Duty Enforcement, Import Administration, International Trade Administration, U.S. Department of Commerce, Washington, D.C., 20230, or Duane Layton at (202) 482-5285, Office of the Chief Counsel for Import Administration, U.S. Department of Commerce.

EFFECTIVE DATE: July 15, 1997.

SUPPLEMENTARY INFORMATION:

Background

In *Geneva II*, the CIT affirmed Commerce's redetermination on remand of the final affirmative determinations of certain steel products from Belgium (58 FR 37273, July 9, 1993, as amended by 58 FR 43749, August 17, 1993). In that redetermination, Commerce addressed six issues, which had been

remanded to it by the court in *Geneva Steel et al. v. United States*, 914 F. Supp. 563 (CIT 1996) (*Geneva I*).

The first issue concerned an interest rate reduction on a loan received by Forge de Clabecq (Clabecq). In the final determinations, Commerce calculated a benefit for the favorable interest rate on the loan but failed to take into account an interest rate reduction. In the redetermination, Commerce recalculated the subsidy rate for Clabecq to take into account the interest rate reduction on the loan.

The second issue concerned Commerce's calculation of the benefit realized by Clabecq in converting debt to equity. Commerce's normal practice in calculating the benefit from debt-to-equity conversions is to select a benchmark price for the equity on the date on which the equity is issued. In the final determinations, contrary to its normal practice, Commerce calculated the benefit based on the date of the agreement to convert debt to equity. In the redetermination on remand, Commerce recalculated the benefit based on the date of issuance of the equity.

The third issue concerned Commerce's decision in the final determinations to use the price of Cockerill Sambre's (Cockerill's) and Clabecq's publicly traded common shares as a benchmark in determining whether, and to what extent, the companies benefited from selling *parts beneficiaries* (PBs) to the Government of Belgium (GOB). In the final determinations, Commerce gave no explanation for its selection of the common shares of these companies as the next most similar publicly traded shares to the PBs. In the remand determination, Commerce demonstrated from evidence on the record that the publicly traded shares were the next most similar publicly traded shares.

The fourth issue concerned whether Sidmar's conversion of convertible debentures (OCPCs) to PBs was on terms consistent with commercial considerations. In the final determinations, Commerce did not view Sidmar to be inequityworthy and, therefore, did not consider whether the company's conversion of OCPCs to PBs was on terms inconsistent with commercial considerations. In *Aimcor, Alabama Silicon, Inc. v. United States*, 871 F. Supp. 447, 454 (CIT 1994) and in *Geneva I*, 914 F. Supp. at 582, the CIT held that investment in a company may be on terms inconsistent with commercial considerations, despite the fact that the company is not inequityworthy. Therefore, the court instructed Commerce to determine

DEPARTMENT OF COMMERCE

International Trade Administration

[A-821-802]

**Agreement Suspending the
Antidumping Investigation on Uranium
From the Russian Federation**

AGENCY: Import Administration,
International Trade Administration,
U.S. Department of Commerce

ACTION: Notice.

SUMMARY: The Department of Commerce is hereby notifying interested parties of a change to the administration of matched sales. Effective immediately, the Department will use a calendar year quota accounting rather than the previously used delivery year quota accounting.

EFFECTIVE DATE: July 31, 1998.

FOR FURTHER INFORMATION CONTACT: James Doyle, Karla Whalen or Letitia Kress, AD/CVD Enforcement Group III, Office VII, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, N.W., Washington, DC 20230, telephone: (202) 482-0159, (202) 482-1386 or (202) 482-6412, respectively.

Background

Under the Amendment to the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation (57 FR

15373, April 1, 1994) (the "Matched Sales" Amendment), the Department has been administering the matched uranium sales quota on a quota year basis, April 1 through March 31, as listed in the "Matched Sales" Amendment. On March 6, 1998, the Department received a request from the Nuclear Energy Institute (NEI) on behalf of certain of its members requesting that the Department revise its practice and administer the matched sales quota on a calendar year basis, January 1 through December 31. (See letter from NEI to the Department on March 6, 1998, on public record at the Department of Commerce in room B-099). In this letter, NEI suggests that a calendar year quota system would make tracking operational or contractual flexibilities for both buyers and sellers of uranium more consistent with their other internal tracking systems (*i.e.*, budgeting, requests for quotes, deliveries). NEI states that administration on a calendar year basis would make the matched sales quota system more consistent with industry contracting practices, thereby eliminating a potential barrier to participation in the matched sales program. Further, NEI notes that reconciliation of historical transactions which specified deliveries in 1996 and 1997 does not affect the commercial balance among competing suppliers as marketing opportunities have long passed.

On May 5, 1998, the Department requested comments from interested parties (63 FR 24772). The Department received ten sets of comments from affected companies and reviewed each set of comments. As all comments received were supportive of the change, and as the reallocation would not cause any quota limitations to be exceeded, the Department has determined that it is reasonable to change the administration of the matched sales quota from a quota year basis (*i.e.*, April 1-March 31) to a calendar year basis (*i.e.*, January 1-December 31).

The Department examined two ensuing issues: (1) The effect the change will have on the existing approved contracts and allocations of quota; and (2) the necessity to arrive at a proper accounting for the periods April 1, 1996 through December 31, 1996 and January 1, 2004 through March 31, 2004.

Concerning the first issue, the Department has determined that contracts already approved by the Department in quota years 1996-1997 (4/1/96-3/31/97; 4/1/97-3/31/98) will not be affected by the change to a calendar year basis other than on the Department's accounting system. Thus, these contracts stand as approved and

deliveries may continue as scheduled. Further, although the amount of used quota allocated to these two periods will change under the new system, the overall totals do not (See 63 FR 24772, May 5, 1997).

Concerning the second issue, the "Matched Sales" Amendment details that delivery quotas began on April 1, 1996, and would expire on March 31, 2004. By switching to a calendar year basis, neither the period April 1, 1996, through December 31, 1996 nor the period January 1, 2004 through March 31, 2004, which were covered under the Department's previous quota year methodology, can fall under a calendar year methodology absent modification. To resolve this issue, NEI proposed designating calendar year 1996 as a "short" quota year, starting April 1, 1996 and ending December 31, 1996. As these contracts have already been approved and as the Department has determined the appropriate reconciliation in accounting, (See 63 FR 24772, May 5, 1997), the Department agrees that the designation of a "short year" a suitable resolution. In addition, NEI proposed that calendar year 2003 be designated as a "long" quota year, beginning January 1, 2003 and ending March 31, 2004. The Department agrees that it is reasonable to designate calendar year 2003 as a "long year" without disruption to the administration of matched sales.

Thus, effective immediately, the Department will use a calendar year quota system in administering matched sales. The following chart details the current effective time periods and applicable matched sales quotas.

| Calendar year | Available quota ¹ (in lbs. U308) |
|-------------------------|---|
| 1998 | 3,600,000 |
| 1999 | 4,040,000 |
| 2000 | 4,230,000 |
| 2001 | 4,040,000 |
| 2002 | 4,890,000 |
| 2003 ² | 4,300,000 |

¹ Please note that some quota has already been allocated to previously approved contracts. Please contact the listed Departmental personnel for the exact available quota in each calendar year.

² "Long year" dates (1/1/03-3/31/04)

Dated: July 27, 1998

Joseph A. Spetrini.

Deputy Assistant Secretary for Antidumping Countervailing Duty—Group III.

[FR Doc. 98-20516 Filed 7-30-98; 8:45 am]

BILLING CODE 3510-DS-P

injury. Pursuant to section 751(c)(2) of the Act, interested parties are requested to respond to this notice by submitting the information specified below to the Commission;¹ to be assured of consideration, the deadline for responses is August 22, 2005. Comments on the adequacy of responses may be filed with the Commission by September 13, 2005. For further information concerning the conduct of this review and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A, D, E, and F (19 CFR part 207).

DATES: *Effective Date:* July 1, 2005.

FOR FURTHER INFORMATION CONTACT:

Mary Messer (202) 205-3193, Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on (202) 205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>). The public record for this review may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>.

SUPPLEMENTARY INFORMATION:

Background.—On October 16, 1992, the Department of Commerce suspended an antidumping duty investigation on imports of uranium from Russia (57 FR 49220, October 30, 1992). Following five-year reviews by Commerce and the Commission, effective August 22, 2000, Commerce issued a continuation of the suspended investigation on imports of uranium from Russia (65 FR 50958 and 65 FR 52407 (corrected)). The Commission is now conducting a second review to determine whether termination of the suspended investigation would be likely to lead to continuation or recurrence of material injury to the domestic industry within a reasonably foreseeable time. It will assess the adequacy of interested party

responses to this notice of institution to determine whether to conduct a full review or an expedited review. The Commission's determination in any expedited review will be based on the facts available, which may include information provided in response to this notice.

Definitions.—The following definitions apply to this review:

(1) *Subject Merchandise* is the class or kind of merchandise that is within the scope of the five-year review, as defined by the Department of Commerce.

(2) The *Subject Country* in this review is Russia.

(3) The *Domestic Like Product* is the domestically produced product or products which are like, or in the absence of like, most similar in characteristics and uses with, the Subject Merchandise. In its original preliminary determination concerning the U.S.S.R. and in its first full five-year review determination concerning Russia, the Commission defined the Domestic Like Product as uranium coextensive with Commerce's scope.

(4) The *Domestic Industry* is the U.S. producers as a whole of the Domestic Like Product, or those producers whose collective output of the Domestic Like Product constitutes a major proportion of the total domestic production of the product. In its original preliminary determination concerning the U.S.S.R., the Commission defined the Domestic Industry as domestic producers of the product coextensive with Commerce's scope of the investigation, including the U.S. Department of Energy's uranium enrichment operations. In its full five-year review determination concerning Russia, the Commission defined the Domestic Industry as all domestic producers of uranium, including concentrators, the converter, the enricher, and fabricators.

(5) An *Importer* is any person or firm engaged, either directly or through a parent company or subsidiary, in importing the Subject Merchandise into the United States from a foreign manufacturer or through its selling agent.

Participation in the review 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 review as parties must file an entry of appearance with the Secretary to the Commission, as provided in section 201.11(b)(4) of the Commission's rules, no later than 21 days after publication of this notice in the **Federal Register**. The Secretary will maintain a public service list containing

INTERNATIONAL TRADE COMMISSION

[Investigation No. 731-TA-539-C (Second Review)]

Uranium From Russia

AGENCY: United States International Trade Commission.

ACTION: Institution of a five-year review concerning the suspended investigation on uranium from Russia.

SUMMARY: The Commission hereby gives notice that it has instituted a review pursuant to section 751(c) of the Tariff Act of 1930 (19 U.S.C. 1675(c)) (the Act) to determine whether termination of the suspended investigation on uranium from Russia would be likely to lead to continuation or recurrence of material

¹ No response to this request for information is required if a currently valid Office of Management and Budget (OMB) number is not displayed; the OMB number is 3117-0016/USITC No. 05-5-137, expiration date June 30, 2005. Public reporting burden for the request is estimated to average 10 hours per response. Please send comments regarding the accuracy of this burden estimate to the Office of Investigations, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436.

the names and addresses of all persons, or their representatives, who are parties to the review.

Former Commission employees who are seeking to appear in Commission five-year reviews are reminded that they are required, pursuant to 19 CFR 201.15, to seek Commission approval if the matter in which they are seeking to appear was pending in any manner or form during their Commission employment. The Commission is seeking guidance as to whether a second transition five-year review is the "same particular matter" as the underlying original investigation for purposes of 19 CFR 201.15 and 18 U.S.C. 207, the post employment statute for Federal employees. Former employees may seek informal advice from Commission ethics officials with respect to this and the related issue of whether the employee's participation was "personal and substantial." However, any informal consultation will not relieve former employees of the obligation to seek approval to appear from the Commission under its rule 201.15. For ethics advice, contact Carol McCue Verratti, Deputy Agency Ethics Official, at (202) 205-3088.

Limited disclosure of business proprietary information (BPI) under an administrative protective order (APO) and APO service list.—Pursuant to section 207.7(a) of the Commission's rules, the Secretary will make BPI submitted in this review available to authorized applicants under the APO issued in the review, provided that the application is made no later than 21 days after publication of this notice in the **Federal Register**. Authorized applicants must represent interested parties, as defined in 19 U.S.C. 1677(9), who are parties to the review. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

Certification.—Pursuant to section 207.3 of the Commission's rules, any person submitting information to the Commission in connection with this review must certify that the information is accurate and complete to the best of the submitter's knowledge. In making the certification, the submitter will be deemed to consent, unless otherwise specified, for the Commission, its employees, and contract personnel to use the information provided in any other reviews or investigations of the same or comparable products which the Commission conducts under Title VII of the Act, or in internal audits and investigations relating to the programs and operations of the Commission pursuant to 5 U.S.C. Appendix 3.

Written submissions.—Pursuant to section 207.61 of the Commission's rules, each interested party response to this notice must provide the information specified below. The deadline for filing such responses is August 22, 2005. Pursuant to section 207.62(b) of the Commission's rules, eligible parties (as specified in Commission rule 207.62(b)(1)) may also file comments concerning the adequacy of responses to the notice of institution and whether the Commission should conduct an expedited or full review. The deadline for filing such comments is September 13, 2005. All written submissions must conform with the provisions of sections 201.8 and 207.3 of the Commission's rules and any submissions that contain BPI must also conform with the requirements of sections 201.6 and 207.7 of the Commission's rules. The Commission's rules do not authorize filing of submissions with the Secretary by facsimile or electronic means, except to the extent permitted by section 201.8 of the Commission's rules, as amended, 67 FR 68036 (November 8, 2002). Also, in accordance with sections 201.16(c) and 207.3 of the Commission's rules, each document filed by a party to the review must be served on all other parties to the review (as identified by either the public or APO service list as appropriate), and a certificate of service must accompany the document (if you are not a party to the review you do not need to serve your response).

Inability to provide requested information.—Pursuant to section 207.61(c) of the Commission's rules, any interested party that cannot furnish the information requested by this notice in the requested form and manner shall notify the Commission at the earliest possible time, provide a full explanation of why it cannot provide the requested information, and indicate alternative forms in which it can provide equivalent information. If an interested party does not provide this notification (or the Commission finds the explanation provided in the notification inadequate) and fails to provide a complete response to this notice, the Commission may take an adverse inference against the party pursuant to section 776(b) of the Act in making its determination in the review.

Information to be provided in response to this notice of institution: As used below, the term "firm" includes any related firms.

(1) The name and address of your firm or entity (including World Wide Web address if available) and name, telephone number, fax number, and e-mail address of the certifying official.

(2) A statement indicating whether your firm/entity is a U.S. producer of the Domestic Like Product, a U.S. union or worker group, a U.S. importer of the Subject Merchandise, a foreign producer or exporter of the Subject Merchandise, a U.S. or foreign trade or business association, or another interested party (including an explanation). If you are a union/worker group or trade/business association, identify the firms in which your workers are employed or which are members of your association.

(3) A statement indicating whether your firm/entity is willing to participate in this review by providing information requested by the Commission.

(4) A statement of the likely effects of the termination of the suspended investigation on the Domestic Industry in general and/or your firm/entity specifically. In your response, please discuss the various factors specified in section 752(a) of the Act (19 U.S.C. 1675a(a)) including the likely volume of subject imports, likely price effects of subject imports, and likely impact of imports of Subject Merchandise on the Domestic Industry.

(5) A list of all known and currently operating U.S. producers of the Domestic Like Product. Identify any known related parties and the nature of the relationship as defined in section 771(4)(B) of the Act (19 U.S.C. 1677(4)(B)).

(6) A list of all known and currently operating U.S. importers of the Subject Merchandise and producers of the Subject Merchandise in the Subject Country that currently export or have exported Subject Merchandise to the United States or other countries after 1999.

(7) If you are a U.S. producer of the Domestic Like Product, provide the following information on your firm's operations on that product during calendar year 2004 (report quantity data in pounds and value data in U.S. dollars, f.o.b. plant). If you are a union/worker group or trade/business association, provide the information, on an aggregate basis, for the firms in which your workers are employed/which are members of your association.

(a) Production (quantity) and, if known, an estimate of the percentage of total U.S. production of the Domestic Like Product accounted for by your firm's(s') production;

(b) the quantity and value of U.S. commercial shipments of the Domestic Like Product produced in your U.S. plant(s); and

(c) the quantity and value of U.S. internal consumption/company transfers of the Domestic Like Product produced in your U.S. plant(s).

(8) If you are a U.S. importer or a trade/business association of U.S. importers of the Subject Merchandise from the Subject Country, provide the following information on your firm's(s') operations on that product during calendar year 2004 (report quantity data in pounds and value data in U.S. dollars). If you are a trade/business association, provide the information, on an aggregate basis, for the firms which are members of your association.

(a) The quantity and value (landed, duty-paid but not including antidumping duties) of U.S. imports and, if known, an estimate of the percentage of total U.S. imports of Subject Merchandise from the Subject Country accounted for by your firm's(s') imports;

(b) the quantity and value (f.o.b. U.S. port, including antidumping duties) of U.S. commercial shipments of Subject Merchandise imported from the Subject Country; and

(c) the quantity and value (f.o.b. U.S. port, including antidumping duties) of U.S. internal consumption/company transfers of Subject Merchandise imported from the Subject Country.

(9) If you are a producer, an exporter, or a trade/business association of producers or exporters of the Subject Merchandise in the Subject Country, provide the following information on your firm's(s') operations on that product during calendar year 2004 (report quantity data in pounds and value data in U.S. dollars, landed and duty-paid at the U.S. port but not including antidumping duties). If you are a trade/business association, provide the information, on an aggregate basis, for the firms which are members of your association.

(a) Production (quantity) and, if known, an estimate of the percentage of total production of Subject Merchandise in the Subject Country accounted for by your firm's(s') production; and

(b) the quantity and value of your firm's(s') exports to the United States of Subject Merchandise and, if known, an estimate of the percentage of total exports to the United States of Subject Merchandise from the Subject Country accounted for by your firm's(s') exports.

(10) Identify significant changes, if any, in the supply and demand conditions or business cycle for the Domestic Like Product that have occurred in the United States or in the market for the Subject Merchandise in the Subject Country after 1999, and significant changes, if any, that are likely to occur within a reasonably foreseeable time. Supply conditions to consider include technology; production methods; development

efforts; ability to increase production (including the shift of production facilities used for other products and the use, cost, or availability of major inputs into production); and factors related to the ability to shift supply among different national markets (including barriers to importation in foreign markets or changes in market demand abroad). Demand conditions to consider include end uses and applications; the existence and availability of substitute products; and the level of competition among the Domestic Like Product produced in the United States, Subject Merchandise produced in the Subject Country, and such merchandise from other countries.

(11) (OPTIONAL) A statement of whether you agree with the above definitions of the Domestic Like Product and Domestic Industry; if you disagree with either or both of these definitions, please explain why and provide alternative definitions.

Authority: This review is being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.61 of the Commission's rules.

Issued: June 22, 2005.

By order of the Commission.

Marilyn R. Abbott,

Secretary to the Commission.

[FR Doc. 05-13159 Filed 6-30-05; 8:45 am]

BILLING CODE 7020-02-P

**INTERNATIONAL TRADE
COMMISSION****[Investigation No. 731-TA-539-C (Second
Review)]****Uranium From Russia****AGENCY:** International Trade
Commission.**ACTION:** Notice of Commission
determination to conduct a full five-year
review concerning the suspended
investigation on uranium from Russia.**SUMMARY:** The Commission hereby gives
notice that it will proceed with a full
review pursuant to section 751(c)(5) of
the Tariff Act of 1930 (19 U.S.C.
1675(c)(5)) to determine whether
termination of the suspended
investigation on uranium from Russia
would be likely to lead to continuation
or recurrence of material injury within
a reasonably foreseeable time. A
schedule for the review will be
established and announced at a later
date. For further information concerning
the conduct of this review and rules of
general application, consult the
Commission's Rules of Practice and
Procedure, part 201, subparts A through
E (19 CFR part 201), and part 207,
subparts A, D, E, and F (19 CFR part
207).**EFFECTIVE DATES:** October 4, 2005.**FOR FURTHER INFORMATION CONTACT:**
Elizabeth Haines (202-205-3200), Office
of Investigations, U.S. International
Trade Commission, 500 E Street SW.,
Washington, DC 20436. Hearing-
impaired persons can obtain
information on this matter by contacting
the Commission's TDD terminal on 202-
205-1810. Persons with mobility
impairments who will need special
assistance in gaining access to the
Commission should contact the Office
of the Secretary at 202-205-2000.
General information concerning the
Commission may also be obtained by
accessing its internet server ([http://
www.usitc.gov](http://www.usitc.gov)). The public record for
this review may be viewed on the
Commission's electronic docket (EDIS)
at <http://edis.usitc.gov>.**SUPPLEMENTARY INFORMATION:** On
October 4, 2005, the Commission
determined that it should proceed to a
full review in the subject five-year
review pursuant to section 751(c)(5) of

the Act.¹ The Commission found that
the domestic interested party group
response to its notice of institution (70
FR 38212, July 1, 2005) was adequate
and the respondent interested party
group response was inadequate. The
Commission also found that other
circumstances warranted conducting a
full review. A record of the
Commissioners' votes, the
Commission's statement on adequacy,
and any individual Commissioner's
statements will be available from the
Office of the Secretary and at the
Commission's Web site.

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

Issued: October 11, 2005.

By order of the Commission.

Marilyn R. Abbott,*Secretary to the Commission.*

[FR Doc. 05-20671 Filed 10-14-05; 8:45 am]

BILLING CODE 4410-11-P

INTERNATIONAL TRADE COMMISSION

[Investigation No. 731-TA-539-C (Second Review)]

Uranium From Russia

AGENCY: International Trade Commission.

ACTION: Scheduling of a full five-year review concerning the suspended antidumping investigation on Uranium from Russia.

SUMMARY: The Commission hereby gives notice of the scheduling of a full review pursuant to section 751(c)(5) of the Tariff Act of 1930 (19 U.S.C. 1675(c)(5)) (the Act) to determine whether termination of the suspended antidumping investigation on Uranium from Russia would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time. The Commission has determined to exercise its authority to extend the review period by up to 90 days pursuant to 19 U.S.C. 1675(c)(5)(B). For further information concerning the conduct of this review and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A, D, E, and F (19 CFR part 207).

EFFECTIVE DATE: January 11, 2006.

FOR FURTHER INFORMATION CONTACT: Cynthia Trainor (202-205-3354), Office of Investigations, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000. General information concerning the Commission may also be obtained by accessing its internet server (<http://www.usitc.gov>). The public record for this review may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>.

SUPPLEMENTARY INFORMATION:

Background.—On October 4, 2005, the Commission determined that circumstances were such that a full review pursuant to section 751(c)(5) of the Act should proceed (70 FR 60368, October 17, 2005). A record of the Commissioners' votes, the Commission's statement on adequacy, and any individual Commissioner's statements are available from the Office of the Secretary and at the Commission's Web site.

Participation in the review 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 this review as parties must file an entry of appearance with the Secretary to the Commission, as provided in section 201.11 of the Commission's rules, by 45 days after publication of this notice. A party that filed a notice of appearance following publication of the Commission's notice of institution of the review need not file an additional notice of appearance. The Secretary will maintain a public service list containing the names and addresses of all persons, or their representatives, who are parties to the review.

Limited disclosure of business proprietary information (BPI) under an administrative protective order (APO) and BPI service list.—Pursuant to section 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in this review available to authorized applicants under the APO issued in the review, provided that the application is made by 45 days after publication of this notice. Authorized applicants must represent interested parties, as defined by 19 U.S.C. 1677(9), who are parties to the review. A party granted access to BPI following publication of the Commission's notice of institution of the review 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 review will be placed in the nonpublic record on May 3, 2006, and a public version will be issued thereafter, pursuant to section 207.64 of the Commission's rules.

Hearing.—The Commission will hold a hearing in connection with the review beginning at 9:30 a.m. on May 23, 2006, at the U.S. International Trade Commission Building. Requests to appear at the hearing should be filed in writing with the Secretary to the Commission on or before May 12, 2006. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the hearing. All parties and nonparties desiring to appear at the hearing and make oral presentations should attend a prehearing conference to be held at 9:30 a.m. on May 17, 2006, at the U.S. International Trade Commission Building. Oral testimony and written materials to be submitted at the public hearing are governed by sections 201.6(b)(2), 201.13(f), 207.24, and 207.66 of the Commission's rules.

Parties must submit any request to present a portion of their hearing testimony *in camera* no later than 7 business days prior to the date of the hearing.

Written submissions.—Each party to the review may submit a prehearing brief to the Commission. Prehearing briefs must conform with the provisions of section 207.65 of the Commission's rules; the deadline for filing is May 12, 2006. Parties may also file written testimony in connection with their presentation at the hearing, as provided in section 207.24 of the Commission's rules, and posthearing briefs, which must conform with the provisions of section 207.67 of the Commission's rules. The deadline for filing posthearing briefs is June 2, 2006; witness testimony must be filed no later than three days before the hearing. In addition, any person who has not entered an appearance as a party to the review may submit a written statement of information pertinent to the subject of the review on or before June 2, 2006. On July 7, 2006, the Commission will make available to parties all information on which they have not had an opportunity to comment. Parties may submit final comments on this information on or before July 11, 2006, but such final comments must not contain new factual information and must otherwise comply with section 207.68 of the Commission's rules. All written submissions must conform with the provisions of section 201.8 of the Commission's rules; any submissions that contain BPI must also conform with the requirements of sections 201.6, 207.3, and 207.7 of the Commission's rules. The Commission's rules do not authorize filing of submissions with the Secretary by facsimile or electronic means, except to the extent permitted by section 201.8 of the Commission's rules, as amended, 67 FR 68036 (November 8, 2002). Even where electronic filing of a document is permitted, certain documents must also be filed in paper form, as specified in II (C) of the Commission's Handbook on Electronic Filing Procedures, 67 FR 68168, 68173 (November 8, 2002).

Additional written submissions to the Commission, including requests pursuant to section 201.12 of the Commission's rules, shall not be accepted unless good cause is shown for accepting such submissions, or unless the submission is pursuant to a specific request by a Commissioner or Commission staff.

In accordance with sections 201.16(c) and 207.3 of the Commission's rules, each document filed by a party to the review must be served on all other parties to the review (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 review is being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.62 of the Commission's rules.

Issued: January 17, 2006.

By order of the Commission.

Marilyn R. Abbott,

Secretary to the Commission.

[FR Doc. E6-641 Filed 1-19-06; 8:45 am]

BILLING CODE 7020-02-P

DEPARTMENT OF COMMERCE**International Trade Administration**

[A-821-802]

Preliminary Results of Sunset Review of Suspended Antidumping Duty Investigation on Uranium From the Russian Federation

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

SUMMARY: On July 1, 2005, the Department of Commerce ("the Department") initiated the second sunset review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation ("*Suspension Agreement*") pursuant to section 751(c) of the Tariff Act of 1930, as amended ("the Act"). See *Notice of Initiation of Five-year ("Sunset") Reviews*, 70 FR 38101 (July 1, 2005) ("*Sunset Initiation*"). On January 17, 2006, the Department determined that it would conduct a full sunset review of the *Suspension Agreement*. As a result of this review, the Department preliminarily finds that revocation of the antidumping duty suspension agreement would likely lead to continuation or recurrence of dumping at the levels indicated in the Preliminary Results of Review section of this notice.

EFFECTIVE DATE: April 3, 2006.

FOR FURTHER INFORMATION CONTACT: Sally Gannon or Aishe Allen, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW, Washington, D.C. 20230; telephone: (202) 482-0162, or 482-0172, respectively.

SUPPLEMENTARY INFORMATION:**History of the Suspension Agreement**

On December 5, 1991, the Department published in the **Federal Register** a notice of initiation of the antidumping duty investigation on uranium from the Union of Soviet Socialist Republics ("USSR") (56 FR 63711). On December 10, 1992, the Department received a letter of appearance on behalf of Techsnabexport Ltd. ("TENEX"), NUEXCO Trading Corporation ("NUEXCO") and Global Nuclear Services and Supply Ltd. ("GNSS"). On December 23, 1991, the U.S. International Trade Commission ("ITC") issued an affirmative preliminary injury determination.

On December 25, 1991, the USSR dissolved and the United States subsequently recognized the twelve

newly independent states ("NIS") which emerged: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, the Russian Federation (Russia), Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. The Department continued the investigations against each of these twelve countries. On June 3, 1992, the Department issued an affirmative preliminary determination that uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan was being sold at less-than-fair-value by a weighted-average dumping margin of 115.82 percent, and a negative determination regarding the sale of uranium from Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Turkmenistan (57 FR 23380).

On October 30, 1992, the Department suspended the antidumping duty investigations involving uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan on the bases of agreements by the countries' respective governments to restrict the volume of direct or indirect exports to the United States in order to prevent the suppression or undercutting of price levels of United States domestic uranium. See *Antidumping: Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan; Suspension of Investigations and Amendment of Preliminary Determinations*, 57 FR 49220 (October 30, 1992). The Department also amended its preliminary determination to include highly-enriched uranium ("HEU") in the scope of the investigations (57 FR 49220, 49235).

The first amendment to the *Suspension Agreement*, effective on March 11, 1994, authorized matched sales in the United States of Russian-origin and U.S.-origin natural uranium and separate work units ("SWU"). See *Amendment to Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation*, 59 FR 15373 (April 1, 1994). The amendment also extended the duration of the *Suspension Agreement* to March 31, 2004. See *Id.*

The *Suspension Agreement* was amended a second time, effective on October 3, 1996. The Department and the Government of Russia agreed to: (1) permit the sale in the United States of Russian low-enriched uranium ("LEU") derived from HEU, making the suspension agreement consistent with the USEC Privatization Act; (2) restore previously unused quotas for SWU, and (3) include within the scope of the *Suspension Agreement*, Russian uranium which has been enriched in a third country. See *Amendments to the*

Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation, 61 FR 56665 (November 4, 1996). According to the amendment, these modifications would remain in effect until the date two years after the effective date of this amendment. See *Id.* 61 FR at 56667.

A third amendment to the *Suspension Agreement*, effective on May 7, 1997, doubled the amount of Russian-origin uranium that may be imported into the United States for further processing prior to re-exportation, and lengthened the period of time uranium may remain in the United States for such processing to up to three years. See *Amendment to Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation*, 62 FR 37879 (July 15, 1997).

On July 31, 1998, the Department notified interested parties of a change in the administration of matched sales in that the Department would, effective immediately, use a calendar year quota accounting rather than the previously-used delivery year quota accounting. See *Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation*, 63 FR 40879 (July 31, 1998).

On August 2, 1999, the Department published a notice of initiation of the first five-year sunset review of the *Suspension Agreement*. See *Notice of Initiation of Five-year ("Sunset") Reviews*, 64 FR 41915 (August 2, 1999). On July 5, 2000, the Department published its notice of the final results of the full sunset review, finding that revocation of the antidumping duty suspension agreement would likely lead to continuation or recurrence of dumping at a percentage weighted-average margin of 115.82 percent for all Russian manufacturers/exporters. See *Notice of Final Results of Full Sunset Review: Uranium from Russia*, 65 FR 41439 (July 5, 2000). On August 22, 2000, the Department published a notice of continuation of the suspended antidumping duty investigation on uranium from Russia pursuant to the Department's affirmative determination and the ITC's affirmative determination that termination of the *Suspension Agreement* would be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time. See *Notice of Continuation of Suspended Antidumping Duty Investigation: Uranium from Russia*, 65 FR 50958 (August 22, 2000).

There have been no completed administrative reviews of the *Suspension Agreement*. The *Suspension Agreement* remains in effect for all

manufacturers, producers, and exporters of uranium from Russia.

Scope of the Review

According to the June 3, 1992, preliminary determination, the suspended investigation of uranium from Russia encompassed one class or kind of merchandise.¹ The merchandise included natural uranium in the form of uranium ores and concentrates; natural uranium metal and natural uranium compounds; alloys, dispersions (including cermets), ceramic products, and mixtures containing natural uranium or natural uranium compound; uranium enriched in U235 and its compounds; alloys dispersions (including cermets), ceramic products and mixtures containing uranium enriched in U235 or compounds or uranium enriched in U235; and any other forms of uranium within the same class or kind. The uranium subject to this investigation was provided for under subheadings 2612.10.00.00, 2844.10.10.00, 2844.10.20.10, 2844.10.20.25, 2844.10.20.50, 2844.10.20.55, 2844.10.50, 2844.20.00.10, 2844.20.00.20, 2844.20.00.30, and 2844.20.00.50 of the Harmonized Tariff Schedule of the United States ("HTSUS").² In addition, the Department preliminarily determined that HEU (uranium enriched to 20 percent or greater in the isotope uranium-235) is not within the scope of the investigation. On October 30, 1992, the Department issued a suspension of the antidumping duty investigation of uranium from Russia and an amendment of the preliminary determination.³ The notice amended the scope of the investigation to include HEU.⁴ Imports of uranium ores and

concentrates, natural uranium compounds, and all other forms of enriched uranium were classifiable under HTSUS subheadings 2612.10.00, 2844.10.20, 2844.20.00, respectively. Imports of natural uranium metal and forms of natural uranium other than compounds were classifiable under HTSUS subheadings 2844.10.10 and 2844.10.50.⁵

In addition, Section III of the *Suspension Agreement* provides that uranium ore from Russia that is milled into U3O8 and/or converted into UF6 in another country prior to direct and/or indirect importation into the United States is considered uranium from Russia and is subject to the terms of the Suspension Agreement, regardless of any subsequent modification or blending. In addition, Section M.1 of the *Suspension Agreement* in no way prevents Russia from selling directly or indirectly any or all of the HEU in existence at the time of the signing of the agreement and/or LEU produced in Russia from HEU to the Department of Energy ("DOE"), its governmental successor, its contractors, or U.S. private parties acting in association with DOE or the USEC and in a manner not inconsistent with the Suspension Agreement between the United States and Russia concerning the disposition of HEU resulting from the dismantlement of nuclear weapons in Russia.

There were three amendments to the *Suspension Agreement* on Russian uranium. In particular, the second amendment to the *Suspension Agreement*, on November 4, 1996, permitted, among other things, the sale in the United States of Russian LEU derived from HEU and included within the scope of the *Suspension Agreement* Russian uranium which has been enriched in a third country prior to importation into the United States.⁷ According to the amendment, these modifications remained in effect until October 3, 1998.⁸

On August 6, 1999, USEC, Inc. and its subsidiary, United States Enrichment Corporation (collectively, "USEC") requested that the Department issue a scope ruling to clarify that enriched uranium located in Kazakhstan at the time of the dissolution of the Soviet Union is within the scope of the Russian suspension agreement. Respondent interested parties filed an opposition to

the scope request on August 27, 1999. That scope request is pending before the Department at this time.

Statute and Regulations

This review is being conducted pursuant to sections 751(c) and 752 of the Act. The Department's procedures for the conduct of sunset reviews are set forth in *Procedures for Conducting Five-year ("Sunset") Reviews of Antidumping and Countervailing Duty Orders*, 63 FR 13516 (March 20, 1998) ("Sunset Regulations") and in CFR Part 351 (1999) in general.

Background

On July 1, 2005, the Department initiated the second sunset review of the *Suspension Agreement* pursuant to section 751(c) of the Tariff Act of 1930. See *Sunset Initiation*. We invited parties to comment. On July 18, 2005, we received Notices of Intent to Participate on behalf of Power Resources, Inc. ("PRI") and Crow Butte Resources, Inc. ("Crow Butte"), U.S. producers of natural uranium; USEC, a U.S. producer of uranium products covered by the scope of the suspended investigation and the only U.S. enricher; and the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied-Industrial and Service Workers International Union, AFL-CIO, CLC ("USW"), a domestic interested party.⁹

On July 26, 2005, the Department extended the deadline for all interested parties to submit substantive responses from July 31, 2005 to August 30, 2005 and the deadline for rebuttal comments to September 6, 2005. See *Memorandum from Sally C. Gannon to Interested Parties dated July 26, 2005*.

On August 30, 2005, the Department received complete substantive responses to the *Sunset Initiation* from USEC, a U.S. producer primarily of enriched uranium hexafluoride (*i.e.*, LEU), and PRI and Crow Butte, U.S. producers of natural uranium. On August 30, 2005, the Department also received a complete substantive response to the *Sunset Initiation* from the Ad Hoc Utilities Group ("AHUG"), which is comprised of owners and operators of nuclear power plants that procure Russian

⁹ USW notes that it is the successor-in-interest to the Paper, Allied-Industrial, Chemical & Energy Workers International Union, AFL-CIO, CLC (PACE), following a merger of the two unions on April 12, 2005. Furthermore, USW notes that PACE was the successor-in-interest to the Oil, Chemical and Atomic Workers International Union (OCAW), the original co-petitioner in the antidumping duty investigation, following a merger with the Paperworkers International Union in January 1999.

¹ The Department based its analysis of the comments on class or kind submitted during the proceeding and determined that the product under investigation constitutes a single class or kind of merchandise. The Department based its analysis on the "Diversified" criteria (see *Diversified Products Corp. v. United States*, 6 CIT 1555 (1983)); see also *Preliminary Determination of Sales at Less Than Fair Value: Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine and Uzbekistan*, 57 FR 23380, 23382 (June 3, 1992).

² See *Preliminary Determination of Sales at Less Than Fair Value: Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine and Uzbekistan*; and *Preliminary Determination of Sales at Not Less Than Fair Value: Uranium from Armenia, Azerbaijan, Byelorussia, Georgia, Moldova and Turkmenistan*, 57 FR 23380, 23381 (June 3, 1992).

³ See *Antidumping: Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan; Suspension of Investigations and Amendment of Preliminary Determinations*, 57 FR 49220 (October 30, 1992).

⁴ See *Id.* at 49235.

⁵ See *Id.*

⁶ See *Id.* at 49235.

⁷ See *Amendments to the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation*, 61 FR 56665 (November 4, 1996).

⁸ See *Id.* at 56667.

uranium feed and contract for uranium enrichment services (*i.e.*, SWU).¹⁰

The Department did not receive a substantive response to the Sunset Initiation from the Ministry of the Russian Federation for Atomic Energy (“MINATOM”), the original Russian government signatory to the *Suspension Agreement*, its successor agency, the Russian Federal Atomic Energy Agency (“Rosatom”), or any Russian exporter of subject merchandise. On September 9, 2005, USEC and AHUG submitted rebuttal comments regarding the August 30, 2005 substantive responses.

On November 10, 2005, the Department determined that the sunset review of the *Suspension Agreement* was extraordinarily complicated and required additional time for the Department to complete its analysis. Therefore, the Department extended the deadlines in this proceeding, stating that it intended to issue either the preliminary results of the full sunset review on January 17, 2006, and the final results on May 30, 2006, or the final results of the expedited review on January 27, 2006. *See Extension of Time Limit for Sunset Review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation*, 70 FR 68397 (November 10, 2005) (*Review Extension*).

On January 13, 2006, AHUG submitted a letter to the Department with respect to recent court actions which occurred in the case of *Eurodif v. United States* (U.S. Court of Appeals for the Federal Circuit (“CAFC”) Case Nos. 01–1209, -1210). In its letter, AHUG states that the Department should remove SWU transactions from the scope of this Russian sunset review and the underlying restrictions imposed on uranium from Russia to be consistent with the CAFC’s legal holdings in *Eurodif v. United States* and the direction of the U.S. Court of International Trade (CIT) on remand to the Department.

On January 17, 2006, the Department determined that it would conduct a full sunset review in this case. *See Memorandum from Sally C. Gannon to*

Ronald K. Lorentzen entitled “Sunset Review of Uranium from the Russian Federation: Adequacy of Domestic and Respondent Interested Party Responses to the Notice of Initiation and Decision to Conduct Full Sunset Review” (January 17, 2006). The Department also determined on January 17, 2006, that it needed an additional 30 days to complete the preliminary results of this full sunset review. *See Extension of Time Limit for Sunset Review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation*, 71 FR 3824 (January 24, 2006). On January 26, 2006, the Department notified the ITC of its decision to conduct a full review. *See Letter from Sally C. Gannon to Robert Carpenter* (January 26, 2006). On February 24, 2006, the Department extended the deadline for the preliminary results of this sunset review by an additional 35 days, until no later than March 24, 2006. *See Extension of Time Limit for Sunset Review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation*, 71 FR 9522 (February 24, 2006).

Analysis of Comments Received

All issues raised by parties to this sunset review are addressed in the *Issues and Decision Memorandum for the Sunset Review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation; Preliminary Results (“Decision Memorandum”)* from Joseph A. Spetrini, Deputy Assistant Secretary for Policy and Negotiations, Import Administration, to David Spooner, Assistant Secretary, Import Administration, dated March 24, 2006, which is adopted by this notice. The issues discussed in the *Decision Memorandum* include the likelihood of continuation or recurrence of dumping and the magnitude of the margin likely to prevail were the suspended antidumping duty investigation to be terminated. Parties may find a complete discussion of all issues raised in this review and the corresponding recommendations in this public memorandum which is on file in the Central Records Unit, room B–099, of the main Department of Commerce building. In addition, a complete version of the *Decision Memorandum* can be accessed directly on the Web at <http://ia.ita.doc.gov/frn>, under the heading “April 2006.” The paper copy and electronic version of the *Decision Memorandum* are identical in content.

Preliminary Results of Review

We preliminarily determine that termination of the suspended antidumping duty investigation on uranium from Russia would likely lead to a continuation or recurrence of dumping at the following percentage weighted–average margin:

| Exporter/manufacturer | Weighted–average margin (percent) |
|-----------------------|-----------------------------------|
| Russia–Wide | 115.82 |

Any interested party may request a hearing within 30 days of publication of this notice in accordance with section 351.310(c) of the Department’s regulations. Interested parties may submit case briefs no later than April 17, 2006, in accordance with section 351.309(c)(1)(i) of the Department’s regulations. Rebuttal briefs, which must be limited to issues raised in the case briefs, may be filed not later than April 24, 2006. Any hearing, if requested, will be held on April 26, 2006, in accordance with section 351.310(d) of the Department’s regulations. The Department will issue a notice of final results of this sunset review, which will include the results of its analysis of issues raised in any such comments, no later than May 30, 2006.

This sunset review and notice are in accordance with sections 751(c), 752, and 777(i)(1) of the Act.

Dated: March 24, 2006.

David M. Spooner,

Assistant Secretary for Import Administration.

[FR Doc. E6–4738 Filed 3–31–06; 8:45 am]

BILLING CODE 3510–DS–S

¹⁰ The following companies are members of AHUG: Ameren UE, Arizona Public Service, Constellation Energy Group, Inc., Dominion Energy Kewaunee, Inc., Dominion Nuclear Connecticut, Inc., Duke Energy Corp., Entergy Services, Inc., Exelon Corp., Florida Power & Light Co., FPL Energy Seabrook, LLC, Nebraska Public Power District, Nuclear Management Company, Pacific Gas & Electric Company, PPL Susquehanna, LLC, Progress Energy Carolinas, Inc., Progress Energy Florida, Inc., Southern California Edison Co., Southern Nuclear Operating Co., and TXU Generation Company LP, Virginia Electric & Power Co.

**INTERNATIONAL TRADE
COMMISSION**

[Investigation No. 731-TA-539-C (Second Review)]

Uranium From Russia

AGENCY: United States International Trade Commission.

ACTION: Revised schedule for the subject five-year review investigation.

DATES: *Effective Date:* April 3, 2006.

FOR FURTHER INFORMATION CONTACT: Cynthia Trainor (202-205-3354), 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 five-year review investigation may be viewed on the Commission's electronic docket (EDIS) at <http://edis.usitc.gov>.

SUPPLEMENTARY INFORMATION: On January 11, 2006, the Commission established a schedule for the conduct of the subject five-year review investigation (71 FR 3326, January 20, 2006). The Commission hereby gives notice that it is revising its schedule for the subject review investigation.

The Commission's schedule for the five-year review investigation is revised as follows: The hearing will be held at the U.S. International Trade Commission Building at 9:30 a.m. on May 25, 2006; and the deadline for filing posthearing briefs is June 5, 2006. All other dates cited in the Commission's original scheduling notice cited above remain unchanged.

For further information concerning this five-year review 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 five-year review 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: April 3, 2006.

Marilyn R. Abbott,

Secretary to the Commission.

[FR Doc. E6-5100 Filed 4-6-06; 8:45 am]

BILLING CODE 7020-02-P

DEPARTMENT OF COMMERCE

International Trade Administration

[A-821-802]

**Final Results of Five-Year Sunset
Review of Suspended Antidumping
Duty Investigation on Uranium From
the Russian Federation**

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

SUMMARY: On July 1, 2005, the
Department of Commerce (“the
Department”) initiated the second

sunset review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation ("Suspension Agreement") pursuant to section 751(c) of the Tariff Act of 1930, as amended ("the Act"). See *Notice of Initiation of Five-Year ("Sunset") Reviews*, 70 FR 38101 (July 1, 2005) ("*Sunset Initiation*"). On January 17, 2006, the Department determined that it would conduct a full sunset review of the Suspension Agreement. As a result of this review, the Department finds that revocation of the Suspension Agreement on uranium from the Russian Federation ("Russia") would likely lead to continuation or recurrence of dumping at the levels indicated in the Final Results of Review section of this notice.

EFFECTIVE DATE: June 6, 2006.

FOR FURTHER INFORMATION CONTACT:

Sally Gannon or Aishe Allen, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC 20230; telephone: (202) 482-0162, or 482-0172, respectively.

SUPPLEMENTARY INFORMATION:

Scope of the Review

According to the June 3, 1992, preliminary determination, the suspended investigation of uranium from Russia encompassed one class or kind of merchandise.¹ The merchandise included natural uranium in the form of uranium ores and concentrates; natural uranium metal and natural uranium compounds; alloys, dispersions (including cermets), ceramic products, and mixtures containing natural uranium or natural uranium compound; uranium enriched in U235 and its compounds; alloys dispersions (including cermets), ceramic products and mixtures containing uranium enriched in U235 or compounds or uranium enriched in U235; and any other forms of uranium within the same class or kind. The uranium subject to this investigation was provided for under subheadings 2612.10.00.00, 2844.10.10.00, 2844.10.20.10, 2844.10.20.25, 2844.10.20.50,

2844.10.20.55, 2844.10.50, 2844.20.00.10, 2844.20.00.20, 2844.20.00.30, and 2844.20.00.50 of the Harmonized Tariff Schedule of the United States ("HTSUS").² In addition, the Department preliminarily determined that HEU (uranium enriched to 20 percent or greater in the isotope uranium-235) is not within the scope of the investigation. On October 30, 1992, the Department issued a suspension of the antidumping duty investigation of uranium from Russia and an amendment of the preliminary determination.³ The notice amended the scope of the investigation to include HEU.⁴ Imports of uranium ores and concentrates, natural uranium compounds, and all other forms of enriched uranium were classifiable under HTSUS subheadings 2612.10.00, 2844.10.20, 2844.20.00, respectively. Imports of natural uranium metal and forms of natural uranium other than compounds were classifiable under HTSUS subheadings 2844.10.10 and 2844.10.50.⁵

In addition, Section III of the Suspension Agreement provides that uranium ore from Russia that is milled into U3O8 and/or converted into UF6 in another country prior to direct and/or indirect importation into the United States is considered uranium from Russia and is subject to the terms of the Suspension Agreement, regardless of any subsequent modification or blending.⁶ In addition, Section M.1 of the Suspension Agreement in no way prevents Russia from selling directly or indirectly any or all of the HEU in existence at the time of the signing of the agreement and/or LEU produced in Russia from HEU to the Department of Energy ("DOE"), its governmental successor, its contractors, or U.S. private parties acting in association with DOE or the USEC and in a manner not inconsistent with the Suspension Agreement between the United States and Russia concerning the disposition of HEU resulting from the

dismantlement of nuclear weapons in Russia.

There were three amendments to the Suspension Agreement on Russian uranium. In particular, the second amendment to the Suspension Agreement, published on November 4, 1996, provided for, among other things, the sale in the United States of the natural uranium feed associated with the Russian LEU derived from HEU and included within the scope of the Suspension Agreement Russian uranium which has been enriched in a third country prior to importation into the United States.⁷

On August 6, 1999, USEC, Inc. and its subsidiary, United States Enrichment Corporation (collectively, "USEC") requested that the Department issue a scope ruling to clarify that enriched uranium located in Kazakhstan at the time of the dissolution of the Soviet Union is within the scope of the Russian Suspension Agreement. Respondent interested parties filed an opposition to the scope request on August 27, 1999. That scope request is pending before the Department.

Statute and Regulations

This review is being conducted pursuant to sections 751(c) and 752 of the Act. The Department's procedures for the conduct of sunset reviews are set forth in *Procedures for Conducting Five-year ("Sunset") Reviews of Antidumping and Countervailing Duty Orders*, 63 FR 13516 (March 20, 1998) ("*Sunset Regulations*") and in CFR Part 351 (1999) in general.

Background

On April 3, 2006, the Department of Commerce ("Department") published in the **Federal Register** a notice of preliminary results of the full sunset review of the Suspension Agreement pursuant to Section 751(c) of the Tariff Act of 1930, as amended ("the Act") (63 FR 16560) (*Preliminary Sunset Notice*). This notice was accompanied by the "Issues and Decision Memo for the Sunset Review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation; Preliminary Results," from Joseph A. Spetrini, Deputy Assistant Secretary for Policy and Negotiations, to David M. Spooner, Assistant Secretary for Import Administration, (March 24, 2006), which can be found at <http://>

⁷ See *Amendments to the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation*, 61 FR 56665 (November 4, 1996). According to the amendment, the latter modification remained in effect until October 3, 1998.

¹ The Department based its analysis of the comments on class or kind submitted during the proceeding and determined that the product under investigation constitutes a single class or kind of merchandise. The Department based its analysis on the "Diversified" criteria (see *Diversified Products Corp. v. United States*, 6 CIT 1555 (1983); see also *Preliminary Determination of Sales at Less Than Fair Value: Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine and Uzbekistan*; and *Preliminary Determination of Sales at Not Less Than Fair Value: Uranium from Armenia, Azerbaijan, Byelorussia, Georgia, Moldova and Turkmenistan*, 57 FR 23380, 23382 (June 3, 1992).

² See *Preliminary Determination of Sales at Less Than Fair Value: Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine and Uzbekistan*; and *Preliminary Determination of Sales at Not Less Than Fair Value: Uranium from Armenia, Azerbaijan, Byelorussia, Georgia, Moldova and Turkmenistan*, 57 FR 23380, 23381 (June 3, 1992).

³ See *Antidumping; Uranium from Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Ukraine, and Uzbekistan; Suspension of Investigations and Amendment of Preliminary Determinations*, 57 FR 49220 (October 30, 1992).

⁴ See *Id.* at 49235.

⁵ See *Id.*

⁶ See *Id.* at 49235.

ia.ita.doc.gov/frn/summary/russia/E6-4738-1.pdf. In our preliminary results, we found that revocation of the antidumping duty Suspension Agreement on uranium from Russia would likely lead to a continuation or recurrence of dumping at the weighted-average margin of 115.82 percent for all producers/exporters from Russia.

On April 17, 2006, we received case briefs on behalf of Power Resources, Inc. ("PRI") and Crow Butte Resources, Inc. ("Crow Butte"); USEC Inc. and United States Enrichment Corporation (collectively, "USEC"); the Ad Hoc Utilities Group ("AHUG"); and AO Techsnabexport ("Tenex").⁸ On April 24, 2006, we received rebuttal briefs on behalf of Power Resources and Crow Butte, USEC, and AHUG. On April 26, 2006, USEC requested that the Department reject AHUG's rebuttal brief because it contained new information not permissible under the Department's regulations. On May 24, 2006, the Department notified AHUG that it was returning AHUG's rebuttal brief because it contained information not timely filed under the regulations and offered AHUG the opportunity to redact the new information and to re-submit the brief to the Department within two days. On May 26, 2006, AHUG re-submitted its rebuttal brief; however it failed to redact all references to the new information that appeared in its May 24, 2006 rebuttal brief. We requested again that AHUG re-submit its rebuttal brief without the references to the new information, by the close-of-business on May 30, 2006. On, May 30, 2006, AHUG filed its rebuttal brief and redacted all new information. Additionally, on May 26, 2006, AHUG submitted a letter to the Department which also contained new and untimely filed information. On May 30, 2006, the Department notified AHUG that it was returning this additional May 26, 2006 letter because it contained information not timely filed under the Department's regulations. No interested party requested a hearing in this sunset review.

Analysis of Comments Received

All issues raised by parties to this sunset review are addressed in the "Issues and Decision Memorandum for the Sunset Review of the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation; Final Results" from Joseph A. Spetrini, Deputy Assistant

Secretary for Policy and Negotiations, to David M. Spooner, Assistant Secretary for Import Administration (May 30, 2006) ("Final Results Decision Memorandum"), which is adopted by this notice. The issues discussed in the Final Results Decision Memorandum include the likelihood of continuation or recurrence of dumping, scope of the subject merchandise, and the magnitude of the margins likely to prevail were the Suspension Agreement to be terminated. Parties may find a complete discussion of all issues raised in this review and the corresponding recommendations in this public memorandum which is on file in the Central Records Unit, room B-099, of the main Department of Commerce building. In addition, a complete version of the Final Results Decision Memorandum can be accessed directly on the Web at <http://ia.ita.doc.gov/frn>. The paper copy and electronic version of the Final Results Decision Memorandum are identical in content.

Final Results of Review

We determine that termination of the Suspension Agreement on uranium from Russia would likely lead to a continuation or recurrence of dumping at the following percentage weighted-average margin:

| Exporter/manufacture | Weighted-average margin (percent) |
|----------------------|-----------------------------------|
| Russia-Wide | 115.82 |

This notice also serves as the only reminder to parties subject to administrative protective order ("APO") of their responsibility concerning the return or destruction of proprietary information disclosed under APO in accordance with 19 CFR 351.305 of the Department's regulations. Timely notification of the return or destruction of APO materials or conversion to judicial protective order is hereby requested. Failure to comply with the regulations and terms of an APO is a violation which is subject to sanction.

This sunset review and notice are in accordance with sections 751(c), 752, and 777(i)(1) of the Act.

Dated: May 30, 2006.

David M. Spooner,
Assistant Secretary for Import
Administration.

[FR Doc. E6-8758 Filed 6-5-06; 8:45 am]

BILLING CODE 3510-DS-S

⁸ We note that Tenex did not file either a waiver of intent to participate in this sunset review pursuant to Section 351.218(d)(2) of the Department's sunset regulations or a complete substantive response to the notice of initiation pursuant to Section 351.218(d)(3).

EXPLANATION OF COMMISSION DETERMINATION ON ADEQUACY

in

Uranium from Russia, Inv. No. 731-TA-539-C (Second Review)

On October 4, 2005, the Commission determined that it should conduct a full review in the subject five-year review pursuant to section 751(c)(5) of the Tariff Act of 1930, as amended, 19 U.S.C. § 1675(c)(5).¹

The Commission received responses to its notice of institution from: (i) USEC, Inc and its wholly-owned subsidiary, the United States Enrichment Corporation (a domestic producer of natural uranium and low enriched uranium); (ii) Power Resources, Inc. (a domestic producer of natural uranium); (iii) Crow Butte Resources, Inc. (a domestic producer of natural uranium); (iv) the United Steel, Paper, and Forestry, Rubber, Manufacturing, Energy, Allied-Industrial and Service Workers International Union, AFL-CIO, CFC (a labor union with members employed in the domestic production of uranium); (v) RWE Nukem, Inc. (an importer of uranium from Russia); and (vi) the Ad Hoc Utilities Group (“AHUG”) (a coalition of U.S. industrial users of uranium).

The Commission determined that all of the responses described above (except that of AHUG, which is not an “interested party” within the meaning of 19 U.S.C. §1677(9), and with respect to which the Commission’s regulations do not contemplate an adequacy determination) were individually adequate. The Commission also determined that the domestic interested party group response was adequate, and that the respondent interested party group response was inadequate.

In light of a desire to further examine conditions of competition for this industry, including changes to the U.S.-Russia HEU Agreement, the Commission found that circumstances warranted conducting a full review.

A record of the Commissioners’ votes is available from the Office of the Secretary and the Commission’s web site (<http://www.usitc.gov>).

¹ Vice Chairman Okun did not participate in this determination.

APPENDIX B
CALENDAR OF THE PUBLIC HEARING

CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject: Uranium from Russia
Inv. No.: 731-TA-539-C (Second Review)
Date and Time: May 25, 2006 - 9:30 a.m.

Sessions were held in connection with this investigation in the Main Hearing Room (room 101), 500 E Street, SW, Washington, D.C.

OPENING REMARKS:

In Support of Continuation of Orders (**Richard O. Cunningham**,
Step toe & Johnson LLP)
In Opposition to Continuation of Orders (**Nancy A. Fischer**,
Pillsbury Winthrop Shaw Pittman LLP)

In Support of Continuation of Antidumping Orders:

Step toe & Johnson LLP
Washington, D.C.
on behalf of

USEC Inc. ("USEC")
United States Enrichment Corporation ("USEC")

Philip G. Sewell, Senior Vice President, American
Centrifuge & Russian HEU, USEC

Robert Van Namen, Senior Vice President, Uranium
Enrichment, USEC

Mike Whitehurst, Director of Marketing, USEC

John Dorrian, Assistant Controller, USEC

**In Support of Continuation of
Antidumping Orders (continued):**

Daniel Klett, Principal, Capital Trade, Inc.

Richard O. Cunningham)
Eric C. Emerson)
Thomas J. Trendl) – OF COUNSEL
Alexandra E. P. Baj)
Sohini Chatterjee)

Akin Gump Strauss Hauer & Feld LLP
Washington, D.C.
on behalf of

Power Resources, Inc. (“PRI”)
Crow Butte Resources, Inc. (“Crow Butte”)

Steve Collings, President, PRI and Crow Butte

Valerie A. Slater)
) – OF COUNSEL
Lisa W. Ross)

Law Offices of Philip H. Potter
Washington, D.C.
on behalf of

United Steel, Paper and Forestry, Rubber,
Manufacturing, Energy, Allied-Industrial
and Service Workers International Union,
AFL-CIO, CFC (“USW”)

James K. Phillips, Jr., Vice President, USW

Philip H. Potter) – OF COUNSEL

**In Opposition to Continuation of
Antidumping Duty Orders:**

White & Case LLP
Washington, D.C.
on behalf of

RWE Nukem, Inc. (“Nukem”)

Tim McGraw, Vice President, International,
Nukem

John Reilly, International Trade Economist,
Nathan Associates Inc.

Adams C. Lee)
) – OF COUNSEL
Jay C. Campbell)

Pillsbury Winthrop Shaw Pittman LLP
Washington, D.C.
on behalf of

Ad Hoc Utilities Group (“AHUG”)

Charles Blanton, Senior Nuclear Fuel
Procurement Specialist, Dominion

James Malone, Vice President, Nuclear Fuels,
Exelon Generation Company, LLC

James Nevling, Fuel Buyer, Exelon Generation
Company, LLC

Kenneth D. Church, Nuclear Fuel Supply Manager,
Duke Energy Corporation

Nancy A. Fischer)
Stephan E. Becker)
John O’Neill) – OF COUNSEL
Joshua D. Fitzhugh)
Christine J. Sohar)

REBUTTAL/CLOSING REMARKS:

In Support of Continuation of Orders (**Richard O. Cunningham,**
Step toe & Johnson LLP)

In Opposition to Continuation of Orders (**Adams C. Lee,**
White & Case LLP *and* **Nancy Fischer,**
Pillsbury Winthrop Shaw Pittman LLP)

APPENDIX C
SUMMARY DATA

Table C-1

Uranium: Summary data concerning the U.S. market, 2000-05

| Item | (Value=1,000 dollars, period changes=percent, except where noted) | | | | | | | | | | | |
|--|---|---------|-----------|-----------|-----------|-----------|----------------|---------|---------|---------|---------|---------|
| | Reported data | | | | | | Period changes | | | | | |
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2000-05 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 |
| Total U.S. sales value: | | | | | | | | | | | | |
| Amount | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Producers' share (1) | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Importers' share (1): | | | | | | | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Covered LEU: | | | | | | | | | | | | |
| France | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Germany | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Netherlands | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| United Kingdom | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Subtotal covered LEU | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| FSU: | | | | | | | | | | | | |
| Kazakhstan | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Uzbekistan | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Subtotal FSU | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Australia | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Canada | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Other | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| All other sources | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Total imports | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Value of U.S. imports from: | | | | | | | | | | | | |
| Russia | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Covered LEU: | | | | | | | | | | | | |
| France | 201,479 | 152,443 | 250,357 | 555,019 | 346,789 | 456,198 | 126.4 | -24.3 | 64.2 | 121.7 | -37.5 | 31.5 |
| Germany | 293 | 60,864 | 105,677 | 145,253 | 214,835 | 210,174 | 71618.7 | 20669.1 | 73.6 | 37.4 | 47.9 | -2.2 |
| Netherlands | 7,024 | 19,240 | 78,315 | 153,802 | 154,631 | 209,664 | 2885.0 | 173.9 | 307.0 | 96.4 | 0.5 | 35.6 |
| United Kingdom | 53,934 | 84,639 | 202,605 | 325,891 | 346,439 | 350,682 | 550.2 | 56.9 | 139.4 | 60.9 | 6.3 | 1.2 |
| Subtotal covered LEU | 262,730 | 317,186 | 636,954 | 1,179,965 | 1,062,694 | 1,226,718 | 366.9 | 20.7 | 100.8 | 85.3 | -9.9 | 15.4 |
| FSU: | | | | | | | | | | | | |
| Kazakhstan | 29,362 | 50,676 | 86,501 | 71,588 | 2,539 | 24,337 | -17.1 | 72.6 | 70.7 | -17.2 | -96.5 | 858.7 |
| Uzbekistan | 2,724 | 9,359 | 17,753 | 25,601 | 43,725 | 56,805 | 1985.6 | 243.6 | 89.7 | 44.2 | 70.8 | 29.9 |
| Subtotal FSU | 32,085 | 60,035 | 104,254 | 97,189 | 46,263 | 81,142 | 152.9 | 87.1 | 73.7 | -6.8 | -52.4 | 75.4 |
| Australia | 103,294 | 78,045 | 58,017 | 106,835 | 47,134 | 52,869 | -48.8 | -24.4 | -25.7 | 84.1 | -55.9 | 12.2 |
| Canada | 200,212 | 250,526 | 206,602 | 119,932 | 187,515 | 438,294 | 118.9 | 25.1 | -17.5 | -42.0 | 56.4 | 133.7 |
| Other | 274,702 | 258,961 | 196,697 | 257,267 | 116,129 | 146,040 | -46.8 | -5.7 | -24.0 | 30.8 | -54.9 | 25.8 |
| All other sources | 873,023 | 964,753 | 1,202,524 | 1,761,188 | 1,459,736 | 1,945,063 | 122.8 | 10.5 | 24.6 | 46.5 | -17.1 | 33.2 |
| Total imports | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| U.S. producers': | | | | | | | | | | | | |
| U.S. sales | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Exports | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Total sales | 1,110,163 | 735,070 | 816,100 | 693,912 | 663,076 | 682,654 | -38.5 | -33.8 | 11.0 | -15.0 | -4.4 | 3.0 |
| Ratio U.S. sales/total sales (percent) | 45.5 | 29.0 | 39.1 | 33.5 | 27.6 | 36.4 | -9.1 | -16.5 | 10.1 | -5.5 | -6.0 | 8.8 |
| Ratio export sales/total sales (percent) | 54.5 | 71.0 | 60.9 | 66.5 | 72.4 | 63.6 | 9.1 | 16.5 | -10.1 | 5.5 | 6.0 | -8.8 |
| Production workers | 4,838 | 3,737 | 2,999 | 2,780 | 2,743 | 2,865 | -40.8 | -22.7 | -19.8 | -7.3 | -1.3 | 4.5 |
| Hours worked (1,000s) | 10,723 | 8,192 | 6,558 | 5,868 | 6,052 | 6,247 | -41.7 | -23.6 | -19.9 | -10.5 | 3.1 | 3.2 |
| Wages paid (\$1,000s) | 312,382 | 259,900 | 220,038 | 204,554 | 216,949 | 223,398 | -28.5 | -16.8 | -15.3 | -7.0 | 6.1 | 3.0 |
| Hourly wages | \$29.13 | \$31.73 | \$33.55 | \$34.86 | \$35.85 | \$35.76 | 22.8 | 8.9 | 5.8 | 3.9 | 2.8 | -0.2 |

(1) "Reported data" are in percent and "period changes" are in percentage points.

Note.--U.S. producers' data combines data reported by concentrators, converters, enrichers, and fabricators.

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

APPENDIX D

**COMMENTS ON THE SIGNIFICANCE OF THE EXISTING
SUSPENSION AGREEMENT AND THE
LIKELY EFFECTS OF TERMINATION**

U.S. PRODUCERS' COMMENTS

The Commission requested U.S. producers to describe any anticipated changes in their operations or organization relating to the production of uranium in the future if the existing suspension agreement was terminated. (Question II-4)

The following firms responded “No”: ***.

“If the Ru material comes in as *** it would be acceptable to ***. If as bundled products, ex. UF6 or EUP, where both these forms include ***, they could, therefore, have the same price-depressing effect as imports of any other form of ***.”

“If the suspension agreement on uranium from Russia was to be revoked, we would be obliged to evaluate the potential impact that would have on our *** activities and the uranium markets. We are uncertain at this time of the full impact this may have, but as indicated earlier in the answer to I-3, we have concerns given Russia’s history in the global and US markets.”

“First, ***’s per unit cost of production would rise. For reasons described later in this response, *** believes that its sales of *** would decline in the face of large volumes of cheaply priced Russian *** if the RSA were terminated. With fewer sales, *** would have to reduce its production, thereby increasing per unit costs.

Second, ***’s inventories would increase. *** does not have any flexibility to ***. Further, ***’s ability to reduce its production in order to avoid accumulating inventories is limited. ***.

Third, ***’s cash flow and income would decline. Although *** for the next few years, these ***. If sales decline, *** would be unable to ***.

Fourth, *** would be less able to cover its costs. For reasons described below, *** believes that prices would fall as Russia pursued sales opportunities. As noted in the response to Questions II-2 and II-3, *** is facing substantially higher *** costs. *** is the most significant element of ***’s production costs. If prices fell, then *** would be less able to afford *** costs. Depending on the degree of price reduction, production would likely become economically prohibitive.

Fifth, *** would decline. ***. In addition, lenders would feel less secure extending credit to ***, and our credit rating would be adversely affected.

Sixth, *** would be unable to finance ***. In addition, *** needs sufficient business at prices which are not suppressed or depressed by a significant volume of cheap Russian uranium imports to successfully ***. Investors may not believe that *** can meet these requirements in the face of Russian overcapacity and falling market prices if the RSA were terminated.

Finally, domestic production of *** could decline or even cease. In the face of significant volumes of Russian imports at low prices, at some point, the economics of continued production would worsen to the

point that the only logical step would be to cease production. Such an event could have a *** impact on ***, ***'s ability to meet its and ***'s long-term viability.”

“***. The fundamental character of ***'s operations, *i.e.*, ***, is not dependent on the continuation of the Russian Suspension Agreement. As explained below, however, revocation of the Russian Suspension Agreement is likely to lead to less favorable conditions for production of *** in the United States and therefore could negatively affect ***.”

“Yes.—If material was dumped into the market so as to materially impact price.”

“The ability of US producers to bring on new production or expand existing production would be threatened if the Russian Suspension Agreement were no longer effective. In particular, the US-Russia HEU Agreement is inextricably intertwined with the Suspension Agreement. It effectively created an exception to the Suspension Agreement to allow the sale of certain Russian LEU into the US market and has been instrumental in bringing stability to the market, while at the same time creating a significant market presence and stability for Russian uranium products. Revocation of the Suspension Agreement would undoubtedly have a negative impact on the operation of the HEU Agreement as the “exception” created by the Agreement will no longer be necessary. In the absence of both Agreements, uranium sales from Russia will almost certainly increase with a consequent and very prompt destabilizing impact on the market causing US producers to lose revenues and market share.”

The Commission requested U.S. producers to describe the significance of the existing suspension agreement on their production capacity, production, U.S. shipments, inventories, purchases, and employment. (Question II-14)

“From ***'s perspective, the principal benefits of the RSA are that it (i) prevents imports of unfairly priced Russian uranium that would take sales that *** needs in order to *** as well as ***'s domestic production, and (ii) prevents the suppression of market prices that would render ***'s production uneconomic. Additionally, the RSA allows *** to *** which are needed to persuade investors to invest in ***. Presumably anyone investing in modern capacity, such as ***, would be similarly affected.

The RSA has been critical in preventing the importation into the United States of unfairly priced Russian *** that would have been devastating to *** as a domestic producer. (***)

A simplistic analysis illustrates the severity of the impact that unfairly traded Russian commercial *** would likely have had on *** absent the RSA. Using conservative assumptions, the analysis estimates that in 2000-05, ***'s sales would have been reduced by \$***, its gross margin would have been reduced by \$***, and *** would have accumulated additional inventory of \$*** due to the inability to deliver ***. The analysis conservatively assumes that *** would have captured *** percent of the U.S. market during this period and that the additional supply of low priced *** would have resulted in a \$*** decrease in ***'s average selling price per *** in the U.S. market. *** further assumes that approximately *** sales would have come at the expense of *** based on ***'s market share during the period.

Negative impacts on ***'s revenue, profit and cash flows of this magnitude would have threatened the viability of ***, made investment in *** impractical, and would have put *** production and associated employment as well as *** at risk.”

“The existing suspension agreement has not been significant in terms of its effects on our U.S. uranium operations. At current attractive prices, potential imports from Russia could be detrimental.”

“The order has increased import process time by requiring formal Dept. Of Commerce approval of a document package for release of shipments. It has increased the manpower and delivery time required for the import process. There is additional inventory accounting required to ensure export within the specified time.”

“During a period of excess inventories and reduced demand, the existence of the suspension agreement lessened the impact that otherwise would have been the case if Ru origin nuclear fuel were allowed into the US without restriction.”

“U.S. uranium production had been declining over the five year period prior to the March 1994 Russian Suspension Agreement. The industry produced 13.8 million pounds U_3O_8 in 1989 but that annual output had fallen to just 3.1 million pounds U_3O_8 by 1993.

During the term of the uranium Matched Sale Program (MSP) an aggregate of almost 43.0 million pounds U_3O_8 of Russian-origin was allowed to be imported (when matched with newly-produced U.S. uranium) over the 10 year period, 1994-March 2004.

The MSP has had a positive effect on the domestic uranium production industry. According to the U.S. Department of Commerce which administered the MSP, a total of 52 matched sales contracts were executed including both spot market and long-term deliveries. Considering the relatively few U.S. uranium producers active during the 1994-2003 during the duration of the MSP, participation was reasonably wide-spread and provided stimulus for increased production. The impact on U.S. uranium production resulted in total domestic uranium output of about 3.35 million pounds U_3O_8 in 1994, the initial year of the matched sales program. U.S. uranium production rose to 6.32 million pounds U_3O_8 in 1996, a percentage increase of almost 90%.

Almost 19.0 million pounds U_3O_8 of newly-produced U.S.-origin natural uranium were produced in connection with the MSP, representing over 45% of the total U.S. uranium output for that period (41.61 million pounds U_3O_8). Therefore, the MSP has been critical to the survival of the U.S. industry. One of the stated objectives of the Russian Suspension Agreement was to “restore the competitive position of the U.S. industry,” the MSP was a qualified success although not meeting fully all of its objectives.

Furthermore, the matched sales program did play a role in ***’s decision to ***.

Currently, after the MSP, the Suspension Agreement combined with the HEU Agreement, has created a means for substantial quantities of Russian uranium product to participate in the US market in furtherance of important non-proliferation goals, without causing the market disruption experienced prior to the acceptance of the Suspension Agreement in 1992.

A *** of the matched sale contracts under the Suspension Agreement were entered into by ***.

The Commission asked U.S. producers whether they anticipated changes in their production capacity, production, U.S. shipments, inventories, purchases, or employment relating to the production of uranium if the suspension agreement was terminated. (Question II-15)

The following firm responded “No”: ***.

“Significant supply from Russia would change our current study/evaluation of ***.”

“If the suspension agreement is lifted, it is likely that the recent price recovery in the front end of the nuclear fuel cycle would be reversed and US *** put at risk.”

“Capacity and Production: The RSA supports a market structure that contributes to *** securing the sales needed to maintain economic domestic production capacity. Although *** putting ***'s U.S. production at a level that would be uneconomic, even at current prices, much less at the depressed prices that likely would result from oversupply from Russia.

Purchases: At present, there is little open demand in the U.S. market until calendar year 2008. Therefore, the capacity reduction would not take effect until 2008. However, in anticipation of such a reduction, *** would need to consider whether ***. The net effect on U.S. production could be even more significant than the loss of sales to Russia would suggest.

U.S. Shipments: *** cannot predict what impact the termination of the RSA would have on U.S. shipments, but we believe that it is certain to reduce these shipments substantially, particularly if the reduction in sales by *** were to render domestic production uneconomic.

Inventories: If *** is unable to make sufficient sales to *** at levels that are so low as to be economically prohibitive.

Revenues and Income: Increased sales by Russia would result in lower revenues as *** lost sales and prices were depressed for the sales that *** did make. Income would also suffer to the extent that prices fell without a commensurate decline in production costs (indeed as production volumes decline, unit production costs will rise). If prices decline substantially, increased purchases of ***. However, ***.

Profits and Cash Flow: With respect to profits and cash flow, the loss of market share and volume that would occur would increase ***'s unit production costs, as fixed costs are spread over smaller production volumes. In addition, as described below in Question IV-F-1, Russian prices for *** has been approximately *** percent lower than prevailing prices in the United States. Absent the price discipline of the RSA, Russia would offer U.S. utilities prices closer to what they are offering in non-restricted markets, and *** would have to lower its price to compete. Therefore, *** would face adverse effects on its profits and cash flow related to both lower prices, and increased unit costs.

Expenditures: These financial pressures would in turn force *** to consider reductions in its expenditures, including R&D and capital expenditures. The possible reduction in its capital expenditures for *** is critical to ***'s cost competitiveness. As described above in response to Question II-2, *** has already made significant reductions in its work force and employment costs.

R&D: Although ***, any further spending on *** would be curtailed if *** were unable to secure a sufficient *** to justify investment *** by ***.”

*** believes that revocation of the Russian Suspension Agreement would lead to significant imports of low enriched uranium from Russia into the United States at below market prices. An increase in such imports could potentially harm LES in several respects.

First, ***. Increased imports of low-priced enriched uranium from Russia could destabilize the U.S. market for ***.

Second, to the extent that ***.

Third, ***.

“As noted in Part II-4 above, the ability of US producers to make a full recovery, bring on new production or expand existing production would be immediately threatened by the termination of the Russian Suspension Agreement. In particular, the US-Russia HEU Agreement is inextricably intertwined with the Suspension Agreement. It effectively created an exception to the Suspension Agreement to allow the sale of certain Russian LEU into the US market and has been instrumental in bringing stability to the market, while at the same time creating a significant market presence for Russian uranium products. Revocation of the Suspension Agreement would undoubtedly have a negative impact on the operation of the HEU Agreement as the “exception” created by the Agreement will no longer be necessary. In the absence of both Agreements, uranium sales from Russia will almost certainly increase with a consequent destabilizing impact on the market causing US producers to lose revenues and market share.

The implications would likely include immediate reassessment of the feasibility of capital investment for expansion plans and assessment of cost-cutting alternatives.”

U. S. IMPORTERS' COMMENTS

The Commission requested U.S. importers to describe any anticipated changes in their operations or organization relating to the importation of uranium if the existing suspension agreement was terminated. (Question II-4)

The following firms responded "No": ***.

"In the light of the previous investigations regarding fair trade practices regarding uranium product imports, it is impossible to conclude that all concerns regarding the potential for unfair trade in uranium products from Russia have been alleviated. If uranium from Russia, or enriched uranium from Russia, would be traded unfairly in the world market, and tied to the sale of nuclear fuel fabrication services, it would be highly damaging to all participants in the United States nuclear fuel fabrication industry. The trade press has reported that the Russian nuclear industry has made extensive use of such packaged sales of enriched uranium and fuel fabrication to win long term fuel fabrication contracts in various negotiations in the former Soviet Union."

"In the absence of the Suspension Agreement, uranium imports from Russia will almost certainly increase with a consequent destabilizing impact on the uranium market. We would expect significant increases in Russian exports of uranium products into the United States, which would have a negative impact on our importing operations."

The Commission requested U.S. importers to describe the significance of the existing suspension agreement covering imports of uranium in terms of its effect on their firms' imports, U.S. shipments of imports, and inventories. (Question II-9)

The following firms responded "No" or "None": ***

"The Russian suspension agreement has been in place for many years. The effect of eliminating the order is difficult to predict - it could be negative for foreign supplies to the U.S. Market."

"The existing suspension agreement no longer permits the importation of uranium concentrates or LEU-HF. Therefore the effect on our firms's imports is absolute; there are no imports."

***'s role in the United States nuclear fuel cycle is ***. ***.

Because ***, the availability and cost of imported uranium from Russia does not directly impact our cost of operations.”

“The Suspension Agreement combined with the HEU Agreement has created a means for substantial quantities of Russian uranium product to participate in the US market without causing the market disruption experienced prior to acceptance of the Suspension Agreement in 1992. While this action did not entirely mitigate the price effects of a large overhang of secondary supply – as evidenced by the extended period of low prices in the 1990’s through 2002 – it provided some assurance of market stability and enabled *** to maintain some production as well as some access to the US market. If the Suspension Agreement were revoked, the resulting influx of large quantities of Russian uranium into the U.S. market would decrease the value of our U.S. imports, and result in declining market share and revenues on our import operations.”

“***

it is clear that prior to the antidumping investigation that the RSA suspended, prices for *** were falling and it is unlikely that ***.

The RSA permits ***.

Significance for ***'s Domestic Production. ***.

Combined with ***.

***.”

The Commission requested U.S. importers to describe any anticipated changes in their imports, U.S. shipments of imports, or inventories of uranium in the future if the existing suspension agreement was terminated. (Question II-10)

The following firms responded “No” or “None”: ***

“Difficult to predict-our company would assess the market impact of Russian supply, based on the actions of the Russian companies in the U.S. market.”

See response to II-4.

“The answer to this question is more complicated than a simple yes or no answer due to ***.

*** would continue to ***.

“Termination of the Russian Suspension Agreement would likely result in an increasing supply of Russian uranium to the US market – in the form of *** – thereby lowering prices and threatening the US market’s current recovery. Uranium prices would likely trend downward in response and the production response from both US and non-US producers would be negative in both the short- and long-term. As a result, ***’s ability to import uranium products into the US would likely be diminished and the US market would likely be faced with a much greater reliance on Russian sources of supply.

The HEU Agreement is inextricably intertwined with the Suspension Agreement. Revocation of the Suspension Agreement would undoubtedly have a negative impact on the operation of the HEU Agreement as the “exception” created by the Agreement will no longer be necessary. In the absence of both Agreements, uranium imports from Russia will almost certainly increase with a consequent destabilizing impact on the market causing uranium producers in the US and non-Russian importers to the US market to lose revenues and market share.”

U.S. PURCHASERS’ COMMENTS

The Commission’s questionnaires in this review requested comments from U.S. purchasers (question IV-2) regarding the effects of termination of the suspension agreement on (1) the future activities of their firms and (2) the U.S. market as a whole. The following comments were received:

(1) **Activities of firm.**--“*** will continue seek competitive bids from all and select its suppliers on the basis of quality, flexibility, reliability of supply and price.”

(2) **Entire U.S. market** --“ In a market with perceived shortness of supply and import restriction, price is subject to extreme upward pressure and at times over shoots the price necessary to balance the market. Termination of the Suspension Agreement would alleviate the extreme pressure and stimulate free trade on a worldwide basis. New competitive supply sources would be available for future uranium supply and toll enriching services. Prices would stabilize at a level that reasonably encourages new production but does not overshoot the market due to perceptions of supply limitations. The Russians have announced intentions to expand uranium production and exploration and have earmarked a portion of this new supply for their domestic needs. While freeing some of their supply for the commercial markets, a large portion will still be required to blend down the weapons stockpile thereby not interfering with the Megatons to Megawatts program. Termination of the uranium suspension agreement would eliminate the virtual monopoly that USEC has over U.S. enrichment services and would encourage free trade among enrichment suppliers. There is some possibility that U.S. uranium could be shipped to Russian for enrichment (depending on when an Agreement for Cooperation between Russia and

the U.S. is reached) and returned to the U.S. for fabrication, alleviating some of the tightness in the enrichment markets while preserving the U.S. uranium and fabrication business. Nuclear energy is an important part of our energy (approximately ***% of electrical generation) and the new resurgence of nuclear power requires assurance of worldwide availability of uranium to fuel the potential new demand for reactors.”

(1) **Activities of firm**--“Uranium (concentrate and UF6) - It is the opinion of *** that termination of the uranium suspension agreement with Russia would have little effect on uranium market prices and purchases from uranium suppliers in the U.S. market. It is highly unlikely that Russia would sell uranium products in the US market at less the market prices as it would serve only to reduce their profit margins. Further, Russia has made it known to the global industry the uranium supply shortages exist for their own internal use. Other action by the Russians indicative of their internal uranium shortages would be the termination of deliveries to GNSS and the removal of options for the increase in natural feed resulting from the HEU agreement. Therefore it can be surmised that any Russian uranium available for sale in the US market would be sold at current market prices.

Enrichment Services (SWU) - It is the opinion of *** that termination of the suspension agreement with Russia would have little effect on the US SWU market. As with uranium, it is not clear that significant Russian SWU capacity would be available to the U.S. market. Again, given Russia’s market economy stance, sale of SWU lower than what the future market will bear is highly unlikely.”

(2) **Entire U.S. market**.--“*** procurement activities will be unchanged as a result of termination of the suspension agreement with Russia. The only exception is that our bidders list for uranium products, conversion services, and enrichment services will be increased by one bidder. The design and fabrication of nuclear fuel bundles is highly technical in nature and *** procurement policies require that nuclear fuel bundle designs have years of operational experiences before *** would consider utilizing the design in its reactors. To ***’s knowledge, Russia has never fabricated *** compatible with ***’s reactors. Therefore, it is unlikely that *** would consider Russia for fabrication services.”

(1) **Activities of firm**.--“*** would expect additional uranium supplies to be available in the market. Barring any credit or delivery risk issues, Russian uranium supplies would be acceptable for use. The Russian supply offers would be evaluated equally with domestic suppliers. Contract award decisions would be based on responsiveness to the bid request. It is expected that the introduction of Russian sourced uranium supplies would moderate the price rise.”

(2) **Entire U.S. market**.--“It is expected that the introduction of Russian sourced uranium to the U.S. market may ease somewhat the perception of potential supply shortages. The impact on domestic market price isn’t expected to be significant but it may moderate the current price rise.”

(1) **Activities of firm.**-- “*** is unlikely to directly enter into agreements with the Russians due to supply security concerns. The utilization of Russian conversion capability is also not a likely commodity for *** because of transportation and supply risks. *** does utilize Russian enrichment through the use of down-blended HEU. This is an important part of ***’s enrichment supply. It has also allowed USEC financial security while it brings on domestic centrifuge production. This efficient domestic production will help stabilize prices by creating competition in enrichment.”

(2) **Entire U.S. market.**– “Allowing Russian uranium free access to the US market would tend to drive prices down somewhat in the short term since fewer structural barriers would exist. Long term the effect on uranium prices is likely to be small. Since uranium is a global commodity with increasing demand any supplies reaching reactors will tend to satisfy some of the world requirements. So Russian uranium, even if only to supply Russian reactors, will help meet global requirements stabilizing prices long term.

Russian conversion may become a significant resource in the US if Russian uranium is allowed easy access to the US market. The balance between cost of conversion and additional complications in shipping UF₆ instead of UO₂ should determine importance of Russian conversion.

Russian Enrichment will not be a moderate supply source over the next 5 years. Continuation of the HEU deal will obviously increase the importance of Russian enrichment. As USEC and URENCO bring on domestic centrifuge supplies the need for Russian enrichment will decrease.”

(1) **Activities of firm.**--“*** feels that should the suspension agreement be terminated, it would have a positive effect on the US nuclear fuel market. As stated in question III-8, *** is actively involved in *** supply of conversion and enrichment services. As long as prices are competitive and all other factors are comparable to the other suppliers, *** considers Russian conversion and enrichment services to be another source to fill open reactor reload requirements. Russia services meet the intent of the *** policy to maintain security of supply through a diversity of suppliers.”

(2) **Entire U.S. market.**– “Prices would likely not be impacted due to the general condition of the market supply and demand for uranium, conversion and enrichment. Russia has already stated that they do not intend to export uranium to the market, instead they will likely become a net buyer of uranium to meet domestic and contract requirements. In order to expand enrichment services capacity in the global market, *** believes that the elimination of the Suspension Agreement against Russian Uranium and services could provide sufficient motivation for Russia to increase their enrichment capacity in order to supply the United States market and other countries that would likely follow upon the United States elimination of the restrictions. It should be noted that *** believes that the current Russian enrichment capacity is essentially fully utilized to meet the HEU blend down program requirement, Russian domestic refueling requirements, the requirements from Reactor sales with associated fuel contracts, and tails reclamation.”

(1) **Activities of firm.**--“Availability of the uranium and products will increase.”

(2) **Entire U.S. market.**--“Uranium market will not be suppressed.”

(1) **Activities of firm.**--“We would immediately proceed to negotiate importation of Russian enriched materials to fuel our reactors. This would bring Russia into the world economy and provide competition to the market. Currently, USEC feels it has a monopoly and will not entertain a contract with us.”

(2) **Entire U.S. market.**--“The market price would reflect the realities of producing the product rather than artificial price supports that enable bad business decisions. If it cost a certain amount to produce a SWU and the producer needs a margin of profit to stay in business, that will be the market price. Protecting marginal performers through controls only continues marginal performance.”

(1) **Activities of firm.**--“We expect minimal to no discernable impact on uranium product/service markets. Our firm would look to the Russian supplier as another competitive source. However, our expectation is that Russia’s own internal needs and activities such as reactor/fuel sales will limit the amount of Russian material offered to U.S. markets.”

(2) **Entire U.S. market.**--“All segments of the market are feeling the effects of supply and demand, with limited supply and increasing demand. On a global basis, Russian supply is already a key component. Removal of the suspension agreements may provide more liquidity, but will not significantly change availability of supply. Expected growth in new plants will be impacted without access to all supply sources.”

(1) **Activities of firm.**--“*** nuclear fuel procurement activities would not likely change from what they are today.”

(2) **Entire U.S. market.**--“If termination of the suspension agreement results in Russia having unrestricted access to the US market, we don’t expect significant increases in imports. At present, Russia is developing sales in many other countries of the world where it doesn’t have restrictions against them. Russia would (and will regardless of the suspension agreement) become a major supplier of nuclear fuel in the world.

The failure in not recognizing existing world economies regarding Russian material and enrichment services is one of an isolationist policy for the United States that effectively creates substantial risk to national security interests without a corresponding increase in the employment or positional stability for a relatively few domestic entities.”

(1) **Activities of firm.**--“Russia, besides not having uranium to export beyond the current HEU-I agreement, just announced in early March that it is spending \$10 billion U.S. to increase uranium production for Russian consumption. Termination of the uranium suspension agreement with Russia is not expected to have an impact on the uranium market because Russia is not expected to have supplies available for export to the global market, rather it needs additional uranium for internal consumption.

If Russian SWU supplies become directly available into the U.S., such supply would provide an additional diversification opportunity. Diversification of supplies is a key risk management/security of supply initiative for ***.”

(2) **Entire U.S. market.**--“No impact of termination on the uranium market as a whole as uranium supply from Russia is not considered realistic, due to the reasons noted above. Some limited capacity of enrichment services may be available for the U.S. market.”

(1) **Activities of firm.**--“Russian firms would be included on our RFP bidders list.”

(2) **Entire U.S. market.**--“Russian imports would increase into the US and this would help to meet future demand, promote competition and market prices may decrease or become more stabilized.”

(1) **Activities of firm.**--“Termination of the uranium suspension agreement with Russia would provide for *** access to Russian uranium and enrichment supply. This development would be a positive one for *** and its electricity customers in *** as it would serve to enhance the degree of diversity options for *** to consider for its fuel supply portfolio, helping to better ensure that its reactor needs are reliably met (see prior question with respect to impact of recent supply disruption events and impact on supply volumes traded in the marketplace). It should be noted that due to fuel supply portfolio diversity initiatives, *** would not seek to cover large portions of its needs with any one supplier or supply source, including Russian origin uranium or enrichment.”

(2) **Entire U.S. market.**--“While Russia would likely selectively choose some U.S. utilities for uranium and enrichment supply relationships into the future, the Russian Federation’s recent actions to pull back certain optional quantities of natural HEU feed supplies certain intermediaries and the fact that Russia is not fully utilizing the HEU feed quota available to under the US/Russian HEU Agreement indicates that Russia needs the vast majority of its uranium supplies to meet its own internal needs. Thus it is not expected that uranium supply from the Russian Federation would significantly impact the US market in the event the uranium suspension agreement with Russia were to be terminated. As for enrichment, large volumes of the Russian enrichment capacity is believed to be committed under long-term arrangements to the re-enrichment of tails material for certain European customers and to facilitate the production of ~1.5 weight percent uranium blend stock for HEU blend down purposes. Additionally, Russia has reportedly targeted supplying the forward needs of former CIS countries and is currently actively bidding on new reactors to countries such as China. It is highly likely that Russian enriched uranium will be packaged in conjunction with these new reactor bids, thus further

limiting the amount of excess Russian uranium and enrichment that will be available for US utility purchases. Nonetheless, even marginal opportunity for incremental supply sources to US utilities would be a welcome and positive development in the current supply constrained market. It should be noted that some US utilities, including ***, have announced plans to pursue combined Construction and Operating Licenses (COLs) for new nuclear plants. Attaining such COLs simply enable nuclear generation to be considered as a viable alternative to other generation sources (i.e., coal and gas) for the future. Certainty of the availability of fuel supply over the life of these plants will be a necessary prerequisite before utilities actually make their final decisions to proceed with construction of new plants. A free and open US market to external sources of nuclear fuel supply is a critical factor which will help to provide such assurance.”

(1) **Activities of firm.**--“*** would certainly investigate the potential for purchase of Russian enrichment services, which it appears might be available. This potential is mitigated in substantial part because ***’s requirements for enrichment services are fully contracted through ***. We could (by invoking *** options in existing contracts) accept some enrichment services in *** but these would be limited in scope. It does not appear that further opportunities in other sectors of the market are available at this time.”

(2) **Entire U.S. market.**– “Impact on the market as a whole should be somewhat limited. It appears that the Russians have some capacity to market enrichment services, and it would seem likely that they would redirect some of their available capacity from re-enrichment of tails to direct sales of enrichment to utility customers. Effectively this would remove a certain amount of “natural” uranium supply from the market, with a corresponding increase in the availability of enrichment services. This would provide the capability for customers to lower tails assays, effectively regaining the uranium no longer produced by tails re-enrichment. By placing the Russians onto a market basis, it would follow that they would be able to demand higher prices for their services than when they sell in a restricted mode to companies re-enriching tails.”

(1) **Activities of firm.**--“Termination of suspension agreement would enable our firm to have more options when selecting a supplier of uranium and/or uranium services. However, we do not anticipate significant additional imports of Russian material due to increased internal demand within Russia, limited transportation capacity of nuclear material from Russia and attractiveness of other markets.”

(1) **Activities of firm.**--“*** would certainly investigate the potential for purchase of Russia enrichment services, which it appears might be available. This potential is mitigated in substantial part because ***’s requirement for enrichment services are fully contracted through ***. It does not appear the further opportunities in other sectors of the market are available at this time due to lack of supply.”

(2) **Entire U.S. market.**– “Impact on the market as a whole should be somewhat limited. It appears that the Russians have some capacity to market enrichment services, and it would seem likely that they would redirect some of their available capacity from re-enrichment of tails to

direct sale of enrichment to utility customers. Effectively this would remove a certain amount of “natural” uranium supply from the market, with corresponding increase in the availability of enrichment services. This would provide the capability for customers to lower tails assays, effectively regaining the uranium no longer produced by tails re-enrichment. By placing the Russians onto a market basis, it would follow that they would be able to demand higher prices for their services than when they sell in a restricted mode to companies re-enriching tails.”

(1) **Activities of firm.**--“*** would consider contracting for Russian toll enrichment services. *** seeks diversity of supply.”

(2) **Entire U.S. market.**-- “It is ***’s understanding that Russia needs most of its uranium supply for its own needs. As such, the impact of the termination of the uranium suspension agreement would have a small impact on the uranium market.”

(1) **Activities of firm.**--“Termination of the suspension agreement will have no effect on ***.

(2) **Entire U.S. market.**-- “Termination of the Russian suspension agreement will have little, if any, effect on the market since Russia needs its uranium and has little to sell to the West. Only the Canadian uranium companies that own the only significant US mines want the agreement to stay in place. By leaving it in place, you are protecting Canadians, not U.S. citizens.”

(1) **Activities of firm.**--“We would consider future *** of UF₆ and/or EUP from Russia, up to a maximum of ***, but only if lower cost to justify higher perceived risk compared to the other available alternatives.”

(2) **Entire U.S. market.**-- “There would be commercial purchases of EUP or enrichment services from Russia, under similar circumstances to those above.”

(1) **Activities of firm.**--“ None, or portfolio approach won’t change.”

(2) **Entire U.S. market.**-- “None- The world nuclear market demand will absorb any uranium available so Russia won’t need to sell into US market at discount.”

(1) **Activities of firm.**--“ No known effect. Our current uranium supplier has not provided *** with Uranium from a Russian HEU source.

(2) **Entire U.S. market.**-- “*** has no basis to make a concrete statement to this survey question. The details of market dynamics are left to our sole-source suppliers to address. Russian products or services are of no interest to *** under our current contract.”

(1) **Activities of firm.**--“No change.”

(2) **Entire U.S. market.**-- “ No change.”

(1) **Activities of firm.**--“Unknown at this time.”

(2) **Entire U.S. market.**-- “Unknown/ no opinion.”

(1) **Activities of firm.**--“*** has no knowledge of any effect termination of the uranium suspension agreement with Russia might have on ***’s procurement.”

(2) **Entire U.S. market.**-- “*** has no direct knowledge of any effect termination of the uranium suspension agreement with Russia might have on the U.S. market. Any *** information concerning this agreement and its effect is contained in various industry publication purchased by ***, see the attached list per question IV-4.”

(1) **Activities of firm.**--“For all subject countries and each uranium product/service: *** will continue to contract based in the current market conditions and continue to compare bids based on the competition from the responders. Increased imports from the subject country may or may not increase depending if their contract terms and condition are better than their competition-Canada and Australia are expected to be their competition.”

(2) **Entire U.S. market.**-- “The US market , as a whole, is likely to change very little. The market price may decline with the revocation/termination, but only for a short time until the “excitement” wears off. The subject country is transitioning to western world business practices and will be unable to survive in that world if they routinely under bid the competition. When their product is available for unrestricted use in the U.S. they will no longer have to sell at a discount. Currently, the discount is needed to ensure their product is bought by the few customers who are legally allowed to use it. Additional supply to the U.S. market may have a dampening effect on price, but would only return the market to pricing levels reflective of the incremental price of production. Currently, pricing levels exceed incremental price and production.”

(1) **Activities of firm.**--“Changes in the future activities due to the termination of the suspension agreement is unknown. It is expected that the supply of uranium would increase.”

(2) **Entire U.S. market.**--“Changes in the market as a whole are unknown. It is expected that the supply of uranium would increase.”

(1) **Activities of firm.**--“In reality, the availability of the uranium and products will increase.”

(2) **Entire U.S. market.**--“Uranium market will not be suppressed.”

(1) **Activities of firm.**--“Termination of the suspension agreement with Russia would provide a source of possible spot SWU which is currently completely absent from the market. This will likely keep prices down (a bit) and provides liquidity which are good things.”

(2) **Entire U.S. market.**--“The market will not be negatively impacted. There is a current shortage of supply in the 2006-2010 time frame. Western enrichers have not moved quickly enough to keep up with current demand.”

(1) **Activities of firm.**--“*** supports the increased competition and pricing stability provided by a larger, more open market. *** expects that the rest of the market will react positively to an open market.”

(2) **Entire U.S. market.**--“Unknown at this time.”

FOREIGN PRODUCERS’/EXPORTERS’ COMMENTS

The Commission requested foreign producers to indicate whether they anticipated any changes in their operations or organization relating to the production of uranium in the future if the existing suspension agreement was terminated, and if yes, to describe those changes. (Question II-3)

No foreign producers responded to the Commission’s questionnaires.

The Commission requested foreign producers to describe the significance of the existing suspension agreement covering imports of uranium in terms of its effect on their firms' production capacity, production, home market shipments, exports to the United States and other markets, and inventories. (Question II-15)

No foreign producers responded to the Commission's questionnaires.

The Commission requested foreign producers to describe any anticipated changes in their production capacity, production, home market shipments, exports to the United States and other markets, or inventories in the future if the existing suspension agreement was terminated. (Question II-16)

No foreign producers responded to the Commission's questionnaires.

APPENDIX E

**THE U.S.-RUSSIAN HEU AGREEMENT,
USEC PRIVATIZATION ACT,
AND THE HEU FEED DEAL**

RUSSIAN-U.S. HEU AGREEMENT¹
(February 18, 1993)

The Governments of the United States of America and the Russian Federation, hereafter referred to as the Parties,

Desiring to arrange the safe and prompt disposition for peaceful purposes of highly enriched uranium resulting from the reduction of nuclear weapons in accordance with existing agreements in the area of arms control and disarmament,

Reaffirming their commitment to ensure that the development and use of nuclear energy for peaceful purposes are carried out under arrangements that will further the objectives of the Treaty on the Non-Proliferation of Nuclear Weapons of July 1, 1968,

Affirming their commitment to ensure that nuclear material transferred for peaceful purposes pursuant to this Agreement will comply with all applicable non-proliferation, material accounting and control, physical protection, and environmental requirements.

Have agreed as follows:

ARTICLE 1: PURPOSE

The Parties shall cooperate in order to achieve the following objectives:

1) The conversion as soon as practicable of highly enriched uranium (HEU) extracted from nuclear weapons resulting from the reduction of nuclear weapons pursuant to arms control agreements and other commitments of the parties which is currently estimated at approximately 500 metric tons *in the Russian Federation*, having an average assay of 90 percent or greater of the uranium isotope 235 into low enriched uranium (LEU) for use as fuel in commercial nuclear reactors. For purposes of this Agreement, LEU shall mean uranium enriched to less than 20 percent in the isotope 235; and

2) *The technology developed in the Russian Federation for conversion of HEU resulting from the reduction of nuclear weapons in the Russian Federation may be used for conversion of United States HEU in the United States of America; and*

3) The establishment of appropriate measures to fulfill the non-proliferation, physical security *protection*, nuclear material accounting and control, and environmental requirements of the Parties with respect to HEU and LEU subject to this Agreement.

ARTICLE II: IMPLEMENTING CONTRACTS AND AGREEMENTS

1. The Parties, through their Executive Agents, shall within *six* months from entry into force of this Agreement seek to enter into an initial implementing contract to accomplish the objectives set forth in Article I of this Agreement. The Parties may conclude additional implementing contracts or agreements pursuant to this Agreement, as required. For any purchase, the Executive Agents shall negotiate terms (including price), which shall be subject to approval by the Parties.

¹ Nuclear Threat Initiative research library found at <http://www.nti.org/db/nisprofs/russia/fulltext/heudeal/heufull.htm>.

2. It is the intent of the Parties that the initial implementing contract shall provide for, inter alia:

i) The purchase by the United States Executive Agent of LEU converted from HEU at facilities in the Russian Federation and sale of the LEU for commercial purposes. The United States will provide information to the Russian Federation on all commercial disposition of such LEU;

ii). *Initial delivery of LEU converted from HEU extracted from nuclear weapons resulting from the reduction of nuclear weapons pursuant to arms control agreements and other commitments of the parties by October 1993, if possible;*

(iii) Conversion of no less than 10 metric tons having an average assay of 90 percent or greater of the uranium isotope 235 in each of the first five years, and, in each year thereafter, conversion of no less than 30 metric tons of HEU having an average assay of 90 percent or greater of the uranium isotope 235; however, specific amounts will be stipulated in the first and subsequent implementing contracts;

(iv) The participation of the U.S. private sector and of Russian enterprises;

(v) The allocation among the United States of America, private sector firms of the United States of America, the Russian Federation, and Russian enterprises of any proceeds or costs arising out of activities undertaken pursuant to any implementing contract;

(vi) The use by the Russian Federation *side* of a portion of the proceeds from the sale of LEU converted from HEU for the conversion of defense enterprises, enhancing the safety of nuclear power plants, environmental clean-up of polluted areas and the construction and operation of facilities in the Russian Federation for the conversion of HEU to LEU,

(vii) By agreement of the Parties an equivalent amount of HEU can substitute for the corresponding amount of LEU planned for purchase by the United States Executive Agent.

ARTICLE III: EXECUTIVE AGENTS

Each Party shall designate an executive agent to implement this Agreement. For the United States side the executive agent shall be the Department of Energy, For the Russian *side* the Executive Agent shall be the Ministry *of the Russian Federation* of Atomic Energy. After consultation with the other Party, either Party has the right to change its executive agent upon 30 days written notice to the other Party. If a governmental corporation is established under United States law to manage the uranium enrichment enterprise of the Department of Energy, it is the intention of the United States Government to designate that corporation as the Executive Agent for the United States *side*.

ARTICLE IV: PRIORITY OF AGREEMENT

In case of any inconsistency between this Agreement and any implementing contracts or agreements, the provisions of this Agreement shall prevail.

ARTICLE V: ADDITIONAL MEASURES

1. The Executive Agent of the Russian Federation shall ensure that the quality of *LEU derived from HEU* subject to this Agreement is such that it is convertible to LEU usable in commercial reactors. Specifications shall be agreed upon in the process of negotiating the initial and subsequent implementing contracts.

2. The conversion of HEU subject to this Agreement shall commence as soon as possible after the entry into force of the initial implementing contract.
3. The Parties shall, to the extent practicable, seek to arrange for more rapid conversion of HEU to LEU than that provided for in Article II (2) (iii).
4. The United States of America shall use LEU acquired pursuant to this Agreement and its implementing contracts and agreements, when subject to United States jurisdiction and control, for peaceful purposes only.
5. LEU acquired by the United States of America pursuant to this Agreement, *and implementing contracts and agreements related to it*, shall be subject to safeguards in accordance with the *November 18, 1977 Agreement between the United States of America and the International Atomic Energy Agency (IAEA) for the Application of Safeguards in connection with the Treaty for the Non-Proliferation of Nuclear Weapons* of.
6. The Parties shall maintain physical protection of HEU and LEU subject to this Agreement. Such protection shall, at a minimum, provide protection comparable to the recommendation set forth in IAEA document INFCIRC/ 225/REV.2 concerning the physical protection of nuclear material.
7. If the Parties enter into an agreement for cooperation concerning the peaceful uses of nuclear energy, nuclear material acquired by the United States of America pursuant to this Agreement and its implementing contracts and agreement when subject to U.S. jurisdiction or control, shall be subject to the terms and conditions of that Agreement for cooperation.
8. The activities of the United States Government under this Agreement, or any implementing contract or agreement shall be subject to the availability of *United States Government* funds.
9. In the event the United States Government does not have funds available for implementation of this Agreement, the *Executive Agent of the Russian Federation* reserves the option to obtain funding for implementation of this Agreement from any private U.S. company.
10. Prior to the conclusion of any implementing contract, the Parties shall establish transparency measures to ensure that the objectives of this Agreement are met, including provisions for *nuclear* material accounting and control and access, from the time that HEU is made available for conversion until it is converted into LEU. Specific transparency measures shall be established in the same time frame as the negotiation of the initial implementing contract, *and shall be executed by a separate agreement*.
11. Prior to the conclusion of any implementing contract, the Parties shall agree on appropriate governing provisions for entry and exit, liability, and status of personnel, exemptions for taxes and other duties, and applicable law.
12. The Executive Agent of the United States shall use the LEU converted from HEU in such a manner so as to minimize disruptions in the market and maximize the overall economic benefit for both Parties. This Agreement shall have no effect on contracts between *Russian enterprises* and United States companies for the delivery of uranium products which are currently in force and consistent with United States *and Russian* law.
13. This Agreement places no limitations on the right of the Russian Federation to dispose of LEU derived from HEU *extracted from nuclear weapons resulting from the reduction of nuclear weapons*

pursuant to arms control agreements and other commitments of the Parties beyond the specific commitments set forth herein.

ARTICLE VI: ENTRY INTO FORCE, DURATION AND AMENDMENTS

1. This Agreement shall enter into force upon signature and shall remain in force *until the full amount of HEU provided for in paragraph 1 of Article I is converted into LEU, delivered, and supplied to commercial customers.*
2. Each Party may propose amendments to this Agreement. Agreed amendments shall enter into force upon signature and shall remain in force so long as this Agreement remains in force.
3. Each Party shall have the right to terminate this Agreement upon 12 months written notification to the other Party.

Done at *Washington* this *18th* day of *February, 1993*, in duplicate in the English and Russian languages, both texts being equally authentic.

For the United States of America:
William Burns (Head of the U.S. Safe and Secure Dismantlement Delegation)

For the Russian Federation:
Viktor Mikhailov (Russian Minister of Atomic Energy)

TITLE III
RESCISSIONS AND OFFSETS
CHAPTER 1

ENERGY AND WATER DEVELOPMENT
SUBCHAPTER A—UNITED STATES ENRICHMENT
CORPORATION PRIVATIZATION

SEC. 3101. SHORT TITLE.

This subchapter may be cited as the "USEC Privatization Act".

SEC. 3102. DEFINITIONS.

For purposes of this subchapter:

(1) The term "AVLIS" means atomic vapor laser isotope separation technology.

(2) The term "Corporation" means the United States Enrichment Corporation and, unless the context otherwise requires, includes the private corporation and any successor thereto following privatization.

(3) The term "gaseous diffusion plants" means the Paducah Gaseous Diffusion Plant at Paducah, Kentucky and the Portsmouth Gaseous Diffusion Plant at Piketon, Ohio.

(4) The term "highly enriched uranium" means uranium enriched to 20 percent or more of the uranium-235 isotope.

(5) The term "low-enriched uranium" means uranium enriched to less than 20 percent of the uranium-235 isotope, including that which is derived from highly enriched uranium.

(6) The term "low-level radioactive waste" has the meaning given such term in section 2(9) of the Low-Level Radioactive Waste Policy Act (42 U.S.C. 2021b(9)).

(7) The term "private corporation" means the corporation established under section 3105.

(8) The term "privatization" means the transfer of ownership of the Corporation to private investors.

(9) The term "privatization date" means the date on which 100 percent of the ownership of the Corporation has been transferred to private investors.

(10) The term "public offering" means an underwritten offering to the public of the common stock of the private corporation pursuant to section 3104.

(11) The term "Russian HEU Agreement" means the Agreement Between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons, dated February 18, 1993.

(12) The term "Secretary" means the Secretary of Energy.

(13) The "Suspension Agreement" means the Agreement to Suspend the Antidumping Investigation on Uranium from the Russian Federation, as amended.

(14) The term "uranium enrichment" means the separation of uranium of a given isotopic content into 2 components, 1 having a higher percentage of a fissile isotope and 1 having a lower percentage.

SEC. 3103. SALE OF THE CORPORATION.

(a) **AUTHORIZATION.**—The Board of Directors of the Corporation, with the approval of the Secretary of the Treasury, shall transfer the interest of the United States in the United States Enrichment Corporation to the private sector in a manner that provides for the long-term viability of the Corporation, provides for the continuation by the Corporation of the operation of the Department of Energy's gaseous diffusion plants, provides for the protection of the public interest in maintaining a reliable and economical domestic source of uranium mining, enrichment and conversion services, and, to the extent not inconsistent with such purposes, secures the maximum proceeds to the United States.

(b) **PROCEEDS.**—Proceeds from the sale of the United States' interest in the Corporation shall be deposited in the general fund of the Treasury.

SEC. 3104. METHOD OF SALE.

(a) **AUTHORIZATION.**—The Board of Directors of the Corporation, with the approval of the Secretary of the Treasury, shall transfer ownership of the assets and obligations of the Corporation to the private corporation established under section 3105 (which may be consummated through a merger or consolidation effected in accordance with, and having the effects provided under, the law of the State of incorporation of the private corporation, as if the Corporation were incorporated thereunder).

(b) **BOARD DETERMINATION.**—The Board, with the approval of the Secretary of the Treasury, shall select the method of transfer and establish terms and conditions for the transfer that will provide the maximum proceeds to the Treasury of the United States and will provide for the long-term viability of the private corporation, the continued operation of the gaseous diffusion plants, and the public interest in maintaining reliable and economical domestic uranium mining and enrichment industries.

(c) **ADEQUATE PROCEEDS.**—The Secretary of the Treasury shall not allow the privatization of the Corporation unless before the sale date the Secretary of the Treasury determines that the method of transfer will provide the maximum proceeds to the Treasury consistent with the principles set forth in section 3103(a).

(d) **APPLICATION OF SECURITIES LAWS.**—Any offering or sale of securities by the private corporation shall be subject to the Securities Act of 1933 (15 U.S.C. 77a et seq.), the Securities Exchange Act of 1934 (15 U.S.C. 78a et seq.), and the provisions of the Constitution and laws of any State, territory, or possession of the United States relating to transactions in securities.

(e) **EXPENSES.**—Expenses of privatization shall be paid from Corporation revenue accounts in the United States Treasury.

SEC. 3105. ESTABLISHMENT OF PRIVATE CORPORATION.

(a) **INCORPORATION.**—(1) The directors of the Corporation shall establish a private for-profit corporation under the laws of a State for the purpose of receiving the assets and obligations of the Corporation at privatization and continuing the business operations of the Corporation following privatization.

(2) The directors of the Corporation may serve as incorporators of the private corporation and shall take all steps necessary to establish the private corporation, including the filing of articles of incorporation consistent with the provisions of this subchapter.

(3) Employees and officers of the Corporation (including members of the Board of Directors)

acting in accordance with this section on behalf of the private corporation shall be deemed to be acting in their official capacities as employees or officers of the Corporation for purposes of section 205 of title 18, United States Code.

(b) STATUS OF THE PRIVATE CORPORATION.—(1) The private corporation shall not be an agency, instrumentality, or establishment of the United States, a Government corporation, or a Government-controlled corporation.

(2) Except as otherwise provided by this subchapter, financial obligations of the private corporation shall not be obligations of, or guaranteed as to principal or interest by, the Corporation or the United States, and the obligations shall so plainly state.

(3) No action under section 1491 of title 28, United States Code, shall be allowable against the United States based on actions of the private corporation.

(c) APPLICATION OF POST-GOVERNMENT EMPLOYMENT RESTRICTIONS.—Beginning on the privatization date, the restrictions stated in section 207 (a), (b), (c), and (d) of title 18, United States Code, shall not apply to the acts of an individual done in carrying out official duties as a director, officer, or employee of the private corporation, if the individual was an officer or employee of the Corporation (including a director) continuously during the 45 days prior to the privatization date.

(d) DISSOLUTION.—In the event that the privatization does not occur, the Corporation will provide for the dissolution of the private corporation within 1 year of the private corporation's incorporation unless the Secretary of the Treasury or his delegate, upon the Corporation's request, agrees to delay any such dissolution for an additional year.

SEC. 3106. TRANSFERS TO THE PRIVATE CORPORATION.

Concurrent with privatization, the Corporation shall transfer to the private corporation—

(1) the lease of the gaseous diffusion plants in accordance with section 3107,

(2) all personal property and inventories of the Corporation,

(3) all contracts, agreements, and leases under section 3108(a),

(4) the Corporation's right to purchase power from the Secretary under section 3108(b),

(5) such funds in accounts of the Corporation held by the Treasury or on deposit with any bank or other financial institution as approved by the Secretary of the Treasury, and

(6) all of the Corporation's records, including all of the papers and other documentary materials, regardless of physical form or characteristics, made or received by the Corporation.

SEC. 3107. LEASING OF GASEOUS DIFFUSION FACILITIES.

(a) TRANSFER OF LEASE.—Concurrent with privatization, the Corporation shall transfer to the private corporation the lease of the gaseous diffusion plants and related property for the remainder of the term of such lease in accordance with the terms of such lease.

(b) RENEWAL.—The private corporation shall have the exclusive option to lease the gaseous diffusion plants and related property for additional periods following the expiration of the initial term of the lease.

(c) EXCLUSION OF FACILITIES FOR PRODUCTION OF HIGHLY ENRICHED URANIUM.—The Secretary shall not lease to the private corporation any facilities necessary for the production of highly enriched uranium but may, subject to the requirements of the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.), grant the Corporation access to such facilities for purposes other than the production of highly enriched uranium.

(d) DOE RESPONSIBILITY FOR PREEXISTING CONDITIONS.—The payment of any costs of decontamination and decommissioning, response actions, or corrective actions with respect to conditions existing before July 1, 1993, at the gaseous diffusion plants shall remain the sole responsibility of the Secretary.

(e) ENVIRONMENTAL AUDIT.—For purposes of subsection (d), the conditions existing before July 1, 1993, at the gaseous diffusion plants shall be determined from the environmental audit conducted pursuant to section 1403(e) of the Atomic Energy Act of 1954 (42 U.S.C. 2297c-2(e)).

(f) TREATMENT UNDER PRICE-ANDERSON PROVISIONS.—Any lease executed between the Secretary and the Corporation or the private corporation, and any extension or renewal thereof, under this section shall be deemed to be a contract for purposes of section 170d, of the Atomic Energy Act of 1954 (42 U.S.C. 2210(d)).

(g) WAIVER OF EIS REQUIREMENT.—The execution or transfer of the lease between the Secretary and the Corporation or the private corporation, and any extension or renewal thereof, shall not be considered to be a major Federal action significantly affecting the quality of the human environment for purposes of section 102 of the National Environmental Policy Act of 1969 (42 U.S.C. 4332).

SEC. 3108. TRANSFER OF CONTRACTS.

(a) TRANSFER OF CONTRACTS.—Concurrent with privatization, the Corporation shall transfer to the private corporation all contracts, agreements, and leases, including all uranium enrichment contracts, that were—

(1) transferred by the Secretary to the Corporation pursuant to section 1401(b) of the Atomic Energy Act of 1954 (42 U.S.C. 2297c(b)), or

(2) entered into by the Corporation before the privatization date.

(b) NONTRANSFERABLE POWER CONTRACTS.—The Corporation shall transfer to the private corporation the right to purchase power from the Secretary under the power purchase contracts for the gaseous diffusion plants executed by the Secretary before July 1, 1993. The Secretary shall continue to receive power for the gaseous diffusion plants under such contracts and shall continue to resell such power to the private corporation at cost during the term of such contracts.

(c) EFFECT OF TRANSFER.—(1) Notwithstanding subsection (a), the United States shall remain obligated to the parties to the contracts, agreements, and leases transferred under subsection (a) for the performance of its obligations under such contracts, agreements, or leases during their terms. Performance of such obligations by the private corporation shall be considered performance by the United States.

(2) If a contract, agreement, or lease transferred under subsection (a) is terminated, extended, or materially amended after the privatization date—

(A) the private corporation shall be responsible for any obligation arising under such contract, agreement, or lease after any extension or material amendment, and

(B) the United States shall be responsible for any obligation arising under the contract, agreement, or lease before the termination, extension, or material amendment.

(3) The private corporation shall reimburse the United States for any amount paid by the United States under a settlement agreement entered into with the consent of the private corporation or under a judgment, if the settlement or judgment—

(A) arises out of an obligation under a contract, agreement, or lease transferred under subsection (a), and

(B) arises out of actions of the private corporation between the privatization date and the date of a termination, extension, or material amendment of such contract, agreement, or lease.

(d) PRICING.—The Corporation may establish prices for its products, materials, and services provided to customers on a basis that will allow it to attain the normal business objectives of a profit making corporation.

SEC. 3109. LIABILITIES.

(a) LIABILITY OF THE UNITED STATES.—(1) Except as otherwise provided in this subchapter,

all liabilities arising out of the operation of the uranium enrichment enterprise before July 1, 1993, shall remain the direct liabilities of the Secretary.

(2) Except as provided in subsection (a)(3) or otherwise provided in a memorandum of agreement entered into by the Corporation and the Office of Management and Budget prior to the privatization date, all liabilities arising out of the operation of the Corporation between July 1, 1993, and the privatization date shall remain the direct liabilities of the United States.

(3) All liabilities arising out of the disposal of depleted uranium generated by the Corporation between July 1, 1993, and the privatization date shall become the direct liabilities of the Secretary.

(4) Any stated or implied consent for the United States, or any agent or officer of the United States, to be sued by any person for any legal, equitable, or other relief with respect to any claim arising from any action taken by any agent or officer of the United States in connection with the privatization of the Corporation is hereby withdrawn.

(5) To the extent that any claim against the United States under this section is of the type otherwise required by Federal statute or regulation to be presented to a Federal agency or official for adjudication or review, such claim shall be presented to the Department of Energy in accordance with procedures to be established by the Secretary. Nothing in this paragraph shall be construed to impose on the Department of Energy liability to pay any claim presented pursuant to this paragraph.

(6) The Attorney General shall represent the United States in any action seeking to impose liability under this subsection.

(b) LIABILITY OF THE CORPORATION.—Notwithstanding any provision of any agreement to which the Corporation is a party, the Corporation shall not be considered in breach, default, or violation of any agreement because of the transfer of such agreement to the private corporation under section 3108 or any other action the Corporation is required to take under this subchapter.

(c) LIABILITY OF THE PRIVATE CORPORATION.—Except as provided in this subchapter, the private corporation shall be liable for any liabilities arising out of its operations after the privatization date.

(d) LIABILITY OF OFFICERS AND DIRECTORS.—(1) No officer, director, employee, or agent of the Corporation shall be liable in any civil proceeding to any party in connection with any action taken in connection with the privatization if, with respect to the subject matter of the action, suit, or proceeding, such person was acting within the scope of his employment.

(2) This subsection shall not apply to claims arising under the Securities Act of 1933 (15 U.S.C. 77a. et seq.), the Securities Exchange Act of 1934 (15 U.S.C. 78a. et seq.), or under the Constitution or laws of any State, territory, or possession of the United States relating to transactions in securities.

SEC. 3110. EMPLOYEE PROTECTIONS.

(a) CONTRACTOR EMPLOYEES.—(1) Privatization shall not diminish the accrued, vested pension benefits of employees of the Corporation's operating contractor at the two gaseous diffusion plants.

(2) In the event that the private corporation terminates or changes the contractor at either or both of the gaseous diffusion plants, the plan sponsor or other appropriate fiduciary of the pension plan covering employees of the prior operating contractor shall arrange for the transfer of all plan assets and liabilities relating to accrued pension benefits of such plan's participants and beneficiaries from such plant to a pension plan sponsored by the new contractor or the private corporation or a joint labor-management plan, as the case may be.

(3) In addition to any obligations arising under the National Labor Relations Act (29

U.S.C. 151 et seq.), any employer (including the private corporation if it operates a gaseous diffusion plant without a contractor or any contractor of the private corporation) at a gaseous diffusion plant shall—

(A) abide by the terms of any unexpired collective bargaining agreement covering employees in bargaining units at the plant and in effect on the privatization date until the stated expiration or termination date of the agreement; or

(B) in the event a collective bargaining agreement is not in effect upon the privatization date, have the same bargaining obligations under section 8(d) of the National Labor Relations Act (29 U.S.C. 158(d)) as it had immediately before the privatization date.

(4) If the private corporation replaces its operating contractor at a gaseous diffusion plant, the new employer (including the new contractor or the private corporation if it operates a gaseous diffusion plant without a contractor) shall—

(A) offer employment to non-management employees of the predecessor contractor to the extent that their jobs still exist or they are qualified for new jobs, and

(B) abide by the terms of the predecessor contractor's collective bargaining agreement until the agreement expires or a new agreement is signed.

(5) In the event of a plant closing or mass lay-off (as such terms are defined in section 2101(a) (2) and (3) of title 29, United States Code) at either of the gaseous diffusion plants, the Secretary of Energy shall treat any adversely affected employee of an operating contractor at either plant who was an employee at such plant on July 1, 1993, as a Department of Energy employee for purposes of sections 3161 and 3162 of the National Defense Authorization Act for Fiscal Year 1993 (42 U.S.C. 7274h-7274i).

(6)(A) The Secretary and the private corporation shall cause the post-retirement health benefits plan provider (or its successor) to continue to provide benefits for eligible persons, as described under subparagraph (B), employed by an operating contractor at either of the gaseous diffusion plants in an economically efficient manner and at substantially the same level of coverage as eligible retirees are entitled to receive on the privatization date.

(B) Persons eligible for coverage under subparagraph (A) shall be limited to:

(i) persons who retired from active employment at one of the gaseous diffusion plants on or before the privatization date as vested participants in a pension plan maintained either by the Corporation's operating contractor or by a contractor employed prior to July 1, 1993, by the Department of Energy to operate a gaseous diffusion plant; and

(ii) persons who are employed by the Corporation's operating contractor on or before the privatization date and are vested participants in a pension plan maintained either by the Corporation's operating contractor or by a contractor employed prior to July 1, 1993, by the Department of Energy to operate a gaseous diffusion plant.

(C) The Secretary shall fund the entire cost of post-retirement health benefits for persons who retired from employment with an operating contractor prior to July 1, 1993.

(D) The Secretary and the Corporation shall fund the cost of post-retirement health benefits for persons who retire from employment with an operating contractor on or after July 1, 1993, in proportion to the retired person's years and months of service at a gaseous diffusion plant under their respective management.

(7)(A) Any suit under this subsection alleging a violation of an agreement between an employer and a labor organization shall be brought in accordance with section 301 of the Labor Management Relations Act (29 U.S.C. 185).

(B) Any charge under this subsection alleging an unfair labor practice violative of section 8 of the National Labor Relations Act (29 U.S.C. 158)

shall be pursued in accordance with section 10 of the National Labor Relations Act (29 U.S.C. 160).

(C) Any suit alleging a violation of any provision of this subsection, to the extent it does not allege a violation of the National Labor Relations Act, may be brought in any district court of the United States having jurisdiction over the parties, without regard to the amount in controversy or the citizenship of the parties.

(b) FORMER FEDERAL EMPLOYEES.—(1)(A) An employee of the Corporation that was subject to either the Civil Service Retirement System (referred to in this section as "CSRS") or the Federal Employees' Retirement System (referred to in this section as "FERS") on the day immediately preceding the privatization date shall elect—

(i) to retain the employee's coverage under either CSRS or FERS, as applicable, in lieu of coverage by the Corporation's retirement system, or

(ii) to receive a deferred annuity or lump-sum benefit payable to a terminated employee under CSRS or FERS, as applicable.

(B) An employee that makes the election under subparagraph (A)(ii) shall have the option to transfer the balance in the employee's Thrift Savings Plan account to a defined contribution plan under the Corporation's retirement system, consistent with applicable law and the terms of the Corporation's defined contribution plan.

(2) The Corporation shall pay to the Civil Service Retirement and Disability Fund—

(A) such employee deductions and agency contributions as are required by sections 8334, 8422, and 8423 of title 5, United States Code, for those employees who elect to retain their coverage under either CSRS or FERS pursuant to paragraph (1);

(B) such additional agency contributions as are determined necessary by the Office of Personnel Management to pay, in combination with the sums under subparagraph (A), the "normal cost" (determined using dynamic assumptions) of retirement benefits for those employees who elect to retain their coverage under CSRS pursuant to paragraph (1), with the concept of "normal cost" being used consistent with generally accepted actuarial standards and principles; and

(C) such additional amounts, not to exceed two percent of the amounts under subparagraphs (A) and (B), as are determined necessary by the Office of Personnel Management to pay the cost of administering retirement benefits for employees who retire from the Corporation after the privatization date under either CSRS or FERS, for their survivors, and for survivors of employees of the Corporation who die after the privatization date (which amounts shall be available to the Office of Personnel Management as provided in section 8348(a)(1)(B) of title 5, United States Code).

(3) The Corporation shall pay to the Thrift Savings Fund such employee and agency contributions as are required by section 8432 of title 5, United States Code, for those employees who elect to retain their coverage under FERS pursuant to paragraph (1).

(4) Any employee of the Corporation who was subject to the Federal Employee Health Benefits Program (referred to in this section as "FEHBP") on the day immediately preceding the privatization date and who elects to retain coverage under either CSRS or FERS pursuant to paragraph (1) shall have the option to receive health benefits from a health benefit plan established by the Corporation or to continue without interruption coverage under the FEHBP, in lieu of coverage by the Corporation's health benefit system.

(5) The Corporation shall pay to the Employees Health Benefits Fund—

(A) such employee deductions and agency contributions as are required by section 8906 (a)-(f) of title 5, United States Code, for those

employees who elect to retain their coverage under FEHBP pursuant to paragraph (4); and

(B) such amounts as are determined necessary by the Office of Personnel Management under paragraph (6) to reimburse the Office of Personnel Management for contributions under section 8906(g)(1) of title 5, United States Code, for those employees who elect to retain their coverage under FEHBP pursuant to paragraph (4).

(6) The amounts required under paragraph (5)(B) shall pay the Government contributions for retired employees who retire from the Corporation after the privatization date under either CSRS or FERS, for survivors of such retired employees, and for survivors of employees of the Corporation who die after the privatization date, with said amounts prorated to reflect only that portion of the total service of such employees and retired persons that was performed for the Corporation after the privatization date.

SEC. 3111. OWNERSHIP LIMITATIONS.

(a) SECURITIES LIMITATIONS.—No director, officer, or employee of the Corporation may acquire any securities, or any rights to acquire any securities of the private corporation on terms more favorable than those offered to the general public—

(1) in a public offering designed to transfer ownership of the Corporation to private investors,

(2) pursuant to any agreement, arrangement, or understanding entered into before the privatization date, or

(3) before the election of the directors of the private corporation.

(b) OWNERSHIP LIMITATION.—Immediately following the consummation of the transaction or series of transactions pursuant to which 100 percent of the ownership of the Corporation is transferred to private investors, and for a period of three years thereafter, no person may acquire, directly or indirectly, beneficial ownership of securities representing more than 10 percent of the total votes of all outstanding voting securities of the Corporation. The foregoing limitation shall not apply to—

(1) any employee stock ownership plan of the Corporation,

(2) members of the underwriting syndicate purchasing shares in stabilization transactions in connection with the privatization, or

(3) in the case of shares beneficially held in the ordinary course of business for others, any commercial bank, broker-dealer, or clearing agency.

SEC. 3112. URANIUM TRANSFERS AND SALES.

(a) TRANSFERS AND SALES BY THE SECRETARY.—The Secretary shall not provide enrichment services or transfer or sell any uranium (including natural uranium concentrates, natural uranium hexafluoride, or enriched uranium in any form) to any person except as consistent with this section.

(b) RUSSIAN HEU.—(1) On or before December 31, 1996, the United States Executive Agent under the Russian HEU Agreement shall transfer to the Secretary without charge title to an amount of uranium hexafluoride equivalent to the natural uranium component of low-enriched uranium derived from at least 18 metric tons of highly enriched uranium purchased from the Russian Executive Agent under the Russian HEU Agreement. The quantity of such uranium hexafluoride delivered to the Secretary shall be based on a tails assay of 0.30 U²³⁵. Uranium hexafluoride transferred to the Secretary pursuant to this paragraph shall be deemed under United States law for all purposes to be of Russian origin.

(2) Within 7 years of the date of enactment of this Act, the Secretary shall sell, and receive payment for, the uranium hexafluoride transferred to the Secretary pursuant to paragraph (1). Such uranium hexafluoride shall be sold—

(A) at any time for use in the United States for the purpose of overfeeding;

(B) at any time for end use outside the United States;

(C) in 1995 and 1996 to the Russian Executive Agent at the purchase price for use in matched sales pursuant to the Suspension Agreement; or, (D) in calendar year 2001 for consumption by end users in the United States not prior to January 1, 2002, in volumes not to exceed 3,000,000 pounds U₃O₈ equivalent per year.

(3) With respect to all enriched uranium delivered to the United States Executive Agent under the Russian HEU Agreement on or after January 1, 1997, the United States Executive Agent shall, upon request of the Russian Executive Agent, enter into an agreement to deliver concurrently to the Russian Executive Agent an amount of uranium hexafluoride equivalent to the natural uranium component of such uranium. An agreement executed pursuant to a request of the Russian Executive Agent, as contemplated in this paragraph, may pertain to any deliveries due during any period remaining under the Russian HEU Agreement. The quantity of such uranium hexafluoride delivered to the Russian Executive Agent shall be based on a tails assay of 0.30 U²³⁵. Title to uranium hexafluoride delivered to the Russian Executive Agent pursuant to this paragraph shall transfer to the Russian Executive Agent upon delivery of such material to the Russian Executive Agent, with such delivery to take place at a North American facility designated by the Russian Executive Agent. Uranium hexafluoride delivered to the Russian Executive Agent pursuant to this paragraph shall be deemed under U.S. law for all purposes to be of Russian origin. Such uranium hexafluoride may be sold to any person or entity for delivery and use in the United States only as permitted in subsections (b)(5), (b)(6) and (b)(7) of this section.

(4) In the event that the Russian Executive Agent does not exercise its right to enter into an agreement to take delivery of the natural uranium component of any low-enriched uranium, as contemplated in paragraph (3), within 90 days of the date such low-enriched uranium is delivered to the United States Executive Agent, or upon request of the Russian Executive Agent, then the United States Executive Agent shall engage an independent entity through a competitive selection process to auction an amount of uranium hexafluoride or U₃O₈ (in the event that the conversion component of such hexafluoride has previously been sold) equivalent to the natural uranium component of such low-enriched uranium. An agreement executed pursuant to a request of the Russian Executive Agent, as contemplated in this paragraph, may pertain to any deliveries due during any period remaining under the Russian HEU Agreement. Such independent entity shall sell such uranium hexafluoride in one or more lots to any person or entity to maximize the proceeds from such sales, for disposition consistent with the limitations set forth in this subsection. The independent entity shall pay to the Russian Executive Agent the proceeds of any such auction less all reasonable transaction and other administrative costs. The quantity of such uranium hexafluoride auctioned shall be based on a tails assay of 0.30 U²³⁵. Title to uranium hexafluoride auctioned pursuant to this paragraph shall transfer to the buyer of such material upon delivery of such material to the buyer. Uranium hexafluoride auctioned pursuant to this paragraph shall be deemed under United States law for all purposes to be of Russian origin.

(5) Except as provided in paragraphs (6) and (7), uranium hexafluoride delivered to the Russian Executive Agent under paragraph (3) or auctioned pursuant to paragraph (4), may not be delivered for consumption by end users in the United States either directly or indirectly prior to January 1, 1998, and thereafter only in accordance with the following schedule:

| Annual Maximum Deliveries to End Users | |
|--|--|
| Year: | (millions lbs. U ₃ O ₈ equivalent) |
| 1998 | 2 |

| | |
|-------------------------------------|----|
| 1999 | 4 |
| 2000 | 6 |
| 2001 | 8 |
| 2002 | 10 |
| 2003 | 12 |
| 2004 | 14 |
| 2005 | 16 |
| 2006 | 17 |
| 2007 | 18 |
| 2008 | 19 |
| 2009 and each year thereafter | 20 |

(6) Uranium hexafluoride delivered to the Russian Executive Agent under paragraph (3) or auctioned pursuant to paragraph (4) may be sold at any time as Russian-origin natural uranium in a matched sale pursuant to the Suspension Agreement, and in such case shall not be counted against the annual maximum deliveries set forth in paragraph (5).

(7) Uranium hexafluoride delivered to the Russian Executive Agent under paragraph (3) or auctioned pursuant to paragraph (4) may be sold at any time for use in the United States for the purpose of overfeeding in the operations of enrichment facilities.

(8) Nothing in this subsection (b) shall restrict the sale of the conversion component of such uranium hexafluoride.

(9) The Secretary of Commerce shall have responsibility for the administration and enforcement of the limitations set forth in this subsection. The Secretary of Commerce may require any person to provide any certifications, information, or take any action that may be necessary to enforce these limitations. The United States Customs Service shall maintain and provide any information required by the Secretary of Commerce and shall take any action requested by the Secretary of Commerce which is necessary for the administration and enforcement of the uranium delivery limitations set forth in this section.

(10) The President shall monitor the actions of the United States Executive Agent under the Russian HEU Agreement and shall report to the Congress not later than December 31 of each year on the effect the low-enriched uranium delivered under the Russian HEU Agreement is having on the domestic uranium mining, conversion, and enrichment industries, and the operation of the gaseous diffusion plants. Such report shall include a description of actions taken or proposed to be taken by the President to prevent or mitigate any material adverse impact on such industries or any loss of employment at the gaseous diffusion plants as a result of the Russian HEU Agreement.

(c) TRANSFERS TO THE CORPORATION.—(1) The Secretary shall transfer to the Corporation without charge up to 50 metric tons of enriched uranium and up to 7,000 metric tons of natural uranium from the Department of Energy's stockpile, subject to the restrictions in subsection (c)(2).

(2) The Corporation shall not deliver for commercial end use in the United States—

(A) any of the uranium transferred under this subsection before January 1, 1998;

(B) more than 10 percent of the uranium (by uranium hexafluoride equivalent content) transferred under this subsection or more than 4,000,000 pounds, whichever is less, in any calendar year after 1997; or

(C) more than 800,000 separative work units contained in low-enriched uranium transferred under this subsection in any calendar year.

(d) INVENTORY SALES.—(1) In addition to the transfers authorized under subsections (c) and (e), the Secretary may, from time to time, sell natural and low-enriched uranium (including low-enriched uranium derived from highly enriched uranium) from the Department of Energy's stockpile.

(2) Except as provided in subsections (b), (c), and (e), no sale or transfer of natural or low-enriched uranium shall be made unless—

(A) the President determines that the material is not necessary for national security needs,

(B) the Secretary determines that the sale of the material will not have an adverse material impact on the domestic uranium mining, conversion, or enrichment industry, taking into account the sales of uranium under the Russian HEU Agreement and the Suspension Agreement, and

(C) the price paid to the Secretary will not be less than the fair market value of the material.

(e) GOVERNMENT TRANSFERS.—Notwithstanding subsection (d)(2), the Secretary may transfer or sell enriched uranium—

(1) to a Federal agency if the material is transferred for the use of the receiving agency without any resale or transfer to another entity and the material does not meet commercial specifications;

(2) to any person for national security purposes, as determined by the Secretary; or

(3) to any State or local agency or nonprofit, charitable, or educational institution for use other than the generation of electricity for commercial use.

(f) SAVINGS PROVISION.—Nothing in this subchapter shall be read to modify the terms of the Russian HEU Agreement.

SEC. 3113. LOW-LEVEL WASTE.

(a) RESPONSIBILITY OF DOE.—(1) The Secretary, at the request of the generator, shall accept for disposal low-level radioactive waste, including depleted uranium if it were ultimately determined to be low-level radioactive waste, generated by—

(A) the Corporation as a result of the operations of the gaseous diffusion plants or as a result of the treatment of such wastes at a location other than the gaseous diffusion plants, or

(B) any person licensed by the Nuclear Regulatory Commission to operate a uranium enrichment facility under sections 53, 63, and 193 of the Atomic Energy Act of 1954 (42 U.S.C. 2073, 2093, and 2243).

(2) Except as provided in paragraph (3), the generator shall reimburse the Secretary for the disposal of low-level radioactive waste pursuant to paragraph (1) in an amount equal to the Secretary's costs, including a pro rata share of any capital costs, but in no event more than an amount equal to that which would be charged by commercial, State, regional, or interstate compact entities for disposal of such waste.

(3) In the event depleted uranium were ultimately determined to be low-level radioactive waste, the generator shall reimburse the Secretary for the disposal of depleted uranium pursuant to paragraph (1) in an amount equal to the Secretary's costs, including a pro rata share of any capital costs.

(b) AGREEMENTS WITH OTHER PERSONS.—The generator may also enter into agreements with the disposal of low-level radioactive waste subject to subsection (a) with any person other than the Secretary that is authorized by applicable laws and regulations to dispose of such wastes.

(c) STATE OR INTERSTATE COMPACTS.—Notwithstanding any other provision of law, no State or interstate compact shall be liable for the treatment, storage, or disposal of any low-level radioactive waste (including mixed waste) attributable to the operation, decontamination, and decommissioning of any uranium enrichment facility.

SEC. 3114. AVLIS.

(a) EXCLUSIVE RIGHT TO COMMERCIALIZE.—The Corporation shall have the exclusive commercial right to deploy and use any AVLIS patents, processes, and technical information owned or controlled by the Government, upon completion of a royalty agreement with the Secretary.

(b) TRANSFER OF RELATED PROPERTY TO CORPORATION.—

(1) IN GENERAL.—To the extent required by the Corporation and subject to the requirements of the Atomic Energy Act of 1954 (42 U.S.C. 2011, et seq.), the President shall transfer without charge to the Corporation all of the right, title,

or interest in and to property owned by the United States under control or custody of the Secretary that is directly related to and materially useful in the performance of the Corporation's purposes regarding AVLIS and alternative technologies for uranium enrichment, including—

(A) facilities, equipment, and materials for research, development, and demonstration activities; and

(B) all other facilities, equipment, materials, processes, patents, technical information of any kind, contracts, agreements, and leases.

(2) EXCEPTION.—Facilities, real estate, improvements, and equipment related to the gaseous diffusion, and gas centrifuge, uranium enrichment programs of the Secretary shall not transfer under paragraph (1)(B).

(3) EXPIRATION OF TRANSFER AUTHORITY.—The President's authority to transfer property under this subsection shall expire upon the privatization date.

(c) LIABILITY FOR PATENT AND RELATED CLAIMS.—With respect to any right, title, or interest provided to the Corporation under subsection (a) or (b), the Corporation shall have sole liability for any payments made or awards under section 157 b. (3) of the Atomic Energy Act of 1954 (42 U.S.C. 2187(b)(3)), or any settlements or judgments involving claims for alleged patent infringement. Any royalty agreement under subsection (a) of this section shall provide for a reduction of royalty payments to the Secretary to offset any payments, awards, settlements, or judgments under this subsection.

SEC. 3115. APPLICATION OF CERTAIN LAWS.

(a) OSHA.—(1) As of the privatization date, the private corporation shall be subject to and comply with the Occupational Safety and Health Act of 1970 (29 U.S.C. 651 et seq.).

(2) The Nuclear Regulatory Commission and the Occupational Safety and Health Administration shall, within 90 days after the date of enactment of this Act, enter into a memorandum of agreement to govern the exercise of their authority over occupational safety and health hazards at the gaseous diffusion plants, including inspection, investigation, enforcement, and rulemaking relating to such hazards.

(b) ANTI-TRUST LAWS.—For purposes of the antitrust laws, the performance by the private corporation of a "matched import" contract under the Suspension Agreement shall be considered to have occurred prior to the privatization date, if at the time of privatization, such contract had been agreed to by the parties in all material terms and confirmed by the Secretary of Commerce under the Suspension Agreement.

(c) ENERGY REORGANIZATION ACT REQUIREMENTS.—(1) The private corporation and its contractors and subcontractors shall be subject to the provisions of section 211 of the Energy Reorganization Act of 1974 (42 U.S.C. 5851) to the same extent as an employer subject to such section.

(2) With respect to the operation of the facilities leased by the private corporation, section 206 of the Energy Reorganization Act of 1974 (42 U.S.C. 5846) shall apply to the directors and officers of the private corporation.

SEC. 3116. AMENDMENTS TO THE ATOMIC ENERGY ACT.

(a) REPEAL.—(1) Chapters 22 through 26 of the Atomic Energy Act of 1954 (42 U.S.C. 2297–2297e–7) are repealed as of the privatization date.

(2) The table of contents of such Act is amended as of the privatization date by striking the items referring to sections repealed by paragraph (1).

(b) NRC LICENSING.—(1) Section 11v. of the Atomic Energy Act of 1954 (42 U.S.C. 2014v.) is amended by striking "or the construction and operation of a uranium enrichment facility using Atomic Vapor Laser Isotope Separation technology".

(2) Section 193 of the Atomic Energy Act of 1954 (42 U.S.C. 2243) is amended by adding at the end the following:

"(f) LIMITATION.—No license or certificate of compliance may be issued to the United States Enrichment Corporation or its successor under this section or sections 53, 63, or 1701, if the Commission determines that—

"(1) the Corporation is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government; or

"(2) the issuance of such a license or certificate of compliance would be inimical to—

"(A) the common defense and security of the United States; or

"(B) the maintenance of a reliable and economical domestic source of enrichment services."

(3) Section 1701(c)(2) of the Atomic Energy Act of 1954 (42 U.S.C. 2297f(c)(2)) is amended to read as follows:

"(2) PERIODIC APPLICATION FOR CERTIFICATE OF COMPLIANCE.—The Corporation shall apply to the Nuclear Regulatory Commission for a certificate of compliance under paragraph (1) periodically, as determined by the Commission, but not less than every 5 years. The Commission shall review any such application and any determination made under subsection (b)(2) shall be based on the results of any such review."

(4) Section 1702(a) of the Atomic Energy Act of 1954 (42 U.S.C. 2297f–1(a)) is amended—

(1) by striking "other than" and inserting "including"; and

(2) by striking "sections 53 and 63" and inserting "sections 53, 63, and 193".

(c) JUDICIAL REVIEW OF NRC ACTIONS.—Section 189b. of the Atomic Energy Act of 1954 (42 U.S.C. 2239(b)) is amended to read as follows:

"b. The following Commission actions shall be subject to judicial review in the manner prescribed in chapter 158 of title 28, United States Code, and chapter 7 of title 5, United States Code:

"(1) Any final order entered in any proceeding of the kind specified in subsection (a).

"(2) Any final order allowing or prohibiting a facility to begin operating under a combined construction and operating license.

"(3) Any final order establishing by regulation standards to govern the Department of Energy's gaseous diffusion uranium enrichment plants, including any such facilities leased to a corporation established under the USEC Privatization Act.

"(4) Any final determination under section 1701(c) relating to whether the gaseous diffusion plants, including any such facilities leased to a corporation established under the USEC Privatization Act, are in compliance with the Commission's standards governing the gaseous diffusion plants and all applicable laws."

(d) CIVIL PENALTIES.—Section 234 a. of the Atomic Energy Act of 1954 (42 U.S.C. 2282(a)) is amended by—

(1) striking "any licensing provision of section 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109" and inserting: "any licensing or certification provision of section 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, 109, or 1701"; and

(2) by striking "any license issued thereunder" and inserting: "any license or certification issued thereunder".

(e) REFERENCES TO THE CORPORATION.—Following the privatization date, all references in the Atomic Energy Act of 1954 to the United States Enrichment Corporation shall be deemed to be references to the private corporation.

SEC. 3117. AMENDMENTS TO OTHER LAWS.

(a) DEFINITION OF GOVERNMENT CORPORATION.—As of the privatization date, section 9101(3) of title 31, United States Code, is amended by striking subparagraph (N) as added by section 902(b) of Public Law 102–486.

(b) DEFINITION OF THE CORPORATION.—Section 1018(1) of the Energy Policy Act of 1992 (42 U.S.C. 2296b–7(1)) is amended by inserting "or its successor" before the period.

HEU Feed Deal, Transfer Agreement, Administrative Agreement, and Diplomatic Notes²

The following are the texts of key documents signed by US and Russian officials to support the commercial contract between Cameco, Cogema, and Nukem and Russia's Tekhsnabeksport. US Secretary of Energy Bill Richardson and Russian Minister of Atomic Energy Yevgeniy Adamov signed the first document, the [HEU Feed Deal](#), which specifies how the United States is to transfer, use, pay for, and stockpile natural uranium feed equivalent derived from the HEU Deal (aka Megatons-to-Megawatts deal); and how Russia may use, sell, receive, and stockpile the feed equivalent in its possession. According to the HEU Feed Deal, the Russian Ministry of Atomic Energy (Minatom) will be able to create a new stockpile, which will be limited to 22,000MT uranium hexafluoride (UF₆) equivalent, or 58 million lb U₃O₈. The Department of Energy (DOE) will also be allowed to build up its stockpile to an equivalent level of UF₆.

The second document, the Annex to the HEU Feed Deal, or [Transfer Agreement](#), establishes how DOE must use the \$325 million Congress allocated to purchase the 1997 and 1998 allotments of uranium feed component, which DOE will keep off the world uranium market until 2009. The Annex creates a schedule of three payments: a payment of over \$204 million for 6.91MT of feed already delivered to the U.S. Enrichment Corporation (USEC); a second payment of over \$91 million for 3.08MT for feed not delivered to USEC in 1998, which Tekhsnabeksport will deliver to DOE in 1999; and a third payment of \$29.5 million for the remaining 1MT of feed associated with the 1998 feed deliveries not delivered to USEC, but which Tekhsnabeksport will also deliver to DOE in 1999.

The third document, the [Administrative Agreement](#), sets forth the accounting, inventory arrangements, reporting, monitoring, and verification measures and procedures that both sides will abide by to ensure the smooth implementation of the HEU Feed Deal. Of particular note, the agreement provides the United States the right to conduct one inventory per year (of unspecified duration) of cylinders containing Russia's natural uranium feed stockpile pursuant to the Assurances Agreement outlined in diplomatic note 1.

The remaining documents include two diplomatic notes from the United States and two reciprocal decrees signed by Russian Prime Minister Yevgeniy Primakov on 18 March 1999.

The first US diplomatic note, referred to as the [Assurances Agreement](#), provides assurances that Russia will not divert any of the transferred uranium for use in the development, research, or use of nuclear weapons, "or for any other military purpose." The [Annex to the Assurances Agreement](#) lists the third party countries to which Russia may sell its feed stockpile after having provided the Western consortium with the right to buy the feed. The note also permits Russia to use the principle of fungibility with regard to the transferred uranium source material to fulfill its obligations in the HEU-LEU agreement or in any part of the HEU Feed Agreement—provided that Russia maintains an inventory and record of materials' usage pursuant to the Administrative agreement and reports that usage in its annual report to the United States.

The [second US diplomatic note](#) endorses the commercial contract between Tekhsnabeksport and the Western consortium.

The [first Russian decree](#) grants Minatom the authority to sign the Transfer Agreement and the Administrative Agreement. It also it directs Minatom to execute a commercial contract with the Western

² Nuclear Threat Initiative research library found at <http://www.nti.org/db/nisprofs/russia/fulltext/heudeal/heufeed.htm>.

consortium through Tekhsnabeksport. Moreover, it approves the text of the first US diplomatic note and authorizes negotiators to exchange them with the United States.

The [second Russian decree](#) also endorses the commercial contract between Tekhsnabeksport and the Western consortium and instructs the Russian Ministry of Foreign Affairs to effect the exchange of diplomatic notes regarding the commercial contract—thus implementing the entire HEU Feed Deal.

**AGREEMENT BETWEEN THE UNITED STATES DEPARTMENT OF ENERGY AND THE
MINISTRY OF THE RUSSIAN FEDERATION FOR ATOMIC ENERGY CONCERNING THE
TRANSFER OF SOURCE MATERIAL TO
THE RUSSIAN FEDERATION
(March 24, 1999)**

The United States Department of Energy ("the U.S. Party") and the Ministry of the Russian Federation for Atomic Energy ("the Russian Party"), hereinafter referred to as the Parties,
Desiring to facilitate implementation of the Agreement between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons, signed at Washington on February 18, 1993 (the "HEU-LEU Agreement"),

Have agreed as follows:

Article 1

The U.S. Party shall, in accordance with and subject to applicable treaties, laws, regulations and licensing requirements of the United States of America, arrange for the distribution to the Russian Party of uranium hexafluoride delivered to the Russian Executive Agent under section 3112 (b)(3) of the USEC Privatization Act, 42 U.S.C. 2297h- 10(b)(3). The amount of such uranium hexafluoride to be so distributed ("source material transferred pursuant to this Agreement") shall be the amount of such uranium hexafluoride not initially sold or transferred by the Russian Executive Agent pursuant to the conclusion of the commercial contract between AP Techsnabexport and the Compagnie Generale des Matieres Nucleaires (COGEMA), Cameco Uranium, Inc., Nukem, Inc. and Nukem Nuklear GmbH, contract no. 08843672/90100-02D ("the Commercial Agreement"), entered into in accordance with Article II. 1 of the HEU-LEU Agreement.

Article 2

1. The Russian Party agrees to use source material transferred pursuant to this Agreement only for the following purposes:

- a) storage and use in accordance with Article 7 of this Agreement.
- b) sale in accordance with the Commercial Agreement

2. Source material transferred pursuant to this Agreement, or any other nuclear material that is substituted for such material pursuant to the Administrative Arrangement entered into pursuant to paragraph 3 of the Agreement effected by the exchange of diplomatic notes between the Government of the United States of America and the Government of the Russian Federation dated March 24, 1999 (the "Assurances Agreement"), shall be subject to the conditions set forth in the Assurances Agreement.

Article 3

The activities of the Parties under this Agreement shall be subject to the availability of appropriated funds.

Article 4

The Parties may, as appropriate, enter into implementing arrangements to carry out the provisions of this Agreement.

In the case of any inconsistency between this Agreement and any such implementing arrangements, the provisions of this Agreement shall prevail.

Article 5

The Russian Party takes responsibility for preparing for transportation and for transporting to the Russian Federation the source material transferred pursuant to this Agreement. Any cost incurred by the U.S. Party, with the concurrence of the Russian Party, in arranging for such transportation shall be reimbursed by the Russian Party.

Article 6

1. Pursuant to the Implementing Agreement contained in the Annex, which is an integral part of this Agreement, the U.S. Party shall purchase from the Russian Party feed component associated with the 1997 and 1998 LEU deliveries under the HEU-LEU Agreement.

2. The Russian Party shall make available for purchase feed component associated with the 1997 and 1998 LEU deliveries under the HEU-LEU Agreement.

Article 7

In order to facilitate the implementation of the HEU-LEU Agreement,

1. The U.S. Party shall, subject to applicable U.S. law, maintain for ten years a stock of no less than 22,000 metric tons of natural uranium equivalent, including the uranium associated with the 1997 and 1998 LEU deliveries pursuant to Article 6 of this Agreement. By written agreement of the Parties, the stock may be reduced, through the withdrawal of uranium, in order to ensure the reliability of deliveries under the Commercial Agreement in accordance with Article 4 of the Agreement.

2. The Russian Party shall maintain for the duration of the HEU-LEU Agreement a separate stock of source material transferred to Russia pursuant to this Agreement. Such material may be withdrawn from this stock only for the following purposes:

- (a) up to 2580 metric tons per year for diluting HEU for delivery as LEU to the United States under the HEU-LEU Agreement;
- (b) sale directly or through its duly appointed agent, in accordance with the Commercial Agreement and the Assurances Agreement: or
- (c) provided that a stock of at least 22,000 metric tons is maintained, any material in excess of that 22,000 metric tons may be sold in the form of LEU under existing contracts to countries eligible in accordance with the Assurances Agreement.

Article 8

1. This Agreement, having been signed, shall enter into force upon the entry into force of the Assurances Agreement referenced in Article 2, provided that the Government of the United States of America and the Government of the Russian Federation have also notified each other that they have endorsed the conclusion of the Commercial Agreement referred to in Article 1.

2. This Agreement may be amended by written agreement of the Parties.

3. Each Party shall have the right to terminate this Agreement upon no less than 12 months' written notification to the other Party of its intention to do so.

Done at Washington this twenty-fourth day of March, 1999, in duplicate in the English and Russian languages, both texts being equally authentic.

FOR THE UNITED STATES DEPARTMENT OF ENERGY:
Bill Richardson

FOR THE RUSSIAN FEDERATION MINISTRY OF THE FOR ATOMIC ENERGY:
Yevgeny Adamov

**ANNEX TO THE AGREEMENT BETWEEN THE UNITED STATES DEPARTMENT OF
ENERGY AND THE MINISTRY OF THE RUSSIAN FEDERATION FOR ATOMIC ENERGY
CONCERNING THE TRANSFER OF SOURCE MATERIAL TO THE RUSSIAN FEDERATION
("TRANSFER AGREEMENT")
IMPLEMENTING AGREEMENT**

WHEREAS, the Government of the Russian Federation is delivering low-enriched uranium derived from highly enriched uranium under the Agreement Between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from the Nuclear Weapons concluded on February 18, 1993 (HEU-LEU Agreement);

WHEREAS, the Russian Federation owns natural uranium used for manufacturing low-enriched uranium associated with such deliveries and an equivalent quantity of which is returned into the ownership of the Russian Federation in the United States territory (hereafter "feed component");

WHEREAS, in 1998 the United States Congress passed legislation providing \$325 million for the Department of Energy to purchase the feed component associated with the 1997 and 1998 deliveries under the HEU-LEU Agreement, provided that certain requirements are met, including the conclusion of a long-term agreement by the Government of the Russian Federation and commercial partners for the sale of the feed components to be derived from the deliveries scheduled for 1999 and thereafter under the HEU-LEU Agreement;

WHEREAS, the Department of Energy (DOE) and the Ministry of the Russian Federation for Atomic Energy (MINATOM) have agreed that MINATOM will be responsible for transportation of the source material transferred to the Russian Federation under the Transfer Agreement;

NOW THEREFORE, MINATOM and DOE agree as follows:

1. MINATOM shall make available for purchase by DOE 6,917,225.13 kilograms of feed component associated with 1997 and 1998 deliveries of low-enriched uranium under the HEU-LEU Agreement. The feed component is located at Portsmouth Gaseous Diffusion Plant or the Paducah Gaseous Diffusion Plant in the United States. Title, possession and risk of loss to one half of this feed component shall transfer to DOE 30 days after the date of entry into force of the Transfer Agreement, or 20 days after receipt by MINATOM of notification from DOE that requirements under U.S. law have been met, whichever is later. Title, possession and risk of loss to the second half of this feed component shall transfer to DOE 60 days after the date of entry into force of the Transfer Agreement, or 20 days after receipt by MINATOM of notification from DOE that requirements under U.S. law have been met, whichever is later.
2. MINATOM shall make available for purchase by DOE an additional 3,082,774.87 kilograms of feed component associated with orders for low-enriched uranium under the HEU-LEU Agreement for 1998 but not yet delivered. MINATOM shall seek to deliver this uranium to the United States as expeditiously as possible in 1999. MINATOM shall notify DOE when it is prepared to deliver 3,082,774.87 kilograms of this feed component. Title to this feed component shall transfer to DOE 30 days after the notification to DOE, unless MINATOM has not received notification by DOE that requirements under U.S. law have been met; in such case, title shall transfer to DOE 20 days after receipt by MINATOM of notification from DOE that requirements under U.S. law have been met.
3. MINATOM shall notify the DOE when it is prepared to provide the final 1,000,000 kilograms of feed component associated with 1998 deliveries. Title to this feed component shall transfer to the Department 30 days after the notification to DOE, unless MINATOM has not received notification by DOE that

requirements under U.S. law have been met; in such case, title shall transfer to DOE 20 days after receipt by MINATOM of notification from DOE that requirements under U.S. law have been met.

4. MINATOM has the responsibility for the above-mentioned feed component until the dates of transfer.

5. MINATOM has the responsibility for acquisition of the cylinders that contain the feed component. The purchase price paid by the United States includes rental of the cylinders that contain this uranium for as long as the uranium is owned by the United States. DOE has no further obligation to pay for use of these cylinders.

6. DOE shall pay MINATOM or its designee \$204,372,560.66 upon transfer of the feed component pursuant to paragraph 1. DOE shall pay MINATOM or its designee \$91,081,984.80 upon transfer of the feed component pursuant to paragraph 2. DOE shall pay MINATOM or its designee \$29,545,454.54 upon transfer of the feed component pursuant to paragraph 3. Such payments shall be made electronically to AO Techsnabexport, Account No.4070284040000000010, Conversbank, Moscow, Russian Federation, through the account of Conversbank, Account No. 04-094-462 in Bankers Trust Company, New York, New York, ABA No. 021001033, within three business days of each transfer of feed component.

7. All notices and contacts concerning this agreement are to be made in writing, in English, and shall be submitted to the following address by mail or fax:

DOE:

U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585
phone: 202-586-5569
fax: 202-586-7210

MINATOM:

Ministry of the Russian Federation for Atomic Energy
Staromonetnyy per. 26
109180 Moscow
telephone: 953-17-18
fax: 230-24-20

ADMINISTRATIVE ARRANGEMENT

In order to provide for the effective implementation of the Agreement between the Government of the United States of America and the Government of the Russian Federation with respect to the transfer of source material, effected by an exchange of diplomatic notes on this date (hereinafter "the Assurances Agreement"), the United States Department of Energy ("the U.S. Party") and the Ministry of Atomic Energy of the Russian Federation ("the Russian Party") (hereinafter "the Parties") hereby establish the following Administrative Arrangement.

Channels of Communication:

Pursuant to this Administrative Arrangement the Parties will communicate directly using appropriately secure channels.

Accounting for and Control of Subject Nuclear Material:

The Russian Party shall provide nuclear material accounting and control covering all source material transferred pursuant to the Agreement between the United States Department of Energy and the Ministry of the Russian Federation for Atomic Energy Concerning the Transfer of Source Material to the Russian Federation ("the Transfer Agreement"), signed today, or any nuclear material that is substituted for such material pursuant to this Administrative Agreement.

The Russian Party shall provide to the U.S. Party annually by May 1, through diplomatic channels, an official report on source material transferred pursuant to the Transfer Agreement, or any nuclear material that is substituted for such material pursuant to this Administrative Arrangement, which is within the jurisdiction of the Russian Federation as of December 31 of the preceding year, including a list of permitted withdrawals or sales.

The report shall include beginning and ending inventories, to include quantities, categories (natural uranium or LEU), cylinder number, gross weight, tare weight, shipper, receiver, date received, date removed from storage for shipment from Russia (if applicable), chemical and physical form, and location.

The U.S. Party shall provide prior notification to the Russian Party of each shipment of source material to include cylinder number, gross weight, tare weight, shipper, intended receiver, date shipped (if known), chemical and physical form, and location.

The Russian Party shall provide the U.S. Party notification of receipt of each shipment of source material indicating cylinder number, gross weight, tare weight, shipper, intended receiver, date shipped (if known), chemical and physical form, and location.

Nuclear material included on the inventory shall remain listed until (a) it has, consistent with the Assurances Agreement, been transferred beyond the jurisdiction of the Russian Federation or (b) the Parties agree that it is no longer usable for any nuclear activity relevant from the point of view of international safeguards or has become practically irrecoverable.

The inventory of nuclear material, and the annual report thereon, need not identify physically the particular nuclear material initially subject to the Assurances Agreement, but shall at all times identify an equivalent quantity, provided, that the principle of equivalence shall not be used to reduce the quality of the nuclear material subject to the Assurances Agreement. In particular, the Russian Party may substitute low enriched uranium of equivalent U-235 content for source material subject to the Assurances

Agreement. It is understood that such substituted low enriched uranium may be delivered to the United States of America in accordance with the HEU-LEU Agreement or may be delivered to eligible countries or groups of countries in accordance with the provisions of paragraph 5 of the Assurances Agreement. Such substituted low enriched uranium, upon delivery to the United States of America or a third country, will be removed from the inventory of nuclear material subject to the Assurances Agreement.

Monitoring:

In order to provide confidence that the terms of the Assurances Agreement are being implemented, the United States of America shall have the right to conduct one annual inventory of cylinders containing uranium subject to the Assurances Agreement in storage in Russia. During this inventory, U.S. monitors shall have the right to visually check serial numbers on cylinders in storage and compare them with numbers declared by the Russian Party in the annual report. Additional procedures, as necessary, may be agreed upon by the Parties and will be the subject of an annex to this Administrative Arrangement.

Reporting:

Each party may, at its discretion, provide access to reports prepared under this Administrative Arrangement.

Amendment:

This Administrative Arrangement may be amended by written agreement of the Parties.

Effective Date:

This Administrative Arrangement shall enter into force upon signature.

Done at Washington this twenty-fourth day of March, 1999, in duplicate, each in the English and Russian languages, both texts being equally authentic.

FOR THE UNITED STATES DEPARTMENT OF ENERGY:
Bill Richardson

FOR THE MINISTRY OF THE RUSSIAN FEDERATION FOR ATOMIC ENERGY
Yevgeny Adamov

DIPLOMATIC NOTES

US Diplomatic Note 1 — "Assurances Agreement"

The Department of State of the United States of America [in the Russian note, it is the Ministry of Foreign Affairs of the Russian Federation] presents its compliments to the Embassy of the Russian Federation [or in the Russian note, the State Department of the U.S.] in the United States of America and has the honor to propose the following Agreement concerning the transfer of source material from the United States of America to the Russian Federation pursuant to the Agreement between the United States Department of Energy and the Ministry of the Russian Federation for Atomic Energy Concerning the Transfer of Source Material to the Russian Federation ("the Transfer Agreement"), signed March 24, 1999.

1. The agreement proposed hereinafter shall constitute the Agreement Between the Government of the United States of America and the Government of the Russian Federation ("the Parties") regarding assurances concerning the source material transferred from the United States to the Russian Federation ("the Assurances Agreement"), in implementation of the Agreement Between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons, signed on February 18, 1993 ("the HEU-LEU Agreement").
2. The Government of the Russian Federation agrees that no special nuclear material shall be produced by the Russian Federation or under the jurisdiction or control of the Russian Federation through the use of source material transferred pursuant to the Transfer Agreement.
3. The Department of Energy of the United States of America ("DOE") and the Ministry of the Russian Federation for Atomic Energy ("MINATOM") are establishing an Administrative Arrangement in order to provide for the effective implementation of the provisions of the Assurances Agreement. This Administrative Arrangement may be amended by written agreement between DOE and MINATOM. The principles of fungibility, equivalence and proportionality shall apply to nuclear material subject to the Assurances Agreement and the Transfer Agreement and the detailed provisions thereof shall be set out in the Administrative Arrangement.
4. The Government of the Russian Federation agrees that:
 - (a) Source material transferred pursuant to the Transfer Agreement, or any nuclear material that is substituted for such material pursuant to the Administrative Arrangement, shall be subject to agreed bilateral tracking and monitoring arrangements.
 - (b) Source material transferred pursuant to the Transfer Agreement, or any nuclear material that is substituted for such material pursuant to the Administrative Arrangement, shall not be used for any nuclear explosive device or for research on, or development of, any nuclear explosive device, or for any other military purpose.
 - (c) Adequate physical protection measures shall be maintained with respect to source material transferred pursuant to the Transfer Agreement or any nuclear material that is substituted for such material pursuant to the Administrative Arrangement. To fulfill this requirement, such measures shall be applied in accordance with levels of physical protection at least equivalent to the recommendations published in the IAEA document INFCIRC/225/Rev. 4 entitled "The Physical Protection of Nuclear Material," or a subsequent revision accepted by the Parties.
 - (d) Source material transferred pursuant to the Transfer Agreement, or any nuclear material that is substituted for such material pursuant to the Administrative Arrangement, shall not be transferred

to unauthorized persons or beyond the jurisdiction or control of the Russian Federation without the prior consent of the Government of the United States of America.

(e) Source material transferred pursuant to the Transfer Agreement, or any nuclear material that is substituted for such material pursuant to the Administrative Arrangement, shall not be reprocessed or altered in form or content without the prior consent of the Government of the United States of America.

(f) Source material transferred pursuant to the Transfer Agreement, or any nuclear material that is substituted for such material pursuant to the Administrative Arrangement, shall not be enriched without the prior consent of the Government of the United States of America.

5. The Government of the United States of America agrees that source material transferred pursuant to the Transfer Agreement and low enriched uranium substituted for source material transferred pursuant to the Transfer Agreement may, pursuant to contracts existing on the date of entry into force of the Transfer Agreement, be retransferred by the Russian Federation to countries or groups of countries with which the United States of America has in force an agreement for peaceful nuclear cooperation and that are otherwise acceptable to the United States. The list of acceptable countries or groups of countries is set forth in the Annex to the Assurances Agreement. The Government of the United States of America may add eligible countries or groups of countries to the list at any time, and may delete countries or groups of countries from the list following consultations with the Government of the Russian Federation. MINATOM shall keep records of such retransfers and shall promptly notify an agency designated by the Government of the United States of America of each retransfer. Prior to each retransfer, MINATOM shall confirm in writing to the aforesaid agency of the Government of the United States of America that the nuclear material to be retransferred will be subject to an agreement for peaceful nuclear co-operation between the United States of America and the countries or groups of countries receiving the nuclear material.

6. The Parties agree that if the Transfer Agreement is terminated, any source material transferred pursuant to the Transfer Agreement, or any nuclear material that is substituted for such material to the Administrative Arrangement, will continue to be subject to the conditions set forth in the Assurances Agreement.

7. Subject to the above, source material transferred pursuant to the Transfer Agreement may be used, as specified in Article 7 of the Transfer Agreement, for diluting HEU for delivery as LEU to the United States of America under the HEU-LEU Agreement or for sale in accordance with the Commercial Agreement and paragraph 5 of the Assurances Agreement.

If these proposals are acceptable to the Government of the Russian Federation, it is further proposed that this note, together with the Embassy's affirmative note of reply, on behalf of the Government of the Russian Federation, shall constitute an agreement between the Government of the United States of America and the Government of the Russian Federation (the "Assurances Agreement"), which shall enter into force on the date of the Embassy's note in reply.

Enclosure: One page as indicated

Department of State,
Washington, March 24, 1999.

**ANNEX: LIST OF COUNTRIES AND GROUPS SPECIFIED IN ACCORDANCE
WITH PARAGRAPH 5 OF THE ASSURANCES AGREEMENT**

The Argentine Republic
Australia
The Republic of Bulgaria
Canada
The People's Republic of China
The Czech Republic
European Atomic Energy Community
The Republic of Hungary
Japan
The Republic of Korea
Norway
The Republic of Poland
The Slovak Republic
The Republic of South Africa
Switzerland

US Diplomatic Note 2

The Department of State reports to the Embassy of the Russian Federation in the United States of America the following:

The Government of the United States of America has the honor to refer to the Agreement between the Government of the United States of America and the Government of the Russian Federation on the Disposition of Highly Enriched Uranium extracted from Nuclear Weapons of February 18, 1993, hereinafter referred to as the HEU-LEU Agreement.

The Government of the United States of America takes it as axiomatic that resolution of the issue of the sale of natural uranium in hexafluoride form, title to which is transferred to the Russian Federation on the territory of the United States of America in quantities equivalent to the feed component of low-enriched uranium delivered to the United States of America under the HEU-LEU Agreement, is central to the smooth implementation of the said Agreement and that therefore it is necessary to develop a consistent, long-term approach to the management of this material. The Government of the United States considers that this task can best be accomplished by Russia concluding, with a reliable partner having longstanding experience in business transactions involving uranium, a long-term agreement for the sale by the Government of the Russian Federation of the said material, obtained from the U.S. side in the course of the low-enriched uranium deliveries planned for 1999 and subsequent years under the HEU-LEU Agreement.

In accordance with Article II. 1 of the HEU-LEU Agreement, the Government of the United States endorses the conclusion, to this end, of a Commercial Agreement, contract #08843672/90100-02D, among AO Techsnabexport and Compagnie Generale des Matieres Nucleaires (COGEMA), Cameco Uranium, Inc., Nukem, Inc., and Nukem Nuklear GmbH.

The Department of State affirms that a reply note from the Government of the Russian Federation attesting that the Government of the Russian Federation has also endorsed the conclusion of a Commercial Agreement, contract #08843672/90100-02D, among the AO Techsnabexport and Compagnie Generale des Matieres Nucleaires (COGEMA), Cameco Uranium, Inc., Nukem, Inc., and Nukem Nuklear GmbH, will satisfy the provision of Article 8.1 of the Agreement between the Ministry of the Russian

Federation for Atomic Energy and the Department of Energy of the United States of America Concerning the Transfer of Source Material to the Government of the Russian Federation, which requires the endorsement of both Governments for the entry into force of the Transfer Agreement.

Department of State,
Washington, March 24, 1999.

DECREES

Government of the Russian Federation, No. 307, March 18, 1999, Moscow:

In order to facilitate the transfer of natural uranium in the form of hexafluoride (hereinafter "feed component") to the Russian Federation, title to which has passed to the Russian Federation on the territory of the United States of America in quantities which are equivalent to the [amount of] feed material of the low enriched uranium delivered to the U.S. in accordance with the agreement between the government of the Russian Federation and the government of the U.S. on the use of high-enriched uranium derived from nuclear weapons dated Feb. 18, 1993 (hereinafter the "agreement of Feb. 18, 1993") and the completion of payments for low-enriched uranium delivered to the U.S. in 1997-1998 in accordance with the Agreement of Feb. 18, 1993, the Government of the Russian Federation decrees:

1. To approve the text of the diplomatic note of the government of the Russian Federation to the government of the U.S. concerning the transfer of the feed material from the U.S. to the Russian Federation, as presented by the Ministry of Atomic Energy of the Russian Federation and as agreed to by the Ministry of Foreign Relations of the Russian Federation, the Ministry of Finance of the Russian Federation, the Ministry of Economy of the Russian Federation, the Ministry of Trade of the Russian Federation, the Federal Security Service of the Russian Federation, and the Federal Committee on Nuclear & Radiation Security of Russia.

To instruct the Ministry of Foreign Affairs of the Russian Federation to effect the exchange of diplomatic notes between the government of the Russian Federation and the U.S.

2. To accept the proposal by the Ministry of Atomic Energy of the Russian Federation as agreed to by the Ministry of Foreign Relations of the Russian Federation, the Ministry of Finance of the Russian Federation, the Ministry of Economy of the Russian Federation, the Ministry of Trade of the Russian Federation, the Federal Security Service of the Russian Federation, and the Federal Committee on Nuclear & Radiation Security of Russia to sign the agreement between the Ministry of Atomic Energy of the Russian Federation and the U.S. Department of Energy concerning the transfer of the feed material to the Russian Federation (hereinafter the "Transfer Agreement") and the Administrative Agreement between the Ministry of Atomic Energy of the Russian Federation and the U.S. Department of Energy.

3. To direct the Ministry of Atomic Energy of the Russian Federation to:

To execute through the joint stock company Techsnabexport a long-term contract with the companies Cameco (Canada), Cogema (France), and Nukem (Germany) for the sale of the feed material in 1999 and following years, having in mind that the entire quantity of feed material not sold under such contract shall be subject to transfer to the Russian Federation for storage, used for processing of low-enriched uranium within the framework of the Agreement of Feb. 18, 1993, and also for possible additional deliveries in the form of natural or low-enriched uranium to the U.S. and third countries.

Upon implementation of the Transfer Agreement and the Administrative Agreement described in article 2 of this Decree, considering that insertion of changes and amendments may be made only by agreement

with interested federal organs of executive power, with the participation of interested federal organs of executive power:

To adopt measures for the organization of monitoring of the feed material transferred to a specially equipped stockpile with activities which shall exclude the possibility of the receipt by the American side of information which constitutes a state secret and the minimization of administrative procedures related to the storage and use of such material and the minimization of expenses for its transportation to the Russian Federation;

Within two months after the signing of the Transfer Agreement to bring before the Government of the Russian Federation a draft decree specifying the procedure for transferring the unsold feed component to the Russian Federation and specifying the order of its use, including methods of its possible sale.

Government of the Russian Federation, No. 308, March 18,1999, Moscow:

In order to ensure the long term sale of natural uranium in the form of hexafluoride, title to which has passed to the Russian Federation in the territory of the United States of America in quantities equivalent to the natural feed component of the low enriched uranium delivered to the U.S. in accordance with the Agreement between the Government of the Russian Federation and the Government of the U.S. on the use of high enriched uranium derived from nuclear weapons dated

Feb. 18, 1993, the Government of the Russian Federation *decrees*:

To approve the text of the diplomatic note of the Government of the Russian Federation to the Government of the U.S. concerning the approval of the execution of a commercial agreement ("Contract") between the Joint Stock Company Techsnabexport and the group of Western companies Cameco (Canada), Cogema (France), and Nukem (Germany) on the delivery of natural uranium in connection with the implementation of the Agreement between the Government of the Russian Federation and the Government of the U.S. on the use of high-enriched uranium derived from nuclear weapons date Feb. 18, 1993 as presented by the Ministry of Atomic Energy of the Russian Federation in agreement with the Ministry of Foreign Relations of the Russian Federation, the Ministry of Finance of the Russian Federation, the Ministry of Economy of the Russian Federation, the Federal Security Service of the Russian Federation.

To instruct the Ministry of Foreign Affairs of the Russian Federation to effect the exchange of diplomatic notes between the government of the Russian Federation and the U.S.