



# U.S. Nuclear Cooperation with India: Issues for Congress

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## Summary

India, which has not signed the Nuclear Nonproliferation Treaty and does not have International Atomic Energy Agency safeguards on all of its nuclear material, exploded a “peaceful” nuclear device in 1974, convincing the world of the need for greater restrictions on nuclear trade. The United States created the Nuclear Suppliers Group (NSG) as a direct response to India’s test, halted nuclear exports to India a few years later, and worked to convince other states to do the same. India tested nuclear weapons again in 1998. However, President Bush announced July 18, 2005, he would “work to achieve full civil nuclear energy cooperation with India” and would “also seek agreement from Congress to adjust U.S. laws and policies,” in the context of a broader partnership with India.

U.S. nuclear cooperation with other countries is governed by the Atomic Energy Act (AEA) of 1954 (P.L. 95-242). However, P.L. 109-401, which President Bush signed into law on December 18, 2006, allows the President to waive several provisions of the AEA. On September 10, 2008, President Bush submitted to Congress, in addition to other required documents, a written determination that P.L. 109-401’s requirements for U.S. nuclear cooperation with India to proceed had been met. President Bush signed P.L. 110-369, which approved the agreement, into law October 8, 2008. Then-Secretary of State Condoleezza Rice and India’s then-External Affairs Minister Shri Pranab Mukherjee signed the agreement two days later, and it entered into force December 6, 2008. Additionally, the United States and India signed a subsequent arrangement in July 2010 which governs “arrangements and procedures under which” India may reprocess U.S.-origin nuclear fuel in two new national reprocessing facilities, which New Delhi has not yet constructed.

The NSG, at the behest of the Bush Administration, agreed in September 2008 to exempt India from some of its export guidelines. That decision has effectively left decisions regarding nuclear commerce with India almost entirely up to individual governments. Since the NSG decision, India has concluded numerous nuclear cooperation agreements with foreign suppliers. However, U.S. companies have not yet started nuclear trade with India and may be reluctant to do so if New Delhi does not resolve concerns regarding its policies on liability for nuclear reactor operators and suppliers. Taking a step to resolve such concerns, India signed the Convention on Supplementary Compensation for Nuclear Damage, which has not yet entered into force, October 27, 2010. However, many observers have argued that Indian nuclear liability legislation adopted in August 2010 is inconsistent with the Convention.

The Obama Administration has continued with the Bush Administration’s policy regarding civil nuclear cooperation with India. According to a November 8, 2010, White House fact sheet, the United States “intends to support India’s full membership” in the NSG, as well as other multilateral export control regimes.

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## Introduction

### July 2005 Joint Statement and Subsequent Major Developments

President Bush announced in a July 18, 2005, joint statement with Prime Minister Manmohan Singh that he would “seek agreement from Congress to adjust U.S. laws and policies” and “work with friends and allies to adjust international regimes to enable full civil nuclear energy cooperation and trade with India.”<sup>1</sup> Implementing these changes was contentious; both U.S. law and the export guidelines of the Nuclear Suppliers Group (NSG) restricted nuclear cooperation with India because New Delhi possesses nuclear weapons and is not a recognized nuclear weapon-state under the Nuclear Nonproliferation Treaty (NPT). (For more background, see **Appendix A** and **Appendix B**.)

Passage of the Henry J. Hyde United States-India Peaceful Atomic Energy Cooperation Act of 2006 (P.L. 109-401), which then-President Bush signed into law December 18, 2006, provided the President with the means to waive a U.S. nuclear cooperation agreement with India from several requirements of the Atomic Energy Act (AEA) of 1954, as amended. India and the United States announced July 27, 2007, that they had reached agreement on the text of such an agreement.<sup>2</sup> President Bush submitted the text of the proposed agreement to Congress September 10, 2008. Additionally, the President submitted a written determination, also required by the AEA, “that the performance of the proposed agreement will promote and will not constitute an unreasonable risk to, the common defense and security.”<sup>3</sup> President Bush also submitted several documents, including classified and unclassified versions of a Nuclear Proliferation Assessment Statement, required by the AEA. The Department of State also submitted a report, which is required by Section 104 of P.L. 109-401, on various aspects of the agreement.<sup>4</sup>

President Bush also determined that P.L. 109-401’s requirements for the President to exercise his waiver authority have been met.<sup>5</sup> President Bush submitted the agreement after the IAEA Board of Governors approved India’s safeguards agreement August 1, 2008. The NSG decided at the end of a September 2008 meeting to exempt India from the group’s export guidelines.

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<sup>1</sup> Joint Statement Between President George W. Bush and Prime Minister Manmohan Singh, White House Press Release, July 18, 2005, Washington, DC (hereafter cited as “July 18 Joint Statement”) <http://www.whitehouse.gov/news/releases/2005/07/20050718-6.html>.

<sup>2</sup> The full text of the agreement, which was released August 3, 2007, can be found at <http://www.state.gov/r/pa/prs/ps/2007/aug/90050.htm>.

<sup>3</sup> See CRS Report RS22937, *Nuclear Cooperation with Other Countries: A Primer*, by Paul K. Kerr and Mary Beth Nikitin.

<sup>4</sup> The relevant documents are available at [http://foreignaffairs.house.gov/press\\_display.asp?id=555](http://foreignaffairs.house.gov/press_display.asp?id=555).

<sup>5</sup> These requirements are (1) provision of a credible separation plan for India’s nuclear facilities; (2) approval by the IAEA Board of Governors of India’s new nuclear safeguards agreement; (3) substantial Indian progress toward concluding an Additional Protocol to its safeguards agreement; (4) India’s active support for the conclusion of a treaty to ban fissile material production for nuclear weapons; (5) India’s support for U.S. and international efforts to halt the spread of sensitive nuclear fuel cycle technologies (enrichment and reprocessing); (6) India taking necessary steps to secure nuclear and other sensitive materials and technologies through adherence to multilateral control regimes, such as the NSG and the Missile Technology Control Regime; and (7) a consensus decision by the NSG to except India from some of the Group’s export control guidelines.

Procedures for congressional approval of the nuclear cooperation agreement are described in both P.L. 109-401 and the AEA. According to P.L. 109-401, the agreement cannot enter into force without a joint resolution of approval from Congress. Section 123 b. of the AEA requires the President to submit the text of the agreement to the Senate Foreign Relations Committee and the House Committee on Foreign Affairs. The President is then to consult with the committees “for a period of not less than thirty days of continuous session.” According to Section 123 d., the two committees shall, after that time, “each hold hearings on the proposed agreement for cooperation and submit a report to their respective bodies recommending whether it should be approved or disapproved.” Therefore, the minimum amount of time that must elapse before Congress can vote on a joint resolution of approval is 30 days of continuous session, in addition to the amount of time Congress would take to hold hearings.

On September 27, 2008, however, by a vote of 298-117 (1 Present), the House passed H.R. 7081, which approved the agreement and waived “the provisions for congressional consideration and approval of a proposed agreement” contained in Sections 123 b. and 123 d. of the AEA. The Senate Foreign Relations Committee had approved identical legislation, S. 3548, September 23. The Senate passed H.R. 7081 October 1 by a vote of 86-13. On October 8, President Bush signed P.L. 110-369, the United States-India Nuclear Cooperation Approval and Nonproliferation Enhancement Act, into law. The President’s signing statement did not indicate any differences with the legislation.

According to its text, the July 2007 agreement “shall enter into force on the date on which the Parties exchange diplomatic notes informing each other that they have completed all applicable requirements for its entry into force.” Then-Secretary of State Condoleezza Rice and India’s then-External Affairs Minister Shri Pranab Mukherjee signed the agreement October 10, 2008. Ten days later, President Bush transmitted two certifications required by P.L. 110-369 in order for the two governments to exchange diplomatic notes. Washington and New Delhi exchanged diplomatic notes and the agreement entered into force December 6, 2008.

## **Indian Nuclear Cooperation since September 2008**

The final document of the 2010 NPT Review Conference urged all states-parties “to ensure that their nuclear-related exports ... are in full conformity” with Article III of the treaty, which requires non-nuclear-weapon states-parties to accept safeguards on all nuclear material for the purpose of “preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices.” India has not signed the NPT and does not have such safeguards, but other countries have still been increasing their nuclear cooperation with New Delhi.

### **Nuclear Cooperation with the United States**

India has stated its intention to engage in nuclear cooperation with U.S. companies. A September 10, 2008, letter from India’s then-Foreign Secretary Shivshankar Menon states that

it is the intention of the Government of India and its entities to commence discussions with U.S. nuclear energy firms and conclude agreements after entry into force of the [U.S.-India] Agreement for cooperation in the construction of nuclear power units at least at two sites

approved by the Government of India, which would be capable of generating a minimum of 10,000 MW.<sup>6</sup>

However, Menon appeared to qualify this claim, adding that such deals would be concluded

on the basis of mutually acceptable technical and commercial terms and conditions that enable a viable tariff regime for electricity generated. It is the expectation of the Government of India that this partnership will contribute towards providing energy to India's population in a manner that takes into account affordability, sustainability of nuclear fuel resources and credibility of nuclear waste management.

New Delhi announced October 16, 2009, the specific sites that it has designated for U.S.-supplied reactors.

P.L. 110-369 requires that, before the Nuclear Regulatory Commission can issue licenses for U.S. nuclear exports to India, the President must determine and certify to Congress that New Delhi's IAEA safeguards agreement has entered into force and that India's declaration of its nuclear facilities to the agency "is not materially inconsistent with the facilities and schedule" described in a separation plan that New Delhi has provided to Washington. India's safeguards agreement entered into force May 11, 2009, and New Delhi has filed the declaration with the IAEA. President Obama submitted the required certification to Congress February 3, 2010, determining that India has satisfied the legal requirement described above.

Although Assistant Secretary of State Robert Blake stated November 15, 2010, that "U.S. firms have already begun negotiations with their Indian counterparts," U.S. firms may be reluctant to engage in nuclear trade with India if the government does not resolve concerns regarding its policies on liability for nuclear reactor operators and suppliers.<sup>7</sup> India signed the Convention on Supplementary Compensation for Nuclear Damage (CSC), which has not yet entered into force, October 27, 2010. In 2008, the State Department described India's decision to "become a party" to the convention as "an important step in ensuring that U.S. nuclear firms can compete on a level playing field with other international competitors" because many other countries' nuclear firms "have other liability protections afforded to them by their governments."<sup>8</sup> However, as discussed below, Russia and France are also discussing with India means of resolving their concerns about the liability issue.

Shrikumar Banerjee, chair of India's Atomic Energy Commission, argued September 16, 2010, that India's Civil Liability for Nuclear Damage Bill, which both houses of India's Parliament adopted in August 2010,<sup>9</sup> is compatible with the CSC.<sup>10</sup> Many observers, however, have disagreed, citing the provisions that make reactor suppliers, as well as operators, liable for damages caused by a reactor accident.<sup>11</sup> U.S. officials have argued that India's law should be

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<sup>6</sup> Text Available at <http://svaradarajan.blogspot.com/2008/10/dear-bill-foreign-secretarys-letter.html>.

<sup>7</sup> Amol Sharma, "India Weighs Measure to Ease Nuclear Liability," *The Wall Street Journal*, October 10, 2010.

<sup>8</sup> "Questions for the Record Submitted to Under Secretary William Burns and Acting Under Secretary John Rood by Senator Robert P. Casey, Senate Foreign Relations Committee, September 18, 2008."

<sup>9</sup> The Lok Sabha adopted the legislation August 25, 2010; the Rajya Sabha adopted it August 30.

<sup>10</sup> Ann MacLachlan, "Indian Regulator Says Country's Liability Law Compatible with CSC," *Nucleonics Week*, September 23, 2010.

<sup>11</sup> Natalie Obiko Pearson, "India Risks Nuclear Isolation with Break From Chernobyl Accord," *Bloomberg*, August 26, 2010; Ann MacLachlan, Yanmei Xie, "India Liability Bill Seen Shaking Up Nuclear Trade, Liability Regime," (continued...)

consistent with the convention. Blake stated in a June 9, 2010, interview with *India Abroad* that the U.S. interest is to “ensure that the bill that ultimately is enacted is compliant” with the CSC. Although Under Secretary of State William Burns described New Delhi’s signing of the CSC as a “very positive step” during an October 27, 2010, press briefing, he also indicated that India will need to take additional steps in order to resolve U.S. concerns regarding India’s liability policies. Washington and New Delhi are also discussing necessary monitoring arrangements for U.S. nuclear exports.

### *Subsequent Reprocessing Arrangement*

The nuclear cooperation agreement grants New Delhi consent to reprocess nuclear material transferred pursuant to the agreement, as well as “nuclear material and by-product material used in or produced through the use of nuclear material, non-nuclear material, or equipment so transferred.” However, India must first “establish a new national reprocessing facility dedicated to reprocessing safeguarded nuclear material under IAEA safeguards.” In addition, the agreement requires the United States and India to “agree on arrangements and procedures under which such reprocessing or other alteration in form or content will take place in this new facility.”

The agreement states that the two governments must begin “consultations,” to be “concluded within one year,” on the relevant arrangements and procedures within six months of a request from India. New Delhi made such a request February 3, 2009, and the two governments held meetings in July and October of that year.<sup>12</sup> India and the United States completed negotiations on the agreement March 29, 2010;<sup>13</sup> Indian Ambassador Meera Shankar and Under Secretary of State William Burns signed the agreement July 30, 2010. India had reportedly insisted that New Delhi and Washington conclude an agreement on a reprocessing facility in India before New Delhi would sign contracts with U.S. nuclear firms.<sup>14</sup>

The agreement describes the “arrangements and procedures under which such reprocessing or other alteration in form or content may take place in India at two new national reprocessing facilities,” which will reprocess safeguarded spent nuclear fuel from both U.S.-supplied and other reactors. The agreement also describes the procedures for U.S. officials to inspect and receive information about physical protection measures at the new facilities.

Secretary of Energy Steven Chu submitted the subsequent arrangement to Congress May 11, 2010, along with a Nuclear Proliferation Assessment Statement, a report required by the AEA, and a report and certification required by P.L. 110-369. These materials conclude that the arrangement will not increase the risk of proliferation or aid India’s nuclear program. Chu also certified that the Administration is pursuing “efforts to ensure” that other countries entering into similar arrangements with New Delhi do so under “similar arrangements and procedures” as the United States (see “Procedures for Subsequent Arrangements”). The arrangement would not have taken effect if Congress had adopted a joint resolution of disapproval within 30 days of

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(...continued)

*Nucleonics Week*, September 2, 2010.

<sup>12</sup> Analyst interview with U.S. officials, November 3, 2009.

<sup>13</sup> The text is available at <http://www.state.gov/p/sca/rls/139194.htm>.

<sup>14</sup> Rama Lakshmi, “Despite Historic Pact, U.S. Firms Are Hampered in Setting Up Reactors in India,” *The Washington Post*, January 21, 2009. T.S. Subramanian, “India Atomic Body Chief: 123 Agreement Gives Spent Fuel, Reprocessing Rights,” *The Hindu*, August 3, 2009.

continuous session; Congress did not adopt such a resolution. The July 30, 2010, agreement indicates that India may construct additional facilities to reprocess fuel from U.S.-supplied reactors. However, any such facilities would require a new subsequent arrangement, which would also be submitted to Congress.

### **India's Nuclear Cooperation with Other Countries<sup>15</sup>**

Since a September 2008 NSG decision to exempt India from some of its export requirements, New Delhi has negotiated nuclear cooperation agreements with NSG countries other than the United States. On September 30, 2008, India and France signed a civil nuclear cooperation agreement that includes the possible provision of nuclear reactors and nuclear fuel. The agreement, which entered into force January 14, 2010, does not, however, include the transfer of enrichment or reprocessing technology, according to French Ambassador to India Jerome Bonnafont.<sup>16</sup> France would like India to reprocess spent nuclear fuel in an IAEA-safeguarded facility, Bonnafont said in late January 2009, but added that France would consider reprocessing the spent fuel for India.<sup>17</sup> According to a December 17, 2008, agreement between the French company AREVA and India's Department of Atomic Energy, AREVA agreed to supply the Nuclear Power Corporation of India Limited (NPCIL) with 300 metric tons of uranium. Those two companies also signed a memorandum of understanding February 4, 2009, expressing their "willingness to build up to six" nuclear reactors. Both parties "intend to discuss the elements of a commercial contract to supply" two reactors "as a first step," according to the memorandum. AREVA and NPCIL took another step on this project by signing several agreements December 6, 2010, for the construction of these reactors, including a "General Framework Agreement" for the supply of the reactors and associated fuel.<sup>18</sup> However, several steps remain before construction on the reactors can begin.<sup>19</sup> As noted, press reports and French nuclear energy executives have indicated that France still has concerns about India's nuclear liability policies.<sup>20</sup> According to a December 6, 2010, joint statement, "both countries stand ready to further exchange views" on India's nuclear liability legislation "so as to ensure the appropriate framework for the sound development of their cooperation."

Russia and India signed a nuclear cooperation agreement December 5, 2008. According to a joint declaration issued that day, "the two countries have agreed to collaborate on constructing additional nuclear power plants" and "to expand and pursue further areas for bilateral cooperation in the field of peaceful uses of nuclear energy." Russia is currently constructing two reactors in India at Kudankulam. Notably, Russian President Dmitry Medvedev reportedly amended in

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<sup>15</sup> This report discusses only nuclear cooperation agreements that India has signed or otherwise concluded with other countries. India has discussed other nuclear cooperation agreements that are not discussed in this section.

<sup>16</sup> "Indo-French Pact Not to Cover Nuclear Enrichment Technology Sale - Envoy," *Press Trust of India*, September 19, 2008.

<sup>17</sup> "France Willing to Reprocess Uranium for India," *The Hindu Business Line*, January 31, 2009.

<sup>18</sup> See "India: Agreements Between AREVA and NPCIL for the Supply of Two EPR Reactors and Fuel for 25 Years," AREVA Press Release, December 6, 2011. Available at <http://www.aveva.com/EN/news-8633/india-agreements-between-areva-and-npcil-for-the-supply-of-two-epr-reactors-and-fuel-for-25-years.html>. "Agreements Signed During the Visit of the President of France," India Ministry of External Affairs Press Release, December 06, 2010. <http://meaindia.nic.in/mystart.php?id=530216769>

<sup>19</sup> Sandeep Dikshit, "India, France Sign 5 Nuclear Pacts," *The Hindu*, December 7, 2010.

<sup>20</sup> R. Ramachandran, "Areva Will Await Clarifications on Indian Nuclear Liability Law," *The Hindu*, November 26, 2010; "French Nuclear Firm Seeks Clarity on Indian Liability Law," *Press Trust of India*, December 7, 2010.



February 2009 a 1992 presidential decree on nuclear export controls in order to permit Russian nuclear exports to a country without comprehensive IAEA safeguards. However, the decree now states that

nuclear materials, as well as technologies, equipment and special non-nuclear materials intended for their processing, utilization or production may be exported from the Russian Federation to India only if they are used in nuclear installations placed under IAEA guarantees.<sup>21</sup>

The Russian TVEL Corporation also reportedly signed a nuclear fuel supply contract in February 2009 with India's Department of Atomic Energy.<sup>22</sup> The two countries initialed another agreement December 7, 2009, which expands on the 2008 agreement. According to a statement from India's Ministry of External Affairs, the agreement includes cooperation on research and development, the construction of additional nuclear power plants, and fuel-supply arrangements. The agreement also grants "up-front consent" for India to reprocess spent reactor fuel and says that Russia would continue to supply fuel even if the agreement is terminated in the future.

Russian and Indian officials indicated in December 2010 that Moscow, as noted, still has concerns about New Delhi's nuclear liability policies. Medvedev stated December 20 that "[a]s for civil liability for nuclear damage ... and we seek to solve the relevant problems in a constructive way through negotiations with our Indian partners." India's minister of external affairs stated the previous day that the two governments are still attempting to resolve concerns over the liability issue.<sup>23</sup>

New Delhi has also concluded other fuel-supply agreements. NPCIL and KazAtomProm, a Kazakh national company, signed a memorandum of understanding January 24, 2009, that reportedly includes a provision for Kazakhstan to supply uranium to India under terms that remain to be determined.<sup>24</sup> Additionally, India and Namibia signed an "Agreement on Cooperation in Peaceful Uses of Nuclear Energy" in late August 2009. The scope and terms of the agreement are unclear, but the statement "resolved to encourage Indian investments" in the Namibian uranium sector. Similarly, India and Mongolia signed a "Memorandum of Understanding on Development of Cooperation in the Field of Peaceful Use of Radioactive Minerals and Nuclear Energy" in mid-September 2009. The agreement would reportedly enable India to explore for uranium in Mongolia.<sup>25</sup>

New Delhi has concluded other nuclear agreements unrelated to nuclear fuel supply. India and Argentina, according to an October 14, 2009, joint statement, agreed to "encourage and support scientific, technical and commercial cooperation for mutual benefit" in the "peaceful uses of nuclear energy." The two countries signed a nuclear cooperation agreement September 23, 2010. Furthermore, India and the United Kingdom signed a "Civil Nuclear Cooperation Declaration" February 11, 2010, which will allow for the transfer of nuclear-related technology and equipment to India. A British official explained two days later that the agreement "opens the door to a

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<sup>21</sup> "Russian president Amends 1992 Decree so as to Ease Nuclear Exports to India," *Interfax*, February 24, 2009.

<sup>22</sup> "Russia Delivers First Batch of Nuclear Fuel to India," *Press Trust of India*, April 10, 2009.

<sup>23</sup> "Russian President Gave Interview to Times of India Newspaper," *RIA Oreanda*, December 20, 2010.

<sup>24</sup> "Kazakhstan signs agreement to supply uranium," *The Hindu*, January 25, 2009; Kazakhstan might start uranium exports to India in 2009," *Panorama*, February 6, 2009. "Chennai Daily Report: India, Kazakhstan Set To Sign Nuclear Reactor Export Deal," *Chennai Business Line Online*, July 10, 2009.

<sup>25</sup> "India Signs Civil Nuclear Pact with Mongolia," *Press Trust of India*, September 14, 2009.

discussion that can begin between some of the best UK-based engineering companies and the nuclear authorities in India.”<sup>26</sup> Additionally, India and Canada signed an “Agreement between India and Canada for Co-operation in Peaceful Uses of Nuclear Energy” June 27, 2010, which provides for cooperation in nuclear reactor design and construction, as well as the “supply of uranium.”<sup>27</sup>

## **P.L. 109-401 Requirements**

As noted, P.L. 109-401 allows the President to exempt a U.S. nuclear cooperation agreement with India from several AEA requirements. However, the law requires the President to certify, before such an agreement can enter into force, that several steps have been completed. President Bush did so September 10, 2008. The following section describes the completion of these steps. The law’s relationship to the Atomic Energy Act is explained in a later section.

P.L. 109-401 requires (1) provision of a credible separation plan for India’s nuclear facilities; (2) approval by the IAEA Board of Governors of India’s new nuclear safeguards agreement; (3) substantial Indian progress toward concluding an Additional Protocol to its safeguards agreement; (4) India’s active support for the conclusion of a treaty to ban fissile material production for nuclear weapons; (5) India’s support for U.S. and international efforts to halt the spread of sensitive nuclear fuel cycle technologies (enrichment and reprocessing); (6) India taking necessary steps to secure nuclear and other sensitive materials and technologies through adherence to multilateral control regimes, such as the NSG and the Missile Technology Control Regime; and (7) a consensus decision by the NSG to except India from some of the Group’s export control guidelines.

## **Separation Plan and Safeguards<sup>28</sup>**

U.S. and Indian officials agreed on India’s separation plan in March 2006. The key elements of that plan are:<sup>29</sup>

- Eight indigenous Indian power reactors will be placed under an India-specific safeguards agreement, bringing the total number of power reactors under safeguards to 14 of 22 (six are already under safeguards);<sup>30</sup>
- Future power reactors may also be placed under safeguards, if India declares them as civilian;

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<sup>26</sup> “UK, India Sign Civil Nuclear Accord, Paves Way for Conference,” *Reuters*, February 13, 2010.

<sup>27</sup> <http://www.thehindu.com/news/national/article490238.ece>

<sup>28</sup> See CRS Report RL33292, *India’s Nuclear Separation Plan: Issues and Views*, by Sharon Squassoni, for details on the separation plan.

<sup>29</sup> Prime Minister Singh presented “Implementation of the India-United States Joint Statement of July 18, 2005: India’s Separation Plan,” to Parliament on March 7, 2006. This is available at [http://indianembassy.org/newsite/press\\_release/2006/Mar/sepplan.pdf](http://indianembassy.org/newsite/press_release/2006/Mar/sepplan.pdf). The plan was updated on May 11, 2006, to include names of reactors and upstream facilities, as well as dates they would be submitted to safeguards.

<sup>30</sup> According to the May 11 update, the eight indigenous reactors to be safeguarded are four at Rajasthan (RAPS 3, 4, 5 & 6); two at Uttar Pradesh (NAPS 1, 2); and two at Gujrat (KAPS 1, 2).

- Some facilities in the Nuclear Fuel Complex (e.g., fuel fabrication) will be specified as civilian in 2008; and
- Nine research facilities and three heavy water plants would be declared as civilian, but are “safeguards-irrelevant.”

The following facilities and activities were not on the separation list:

- Eight indigenous Indian power reactors,
- Fast Breeder test Reactor and Prototype Fast Breeder Reactors under construction,
- Enrichment facilities,
- Spent fuel reprocessing facilities (except for the existing safeguards on the Power Reactor Fuel Reprocessing plant),
- Research reactors: CIRUS (which will be shut down in 2010), Dhruva, Advanced Heavy Water Reactor,
- Three heavy water plants, and
- Various military-related plants (e.g., prototype naval reactor).

The separation plan stated that India would begin placing facilities under safeguards in 2006 and complete the process in 2014. However, since the IAEA did not approve New Delhi’s safeguards agreement until 2008, India updated that timeline. Then-Acting Deputy Assistant Secretary of State for International Security And Nonproliferation Richard Stratford told the Senate Foreign Relations Committee September 18, 2008, that New Delhi stands by its initial plan to bring its facilities under safeguards by 2014.

India’s Implementation Document noted that facilities were excluded from the civilian list if they were located in a larger hub of strategic significance, even if the facilities themselves were not normally engaged in activities of strategic significance, thereby calling into question whether the plan really will result in a “separation” of civilian and military facilities. Moreover, the plan stated that electricity grid connectivity is not relevant to the separation exercise and that grid connectivity would be necessary “irrespective of whether the reactor concerned is civilian or not civilian.” This means that “military” reactors will continue to provide civilian electricity.

### **India-IAEA Discussions/Domestic Opposition**<sup>31</sup>

After the United States and India concluded the nuclear agreement in July 2007, New Delhi delayed beginning talks with the IAEA about a safeguards agreement because of domestic opposition from Communist and other leftist parties, known as the Left Front.<sup>32</sup> Until July 2008, the United Progressive Alliance government, led by Prime Minister Singh, depended on those parties’ support in order to stay in power. In India, the executive can enter into international agreements without parliamentary approval, but the Left Front threatened to withdraw its support

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<sup>31</sup> See also CRS Report RL33529, *India-U.S. Relations*, coordinated by K. Alan Kronstadt.

<sup>32</sup> Those parties argued that the agreement would compromise India’s sovereignty by drawing New Delhi into a “strategic alliance” with Washington. See, for example, <http://www.cpim.org/> for a detailed account of objections from the Communist Party of India (Marxist).

if the government went ahead with the safeguards discussion. Indian officials had indicated multiple times that the government would not risk prompting early elections in order to push the deal through. In November 2007, the Left Front agreed to allow the government to engage in discussions with the IAEA. The talks were announced November 21, 2007, and the two parties subsequently met five times.

New Delhi had indicated that, once a safeguards text had been agreed upon with the IAEA Secretariat, the government would seek approval from an ad hoc political committee (which includes the Communists) before proceeding further with the agreement. Speaking before a Calcutta audience February 3, 2008, External Affairs Minister Mukherjee said that when “the draft agreement [with the IAEA] is ready it will be brought back to the United Progressive Alliance (UPA)-Left Coalition committee for its approval and suggestion.”<sup>33</sup> Similarly, Communist Party of India (Marxist) General Secretary Prakash Karat stated the previous November that “we have come to an understanding that the government can go to the IAEA secretariat. But the outcome of the talks should be brought to the committee before moving to the IAEA board of governors.”<sup>34</sup> The committee last met June 25, 2008.

The government, however, never presented the text of the safeguards agreement to the committee, and at New Delhi’s request, the IAEA Secretariat circulated the draft text (GOV/2008/30)<sup>35</sup> July 9, 2008, to the agency’s board. Pakistan, along with several unidentified board members, had “voiced strong reservations” about the safeguards agreement, according to a July 24, 2008, *Nucleonics Week* article,<sup>36</sup> but the Board of Governors approved the agreement by consensus August 1, 2008.

Four Left Front parties withdrew their support for the coalition government July 9, 2008, shortly after Singh announced that India would approach the IAEA board. However, the coalition government narrowly won a July 22, 2008, vote of confidence, staving off the threat of early elections. Karat stated September 7, 2008, that the Left Front would only support a government that would terminate the nuclear agreement with the United States.<sup>37</sup> However, despite the loss of the Left Front’s support, the coalition government considerably bolstered its standing in April-May 2009 parliamentary elections, thereby obtaining a more stable coalition. The opposition Bharatiya Janata Party has expressed its opposition to the deal and has stated that it would attempt to renegotiate it if the party regains power.<sup>38</sup>

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<sup>33</sup> “N-deal strategic to India’s progress: Pranab Mukherjee,” *Indo Asian News Service*, February 3, 2008.

<sup>34</sup> “After Left Nod, Govt Decides To Go Ahead With IAEA Talks On N-Deal,” *Financial Express*, November 16, 2007.

<sup>35</sup> Available at <http://pmindia.nic.in/iaeaIndiaSGADrft.pdf>.

<sup>36</sup> Mark Hibbs and Daniel Horner, “Pakistan, Other States Not Satisfied After Indian Briefing on IAEA Pact,” *Nucleonics Week*, July 24, 2008.

<sup>37</sup> “Will Support Govt That Scraps 123,” *The Economic Times*, September 8, 2008.

<sup>38</sup> Interview with Leader of the Opposition (Lok Sabha) L.K. Advani, *The Hindu*, July 11, 2008; “BJP Will Renegotiate N-Deal If Comes To Power: Sushma Swaraj,” *The Economic Times*, September 7, 2008.

## **India's Safeguards Agreement**<sup>39</sup>

Former IAEA Director General ElBaradei described India's safeguards agreement as an "umbrella agreement" that allows for any facility identified by New Delhi in the future to become subject to safeguards. Since New Delhi has committed to place additional reactors under safeguards, Elbaradei added, concluding an umbrella agreement was more efficient than negotiating different agreements for each facility. India signed the agreement February 2, 2009, and it entered into force May 11, 2009.

The safeguards agreement requires India to provide the IAEA with a declaration of its nuclear facilities. India is to implement this provision in a two-step process. First, according to paragraph 13 of the agreement, New Delhi will provide a declaration of nuclear facilities that it intends to place under safeguards in the future. Second, according to paragraph 14 of the agreement, India is to notify the IAEA when specific facilities are to be safeguarded. Those facilities will be placed on an Annex to the agreement. India will also have to notify the agency of imported items that are required to be safeguarded, but these will not be listed in the Annex.

On July 25, 2008, India provided to the IAEA a document—a copy of New Delhi's 2006 separation plan—containing a list of its nuclear facilities.<sup>40</sup> A State Department official said that India's submission of this document did not constitute submission of the declaration required by paragraph 13 of the safeguards agreement, but did satisfy P.L. 109-401's requirement regarding New Delhi's declaration.<sup>41</sup> India subsequently provided the declaration pursuant to paragraph 13 of the agreement, but exactly when it did so is unclear. In October 2009, New Delhi provided the IAEA, "in accordance with" paragraph 14 of the agreement, with a list of 14 nuclear facilities that are to be placed on the safeguards agreement's Annex.<sup>42</sup> Six nuclear reactors listed in the separation plan were not included in this submission, but India intends, in accordance with the separation plan, to place them under safeguards by 2014.<sup>43</sup>

An Indian official previously indicated that New Delhi's placement of nuclear facilities under safeguards was contingent on India's conclusion of nuclear supply agreements with other countries. Anil Kakodkar, then-chairman of India's Atomic Energy Commission, said in a July 20, 2008, interview that India's identification of "any facility as civilian is conditional on that facility benefitting from full civil nuclear cooperation" with other countries.<sup>44</sup>

Some observers have expressed concerns about the agreement's preamble, which contains language suggesting that India could withdraw nuclear facilities or fuel from safeguards if New Delhi so chooses. For example, the preamble states that India "may take corrective measures to ensure uninterrupted operation of its civilian nuclear reactors in the event of disruption of foreign fuel supplies." New Delhi has not defined "corrective measures," although Kakodkar described them in July 2008 as "unspecified sovereign actions."<sup>45</sup>

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<sup>39</sup> Unless otherwise noted, this section is based on ElBaradei's August 1, 2008, comments to the IAEA Board of Governors, as well as personal communications with IAEA officials, and current and former State Department officials.

<sup>40</sup> Available at <http://www.iaea.org/Publications/Documents/Infocircs/2008/infocirc731.pdf>.

<sup>41</sup> Author interview, September 23, 2008.

<sup>42</sup> <http://www.iaea.org/Publications/Documents/Infocircs/2009/infocirc754a1.pdf>.

<sup>43</sup> Author interview with Indian official, January 11, 2010.

<sup>44</sup> "Indian Daily Interviews Atomic Body Chairman on Nuclear Deal," *The Hindu*, July 20, 2008.

<sup>45</sup> *Ibid.*

The preamble also states that

[a]n essential basis of India's concurrence to accept Agency safeguards is ... support for an Indian effort to develop a strategic reserve of nuclear fuel to guard against any disruption of supply over the lifetime of India's reactors.

New Delhi may want such a stockpile to hedge against a cut-off of fuel supplies in the event that, for example, India tests a nuclear weapon.

However, ElBaradei stated August 1, 2008, that the agreement's specific termination clauses "override any general clauses in the agreement." Additionally, the State Department stated in January 2008 responses to Questions for the Record submitted by the House Committee on Foreign Affairs that New Delhi "has expressed its view that for purposes of implementing the U.S.-India Agreement," IAEA safeguards "can and should be regarded as being 'in perpetuity.'"<sup>46</sup>

It is also worth noting that, if India were to terminate IAEA safeguards on U.S. nuclear exports (or special nuclear material produced from or with such exports), Section 123 a. (1) of the AEA requires that fall-back safeguards be maintained on those exports. The nuclear cooperation agreement states that

safeguards will be maintained with respect to all nuclear materials and equipment transferred pursuant to this Agreement, and with respect to all special fissionable material used in or produced through the use of such nuclear materials and equipment, so long as the material or equipment remains under the jurisdiction or control of the cooperating Party.

The State Department noted that if IAEA safeguards "fail to be applied," the two countries "must enter into arrangements for alternative measures to fulfill" the above requirement.<sup>47</sup> Furthermore, also stated that "it would not be consistent with the proposed agreement text for ... corrective measures to detract from the applicability" of safeguards to the relevant nuclear items "including after termination or expiration of the agreement,"<sup>48</sup> according to the department's January 2008 responses.

## **NSG Support**

Following formal and informal U.S. consultations with NSG members, the United States presented during a March 2006 Consultative Group meeting a draft decision for potential discussion during the NSG plenary in May 2006.<sup>49</sup> That draft sought an exception for India to the NSG requirements of full-scope safeguards, notwithstanding the exceptions for safety assistance and for those agreements signed before the full-scope safeguards requirement came into effect in

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<sup>46</sup> Questions for the Record Submitted to Jeffrey Bergner, Assistant Secretary for Legislative Affairs by Rep. Tom Lantos, House Committee on Foreign Affairs (#12), October 5, 2007. Available at <http://www.hcfa.house.gov/110/press090208.pdf>. (Hereafter, "Questions for the Record, 2007.")

<sup>47</sup> Ibid. (#11).

<sup>48</sup> Ibid. (#42).

<sup>49</sup> The Consultative Group is the NSG's "standing intersessional working body." See <http://www.nuclearsuppliersgroup.org/activities.htm>.

1992. It did not contain any restrictions on enrichment or reprocessing cooperation, nor on heavy water or highly-enriched uranium or plutonium sales.<sup>50</sup>

The United States subsequently developed a second draft decision, which incorporated the suggestions of supporting NSG members.<sup>51</sup> After revising that draft following consultations with New Delhi, Washington submitted it to the NSG chair in early August 2008.<sup>52</sup> The second version did not contain any additional restrictions on India. Indeed, it weakened one section of the 2006 draft which stated that NSG members could engage in nuclear trade with New Delhi if “the participating Government intending to make the transfer is satisfied that India continues to fully meet all” of its nonproliferation and safeguards commitments. The new draft stated only that

Participating Governments shall maintain contact and consult through regular channels on matters connected with the implementation of the Guidelines, taking into account relevant international commitments and bilateral agreements with India.

The NSG considered the new draft decision during an August 21-22, 2008, Extraordinary Plenary meeting and decided during a similar meeting held the next month to exempt India from some of its export guidelines. This decision means that members’ decisions to export previously restricted nuclear items to India are now governed by individual governments’ policies.<sup>53</sup>

Although several countries argued that certain conditions (such as an explicit ban on the transfer of enrichment and reprocessing technology, as well as a provision that nuclear supplies to India would end if New Delhi were to test a nuclear weapon) should be included in an exemption for India, the final language contains no such explicit conditions.<sup>54</sup> Instead, it states that the exemption is “based on” Indian commitments and actions, which are essentially the same as the requirements in P.L. 109-401. The NSG statement also notes that India has agreed to continue its “unilateral moratorium on nuclear testing.”

The NSG agreed to exempt India from the portions of its guidelines that require India to have full-scope IAEA safeguards “provided that transfers of sensitive exports [enrichment and reprocessing technology] remain subject to paragraphs 6 and 7 of the Guidelines.”

The relevant portions of those paragraphs state that

suppliers should exercise restraint in the transfer of sensitive facilities, technology and material usable for nuclear weapons or other nuclear explosive devices. If enrichment or reprocessing facilities, equipment or technology are to be transferred, suppliers should encourage recipients to accept, as an alternative to national plants, supplier involvement and/or other appropriate multinational participation in resulting facilities.... [and]

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<sup>50</sup> A copy of the proposal is available at [http://www.armscontrol.org/projects/india/20060327\\_DraftNSGProposal.asp](http://www.armscontrol.org/projects/india/20060327_DraftNSGProposal.asp).

<sup>51</sup> Author interviews with State Department official, February 4, 2008; August 14, 2008.

<sup>52</sup> The August 2008 draft is available at <http://www.armscontrol.org/node/3274>.

<sup>53</sup> The text of the NSG statement is available at <http://www.nuclearsuppliersgroup.org/PRESS/2008-09-Press-Vienna.pdf>.

<sup>54</sup> Austria, Ireland, the Netherlands, New Zealand, Norway, and Switzerland issued a joint statement at the August meeting explaining that they had proposed amendments to the U.S. proposal in order to meet their “non-proliferation objectives.” New Zealand’s Disarmament and Arms Control Minister Phil Goff stated August 26 that approximately 50 amendments had been proposed to the U.S.-proposed text.

For a transfer of an enrichment facility, or technology therefor, the recipient nation should agree that neither the transferred facility, nor any facility based on such technology, will be designed or operated for the production of greater than 20% enriched uranium without the consent of the supplier nation, of which the IAEA should be advised.

Ireland reportedly stated after the NSG decision that, “on the basis of consultations during the meeting, it ‘understands that no [NSG member] currently intends to transfer to India any facilities, equipment, materials, or technology related to the enrichment of uranium, or the reprocessing of spent fuel.’”<sup>55</sup> Then-Under Secretary of State for Arms Control and International Security John Rood made a similar assertion during a September 18, 2008, Senate Foreign Relations Committee hearing.

Berman explained September 26, 2008, that he chose to support H.R. 7081, the bill approving the agreement, partly because Secretary Rice “made a personal commitment” to him that the United States would make its “highest priority” at the November 2008 NSG meeting “the achievement of a decision by all of the nuclear suppliers to prohibit the export of enrichment and reprocessing equipment and technology” to non-NPT states. Asked the same day about Berman’s statement, Rice told Reuters that the United States would advocate for “strict limits” on the export of such technology. The NSG is considering adopting criteria for exporting enrichment and reprocessing technology.<sup>56</sup>

According to the September 2008 NSG statement, participating governments will meet “and act in accordance with paragraph 16 of the [group’s] Guidelines” if one or more members “consider that circumstances have arisen which require consultations.” Paragraph 16 provides a list of potential steps for NSG members to take if

one or more suppliers believe that there has been a violation of supplier/recipient understanding resulting from these Guidelines, particularly in the case of an explosion of a nuclear device, or illegal termination or violation of IAEA safeguards by a recipient.

Under such circumstances, NSG members could agree to cut off nuclear supplies; indeed, New Zealand stated September 6, 2008, that “in the event of a nuclear test by India, this exemption will become null and void.” However, the NSG would have to agree by consensus to cut off nuclear exports.

Several NSG governments indicated in statements after the vote that a September 5, 2008, statement from Mukherjee describing India’s “stand on disarmament and nonproliferation” played a decisive role in persuading them to agree to the exemption.<sup>57</sup> However, Mukherjee simply reiterated previous Indian policies and articulated no new commitments. For example, he stated that India “remain[s] committed to a voluntary, unilateral moratorium on nuclear testing,” but New Delhi is already committed to such a moratorium. Furthermore, Congress Party spokesperson Manis Tiwari stated September 4, 2008, that “[i]f the need arises and if it is in our national interest, we are ready to test not once, not twice but a hundred times.”<sup>58</sup>

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<sup>55</sup> Mark Hibbs and Daniel Horner, “Scope of NSG Exemption For India Yet to Be Defined by Member States,” *Nucleonics Week*, September 11, 2008.

<sup>56</sup> See CRS Report RL34234, *Managing the Nuclear Fuel Cycle: Policy Implications of Expanding Global Access to Nuclear Power*, coordinated by Mary Beth Nikitin.

<sup>57</sup> See **Appendix A**.

<sup>58</sup> Rama Lakshmi, “U.S. Letter Puts India’s Premier On Defensive Over Nuclear Deal,” *Washington Post*, September 5, (continued...)



## **Other Required Steps**

### **Additional Protocol**

Section 104 (b) (3) of P.L. 109-401 requires a presidential determination that “India and the IAEA are making substantial progress toward concluding an Additional Protocol consistent with IAEA principles, practices, and policies that would apply to India’s civil nuclear program.” According to the State Department, ElBaradei concluded September 10, 2008, that India has made substantial progress toward concluding such a protocol. The IAEA Board of Governors approved the protocol March 3, 2009, and India signed it May 15, 2009.

Additional Protocols, which are based on a Model Additional Protocol, are designed to augment the IAEA’s ability to detect undeclared nuclear activities in an NPT member-state. Since New Delhi has nuclear weapons and is keeping some of its nuclear facilities outside of safeguards, “there are bound to be important differences between” India’s Additional Protocol and the Model Protocol, according to the NPAS. Indeed, India’s Additional Protocol does not contain most of the Model Protocol’s provisions, requiring only that India provide the IAEA with information about its nuclear exports.

### **Declaration of Nuclear Facilities**

Section 104 (b) (1) requires that India file “a declaration regarding its civil facilities and materials with the IAEA.” As noted, a State Department official said that India’s submission of this plan does not constitute submission of the declaration required by the safeguards agreement, but does satisfy P.L. 109-401’s requirement.<sup>59</sup> India has, as noted, submitted its declaration to the IAEA. New Delhi is neither required to place any new facilities under safeguards, nor to adhere to the separation plan. However, an Indian facility must be placed under safeguards in order for that facility to receive foreign assistance.

### **Harmonization with NSG/MTCR Guidelines and Adherence to NSG Guidelines**

Section 104 (b) (6) (B) requires a presidential determination that India has harmonized “its export control laws, regulations, policies, and practices with the guidelines and practices” of the Missile Technology Control Regime (MTCR) and the NSG. Section 104 (b) (6) (B) requires a determination that New Delhi adhere to the NSG guidelines.

The State Department report assesses that India has harmonized its export control laws with the NSG and MTCR guidelines “up through the 2005 revisions, and has the means in place to make future updates to its guidelines and control lists.”<sup>60</sup> New Delhi stated its adherence to the NSG

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(...continued)

2008.

<sup>59</sup> Author interview, September 23, 2008.

<sup>60</sup> State Department Report 2008.

guidelines in a September 8, 2008, letter to the IAEA and its adherence to the MTCR guidelines in a September 9, 2008, letter to the MTCR point of contact.<sup>61</sup>

According to the September 2008 NSG statement, the group's chair (which rotates each year) "is requested to consult with India regarding changes to and implementation of" the group's guidelines. This provision gives New Delhi what is essentially a non-binding consultative role in formulating changes to the guidelines. India had been reluctant to adhere to the guidelines because they sometimes change and New Delhi, as a non-member, will not be able to participate in the group's decisions regarding such changes.<sup>62</sup>

The United States has since agreed to support India's membership in the NSG. According to a November 8, 2010, White House fact sheet, the United States "intends to support India's full membership" in the NSG, as well as the MTCR, the Australia Group, and the Wassenaar Arrangement "in a phased manner."<sup>63</sup> As part of its effort to help India's membership bid, the United States is in the process of circulating a paper to the NSG regarding India's prospective membership. However, overall U.S. assistance will apparently be less vigorous than Washington's support for the 2008 exception for New Delhi. The NSG is to consider India's membership during its next plenary meeting in June 2011.<sup>64</sup>

## **P.L. 110-369—Key Provisions**

As noted, the House passed H.R. 7081, which approved the nuclear cooperation agreement, September 27, 2008.<sup>65</sup> The Senate Committee on Foreign Relations had, following a September 18 hearing and subsequent markup, approved identical legislation, S. 3548 (introduced by Senator Christopher Dodd), September 23. The Senate passed H.R. 7081 October 1. President Bush signed P.L. 110-369 into law October 8, 2008.

P.L. 110-369, the United States-India Nuclear Cooperation Approval and Nonproliferation Enhancement Act, obviated the 30-day consultative period, as well as other procedures cited in sections 123 b. and d. of the AEA. Section 101 states that "notwithstanding the provisions for congressional consideration and approval of a proposed agreement for cooperation" in those two sections, "Congress hereby approves the United States-India Agreement for Cooperation on Peaceful Uses of Nuclear Energy." It also states that the agreement "shall be subject to" applicable U.S. law as if it had been approved according to Section 123's provisions.

## **Declarations of Policy**

P.L. 110-369 contains several declarations of U.S. policy. Section 102 (a) states that "it is the understanding of the United States" that the agreement's provisions

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<sup>61</sup> Ibid.

<sup>62</sup> Author interviews with State Department official August 11, 2008; August 14, 2008.

<sup>63</sup> [http://www.whitehouse.gov/sites/default/files/india-factsheets/India-US\\_Agreement\\_on\\_Export\\_Controls.pdf](http://www.whitehouse.gov/sites/default/files/india-factsheets/India-US_Agreement_on_Export_Controls.pdf)

<sup>64</sup> Sandeep Dikshit, "NSG to Include India's Request for Membership as Special Agenda Item," *The Hindu*, May 25, 2011.

<sup>65</sup> H.R. 7039, a bill identical to H.R. 7081, was introduced by Representative Alana Ros-Lehtinen September 24. The next day, Representative Howard Berman introduced H.R. 7061, a bill very similar to H.R. 7081.

have the meanings conveyed in the authoritative representations provided by the President and his representatives to the Congress and its committees prior to September 20, 2008, regarding the meaning and legal effect of the Agreement.

As noted, some lawmakers had previously expressed concern about ambiguities in the agreement and whether it met the requirements of P.L. 109-401. During the debate over the bill, Berman stated September 26, 2008, that “I continue to have concerns about ambiguities in the agreement” and inserted the State Department’s January 2008 responses to the committee’s questions into the record in order to “clarify the meaning of these and other important issues.” The documents “constitute key and dispositive parts of the ‘authoritative representations’ described in Section 102,” he added.

The law contains two other provisions apparently designed to clarify that the agreement’s fuel reserve and fuel supply provisions are not intended to provide New Delhi a way to test nuclear weapons without fear of consequence. The first, Section 102 (b) (1), states that “in the event that nuclear transfers to India are suspended or terminated” pursuant to U.S. law, “it is the policy of the United States to seek to prevent the transfer to India of nuclear equipment, materials, or technology” from other NSG participants “or from any other source.” This provision is also contained in Section 103 (a)(6) of P.L. 109-401.

The second, Section 102 (b)(2), restates a provision contained in Section 103 (b) (10) of P.L. 109-401 regarding the fuel reserve:

Any nuclear power reactor fuel reserve provided to the Government of India for use in safeguarded civilian nuclear facilities should be commensurate with reasonable reactor operating requirements.

## **Certification Requirements**

P.L. 110-369 contains two certification requirements that had to be met before the United States could exchange diplomatic notes with India—a step which, as noted, was necessary for the agreement to enter into force. Section 102 (c) requires the President to certify to Congress that the agreement is “consistent with” U.S. obligations under Article I of the NPT. Section 204 (a) requires the President to certify to the Senate Foreign Relations Committee and the House Foreign Affairs Committee that it is U.S. policy to work with NSG members “to agree to further restrict the transfers of equipment and technology related to the enrichment of uranium and reprocessing of spent nuclear fuel.” President Bush transmitted the certifications, along with a Memorandum of Justification, October 20, 2008. The memorandum did not explain the reasoning underlying the determinations.

In addition, Section 204 (b) states that

the President shall seek to achieve, by the earliest possible date, either within the NSG or with relevant NSG Participating Governments, the adoption of principles, reporting, and exchanges of information as may be appropriate to assure peaceful use and accounting of by-product material in a manner that is substantially equivalent to the relevant provisions [of the nuclear cooperation agreement].

There is no certification requirement for this provision, although section 204(c) requires the President to submit a report every six months on U.S. efforts to achieve these changes.

Section 104 of P.L. 110-369 requires that, before the NRC can issue export licenses, the President must determine and certify to Congress that India's IAEA safeguards agreement has entered into force and that New Delhi's declaration of its nuclear facilities to the IAEA "is not materially inconsistent with the facilities and schedule" described in India's separation plan. As noted, India signed its safeguards agreement February 2, 2009, and it entered into force May 11, 2009. New Delhi has also, as noted, submitted its declarations of nuclear facilities pursuant to paragraphs 13 and 14 of its safeguards agreement. President Obama submitted the required certification to Congress February 3, 2010, determining that India has satisfied the legal requirement described above. The certification did not describe the reasoning underlying the determination.

## **Reporting Requirements**

P.L. 110-369 adds several reporting requirements to P.L. 109-401. It amends Section 104 (g)(1) to require that the President inform the Senate Foreign Relations Committee and the House Foreign Affairs Committee of "any material inconsistencies" with respect to content or timing between India's separation plan and the notifications New Delhi is to provide to the IAEA pursuant to paragraph 14 of India's safeguards agreement. P.L. 110-369 also amends Section 104(g)(2) to require the President to report on a variety of activities that could be undertaken pursuant to the nuclear cooperation agreement.

Section 202 of P.L. 110-369 amends Section 123 of the AEA to require the President to keep the Senate Foreign Relations Committee and the House Foreign Affairs Committee "fully and currently informed of any initiative or negotiations relating to a new or amended agreement for peaceful nuclear cooperation."<sup>66</sup>

## **Procedures for Subsequent Arrangements**

As noted, the United States and India signed an agreement July 30, 2010, concerning the arrangements and procedures for India to reprocess spent nuclear fuel in a new reprocessing facility. Section 201 of P.L. 110-369 specifies procedures for Congress to consider such a subsequent arrangement. First, the President must transmit to the Senate Foreign Relations Committee and the House Foreign Affairs Committee a report describing the reasons for the proposed arrangement, a description (including the text) of the arrangement, and a certification that the United States

will pursue efforts to ensure that any other nation that permits India to reprocess or otherwise alter in form or content nuclear material that the nation has transferred to India or nuclear material and by-product material used in or produced through the use of nuclear material, non-nuclear material, or equipment that it has transferred to India requires India to do so under similar arrangements and procedures.

In addition, 30 days of continuous session must elapse after the President has submitted the report. The proposed arrangement shall not take effect if Congress adopts a joint resolution of disapproval within this 30-day period. Section 201 requires that such a resolution "be considered pursuant to the procedures set forth in Section 130 i" of the AEA. Section 205, however, shortens

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<sup>66</sup> H.R. 7061 required the President to consult with the House Foreign Affairs Committee and the Senate Foreign Relations Committee regarding any such initiative or negotiations.

from 45 to 15 days the amount of time that the Senate Foreign Relations Committee and the House Foreign Affairs Committee have to report the resolution.<sup>67</sup> Secretary of Energy Steven Chu submitted the subsequent arrangement and related materials to Congress May 11, 2010.

## The Atomic Energy Act and Consultations with Congress

Under existing law (Atomic Energy Act [AEA] of 1954; P.L. 95-242; 42 U.S.C. § 2153 et seq.) all significant nuclear cooperation requires an agreement for cooperation.<sup>68</sup> The Nuclear Non-Proliferation Act of 1978 (NNPA) amended the Atomic Energy Act of 1954 to include, among other things, a requirement for full-scope IAEA safeguards for significant nuclear exports to non-nuclear-weapon states.<sup>69</sup>

At issue are the requirements for full-scope nuclear safeguards contained in Section 123 a. (2) for approval of an agreement for cooperation and in Section 128 for licensing nuclear exports. India, a non-party to the NPT, does not have full-scope safeguards, nor is it ever expected to adopt full-scope safeguards, since it has a nuclear weapons program that would preclude them. Also at issue is the requirement in Section 129 to stop exports if a non-nuclear-weapon state has detonated a nuclear device after 1978, among other things. India detonated several nuclear devices in 1998.

These three sections of the AEA provide mechanisms for the President to waive those requirements and sanctions, which are spelled out in more detail below. Sections 126 and 128 also provide legislative vetoes, in the form of concurrent resolutions, of the presidential determinations. In 1983, however, the Supreme Court decided in *INS v. Chadha* that legislative veto provisions that do not satisfy the bicameralism and presentment requirements of Article I of the Constitution were unconstitutional. In 1985, some parts of the AEA were amended to provide for joint resolutions of approval or disapproval (e.g., Section 123 d.). The *Chadha* decision affects how Congress would disapprove of such presidential determinations under existing law and therefore affects the impact of the Administration's proposed legislation.

### Agreements for Cooperation

Section 123 of the AEA (42 U.S.C. 2153) specifies what must happen before nuclear cooperation can take place:

- **Section 123 a.** states that the proposed agreement shall include the terms, conditions, duration, nature, and scope of cooperation and lists nine criteria that the agreement must meet. It also contains provisions for the President to exempt an agreement from any of the nine criteria, and includes details on the kinds of information the executive branch must provide to Congress;

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<sup>67</sup> See CRS Report RS22937, *Nuclear Cooperation with Other Countries: A Primer*, by Paul K. Kerr and Mary Beth Nikitin.

<sup>68</sup> Nuclear cooperation includes the distribution of special nuclear material, source material, and byproduct material, to licensing for commercial, medical, and industrial purposes. These terms, "special nuclear material," "source material," and "byproduct material," as well as other terms used in the statute, are defined in 42 U.S.C. § 2014.

<sup>69</sup> P.L. 83-703, 42 U.S.C. §§ 2153 et seq.

- **Section 123 b.** specifies the process for submitting the text of the agreement to Congress;
- **Section 123 c.** specifies how Congress approves cooperation agreements that are limited in scope (e.g., do not transfer nuclear material or cover reactors larger than 5 MWe.);<sup>70</sup> and
- **Section 123 d.** specifies how Congress approves agreements that do cover significant nuclear cooperation (transfer of nuclear material or reactors larger than 5 MWe), including exempted agreements.

The United States has more than 20 agreements for cooperation in place now, and had an agreement with India from 1963 to 1993. Such agreements for cooperation are “framework” agreements—they do not guarantee that cooperation will take place or that nuclear material will be transferred, but rather set the terms of reference and provide authorization for cooperation. The 1963 U.S.-India cooperation agreement is anomalous in that it did guarantee fuel for the Tarapur reactors, even though other U.S. nuclear cooperation agreements reportedly have not included any such guarantees.<sup>71</sup>

Section 123 a. lists nine criteria that an agreement must meet unless the President determines an exemption is necessary. These are listed in Section 123 a., paragraphs (1) through (9), 42 U.S.C. 2153. They are guarantees that (1) safeguards on nuclear material and equipment transferred continue in perpetuity; (2) full-scope safeguards are applied in non-nuclear-weapon states; (3) nothing transferred is used for any nuclear explosive device or for any other military purpose; (4) the United States has the right of return if the cooperating state detonates a nuclear explosive device or terminates or abrogates an IAEA safeguards agreement; (5) there is no transfer of material or classified data without U.S. consent; (6) physical security is maintained; (7) there is no enrichment or reprocessing by the recipient state without prior approval; (8) storage is approved by United States for plutonium and highly enriched uranium; and (9) anything produced through cooperation is subject to all of the above requirements.

In the case of India, the most difficult of these requirements to meet is the full-scope safeguards requirement for non-nuclear-weapon states (Sec. 123 a. (2)). India is considered to be a non-nuclear-weapon state because it did not, as defined by the NPT, explode a nuclear device before January 1, 1967.<sup>72</sup> The President may exempt an agreement for cooperation from any of the requirements in Section 123 a. if he determines that meeting the requirement would be “seriously prejudicial to the achievement of U.S. non-proliferation objectives or otherwise jeopardize the common defense and security.” An exempted agreement would not become effective “unless the Congress adopts, and there is enacted, a joint resolution stating that the Congress does favor such

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<sup>70</sup> In the 1954 Act, the provisions in Section 123 c. covered all agreements for cooperation. Section 123 d. was added in 1958 (P.L. 85-479) to cover military-related agreements. In 1974, P.L. 93-485 amended Section 123 d. to include agreements that covered reactors producing more than 5 MW thermal or special nuclear material connected therewith.

<sup>71</sup> United States General Accounting Office, “Nuclear Agreement: Cooperation Between the United States and the People’s Republic of China,” GAO/NSIAD-86-21BR, November 1985, Appendix I-1.

<sup>72</sup> 42 U.S.C. 2153 a.(2). Section 4 (b) of the NNPA specifies that all other terms used in the NNPA not defined in Section 4 “shall have the meanings ascribed to them by the 1954 Act, the Energy Reorganization Act of 1974 and the Treaty [NPT].” S.Rept. 95-467 further clarified that under the NPT, the five nuclear weapon states are the U.S., U.K., China, the Soviet Union, and France. U.S. Code Congressional and Administration News, 95<sup>th</sup> Cong., 2<sup>nd</sup> sess., 1978, vol. 3, p. 329.

agreement.”<sup>73</sup> In other words, both chambers of Congress must approve the agreement if it does not contain all of the Section 123 a. requirements.

If Congress votes to approve an agreement for cooperation that was exempted because the recipient state did not have full-scope safeguards (Section 123 a. (2)), such approval would essentially waive the Nuclear Regulatory Commission’s (NRC) obligation to consider full-scope safeguards as an export license authorization criterion under Section 128. However, Congress would still have the authority to review one export license authorization approximately every 12 months after the agreement for cooperation has entered into force (see discussion below).

Section 123 d., in part, states the following:

if Congress fails to disapprove a proposed agreement for cooperation which exempts the recipient nation from the requirement set forth in subsection 123 a. (2), such failure to act shall constitute a failure to adopt a resolution of disapproval pursuant to subsection 128 b. (3) for purposes of the Commission’s consideration of applications and requests under Section 126 a. (2) and there shall be no congressional review pursuant to Section 128 of any subsequent license or authorization with respect to that state until the first such license or authorization which is issued after twelve months from the elapse of the sixty-day period in which the agreement for cooperation in question is reviewed by the Congress.<sup>74</sup>

## **Export Licensing**

In addition to specifying criteria for framework agreements, the AEA sets out procedures for licensing exports (Sections 126, 127, and 128 codified as amended at 42 U.S.C. 2155, 2156, 2157). The NRC is required to meet criteria in Sections 127 and 128 for authorizing export licenses; Section 128 contains the requirement for full-scope safeguards for non-nuclear-weapon states. Section 126 b. (2) contains a provision for the President to authorize an export in the event that the NRC deems that the export would not meet Section 127 and 128 criteria. The President must determine “that failure to approve an export would be seriously prejudicial to the achievement of U.S. nonproliferation objectives or otherwise jeopardize the common defense and security.” In that case, the President would submit his executive order, along with a detailed assessment and other documentation, to Congress for 60 days of continuous session. After 60 days of continuous session, the export would go through unless Congress were to pass a concurrent resolution of disapproval.<sup>75</sup>

In the case of exports pursuant to an exempted agreement for cooperation as described above, the NRC does not have to meet the full-scope safeguards requirement in assessing whether it can issue export licenses (Section 128 b. (3)). If the NRC were to issue such a license, Congress

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<sup>73</sup> This new requirement was added by the Export Administration Amendments Act of 1985, P.L. 99-64, Section 301 (b) (2), 99 Stat. 120.

<sup>74</sup> The language “fails to disapprove” is an artifact of the 1978 Nuclear Nonproliferation Act, which used legislative vetoes in the form of concurrent resolutions of disapproval. In 1985, following the Supreme Court’s *Chadha* decision invalidating the use of legislative vetoes, the Export Administration Amendments Act created a separate approval process for exempted agreements, which this part of Section 123 d. is referring to, that called for a joint resolution of approval. Thus, “fails to disapprove” could be interpreted as “approves” in the form of a joint resolution of approval.

<sup>75</sup> In light of the *Chadha* decision, passing a concurrent resolution could invite a legal challenge. Although this is not provided for in the AEA, Congress could choose to pass a joint resolution of disapproval or a bill stating in substance it did not approve.

would review one license every 12 months. If Congress were to pass a resolution of disapproval, no further exports could be made during that Congress.<sup>76</sup>

In both cases, Section 128 contains a provision for the President to waive termination of exports by notifying the Congress that the state has adopted full-scope safeguards or that the state has made significant progress toward full-scope safeguards, or that U.S. foreign policy interests dictate reconsideration. Such a determination would become effective unless Congress were to disagree with the President's determination.<sup>77</sup>

## Termination of Cooperation

Section 129 of the AEA (42 U.S.C. 2158) requires ending exports of nuclear materials and equipment or sensitive nuclear technology to any non-nuclear-weapon state that, after March 10, 1978, the President determines to have

- detonated a nuclear explosive device;
- terminated or abrogated IAEA safeguards;
- materially violated an IAEA safeguards agreement; or
- engaged in activities involving source or special nuclear material and having "direct significance" for the manufacture or acquisition of nuclear explosive devices, and "has failed to take steps which, in the President's judgment, represent sufficient progress toward terminating such activities."

In addition, Section 129 would also halt exports to any nation the President determines to have

- materially violated the terms of an agreement for cooperation with the United States, or
- assisted, encouraged, or induced any other non-nuclear-weapon state to obtain nuclear explosives or the materials and technologies needed to manufacture them; or re-transferred or entered into an agreement for exporting reprocessing equipment, materials or technology to another non-nuclear-weapons state.

The President can waive termination if he determines that "cessation of such exports would be seriously prejudicial to the achievement of United States nonproliferation objectives or otherwise jeopardize the common defense and security." The President must submit his determination to Congress, which is then referred to the House Foreign Affairs Committee and the Senate Foreign Relations Committee for 60 days of continuous session. The determination becomes effective unless Congress opposes it.<sup>78</sup>

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<sup>76</sup> Section 128 b. (3) refers to a "resolution of disapproval," and this would likely be a joint resolution of disapproval, in light of the *Chadha* decision.

<sup>77</sup> Section 128 b. (2) refers to a "concurrent resolution." In light of the *Chadha* decision, Congress could pass a joint resolution disagreeing with the President's determination, or pass a bill barring nuclear exports for a certain period of time to that country.

<sup>78</sup> Section 129 specified that the President's determination "shall not become effective if during such sixty-day period the Congress adopts a concurrent resolution stating in substance that it does not favor the determination." However, P.L. 110-369 amended that section to change the "concurrent resolution" provision to a "joint resolution," presumably to overcome potential issues raised by the *Chadha* decision..



## **P.L. 109-401**<sup>79</sup>

On March 9, 2006, the Administration submitted its proposed legislation to Representative Hyde and Senator Lugar, and on March 16, 2006, Representatives Hyde and Lantos introduced H.R. 4974, and Senator Lugar introduced S. 2429. Following public hearings and committee markups, the House passed H.R. 5682 on July 26, 2006, by a vote of 359 to 68 and the Senate passed its version of H.R. 5682, substituting the text of the amended S. 3709, on November 16, 2006, by a vote of 85 to 12. One issue that held up the Senate bill was the inclusion, in Title II, of the implementing legislation for the U.S. Additional Protocol—an agreement between the United States and the IAEA to provide for enhanced information, access, and inspection tools for IAEA inspectors as they inspect U.S. nuclear and other facilities under the U.S. voluntary safeguards agreement.

The House and Senate versions of H.R. 5682 were remarkably similar, with four differences.<sup>80</sup> The Senate version contained an additional requirement for the President to execute his waiver authority, an amendment introduced by Senator Harkin and adopted by unanimous consent that the President determine that India is “fully and actively participating in U.S. and international efforts to dissuade, sanction and contain Iran for its nuclear program.” This provision was changed to a reporting requirement in the conference report. The Senate version also had two unique sections related to the cooperation agreement, Sections 106 and 107, both of which appear in the conference report. Section 106 (now Section 104 (d) (4)) prohibits exports of equipment, material or technology related for uranium enrichment, spent fuel reprocessing, or heavy water production unless conducted in a multinational facility participating in a project approved by the IAEA or in a facility participating in a bilateral or multilateral project to develop a proliferation-resistant fuel cycle. Section 107 (now Section 104 (d) (5)) would establish a program to monitor that U.S. technology is being used appropriately by Indian recipients. Finally, the Senate version also contained the implementing legislation for the U.S. Additional Protocol in Title II, which was retained in the conference report.

P.L. 109-401 allows the President to

- exempt a proposed agreement for cooperation with India from the full-scope safeguards requirement of Section 123 a. (2) of the Atomic Energy Act;
- exempt an agreement from any export review by the Congress under Section 128 of the AEA; and
- exempt the agreement from restrictions resulting from India’s nuclear weapons activities under Section 129 a. (1) (D) of the AEA, and exempt the agreement from a cutoff in exports because of India’s 1998 nuclear test.

It does not exempt the agreement from a future cutoff in exports if India tests a nuclear explosive device again. For the President to exercise his waiver authority, seven requirements, as outlined earlier, must be met. P.L. 109-401 contains numerous statements of policy and reporting requirements, as well as restrictions on certain kinds of transfers. There are specific prohibitions on (as outlined in Section 104 (d)): (1) transfers that would violate U.S. obligations under Article

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<sup>79</sup> See CRS Report RL33561, *U.S.-India Nuclear Cooperation: A Side-By-Side Comparison of Current Legislation*, by Sharon Squassoni and Jill Marie Parillo for more detail on the bills.

<sup>80</sup> See H.Rept. 109-590 and S.Rept. 109-288, dated July 20, 2006, for background on the bill.

1 of the NPT not to in any way assist any country to manufacture or otherwise acquire nuclear weapons; (2) transfers that would violate NSG guidelines in force at the time; (3) enrichment and reprocessing cooperation, except to “a multinational facility participating in an IAEA-approved program to provide alternatives to national fuel cycle capabilities; or ... a facility participating in, and the export, reexport, transfer, or retransfer is associated with, a bilateral or multinational program to develop a proliferation-resistant fuel cycle.” Additionally, the law requires a cutoff in exports if India is found to have violated NSG or MTCR guidelines. P.L. 109-401 also provides for a nuclear export accountability program (formerly Section 107 of the Senate version of H.R. 5682).

## **President’s Signing Statement**

In President Bush’s signing statement, he noted that the act “will strengthen the strategic relationship between the United States and India.”<sup>81</sup> With respect to particular provisions, President Bush stated that the executive branch would construe two sections of the bill as “advisory” only: policy statements in Section 103 and the restriction contained in Section 104 (d) (2) on transferring items to India that would not meet NSG guidelines. On the first, the President cited the Constitution’s “commitment to the presidency of the authority to conduct the Nation’s foreign affairs;” on the second, the President raised the question of whether the provision “unconstitutionally delegated legislative power to an international body.” In other words, the President was questioning whether Congress was ceding authority to approve U.S. exports to the NSG. However, U.S. officials, including Secretary of State Rice, have formally told Congress multiple times that the United States government would abide by NSG guidelines. The President’s signing statement also noted that the executive branch would construe

provisions of the Act that mandate, regulate, or prohibit submission of information to the Congress, an international organization, or the public, such as sections 104, 109, 261, 271, 272, 273, 274, and 275, in a manner consistent with the President’s constitutional authority to protect and control information that could impair foreign relations, national security, the deliberative processes of the Executive, or the performance of the Executive’s constitutional duties.

This seems to suggest that the executive branch might limit the scope of reporting required by Congress in those sections, not just on national security grounds, but to protect executive branch processes or performance. The implications of the approach outlined in this signing statement will not be clear until the executive branch produces (or does not produce, as the case may be) required reports.

## **The Nuclear Cooperation Agreement: Issues for Congress**

The agreement announced in July 2007 by the United States and India lists a variety of civilian nuclear projects on which the two countries “may pursue cooperation.” Although the Bush Administration argued that the agreement “is consistent with applicable U.S. law,”<sup>82</sup> some

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<sup>81</sup> See <http://www.whitehouse.gov/news/releases/2006/12/20061218-12.html>.

<sup>82</sup> Department of State Fact Sheet July 27, 2007, at <http://www.state.gov/r/pa/prs/ps/2007/89552.htm>.

Members of Congress expressed concern that it may be inconsistent with parts of P.L. 109-401. For example, H.Res. 711, which was referred to the House Committee on Foreign Affairs October 4, 2007, stated that “it is the sense of the House of Representatives” that the Bush Administration should not propose changes to NSG guidelines until it has resolved “all differences of interpretation” of the agreement with New Delhi and “answered all outstanding questions raised by Congress regarding apparent inconsistencies between the nuclear cooperation agreement” and P.L. 109-401. Non-governmental experts also raised questions about several aspects of the agreement, arguing that they may be inconsistent with P.L. 109-401.<sup>83</sup>

## **Sensitive Nuclear Technology Transfers**

Despite restrictions in P.L. 109-401 regarding U.S. exports of equipment, material or technology related to uranium enrichment, spent fuel reprocessing or heavy water production, the agreement states that

Sensitive nuclear technology, heavy water production technology, sensitive nuclear facilities, heavy water production facilities and major critical components of such facilities may be transferred under this Agreement pursuant to an amendment to this Agreement.

However, the agreement also states that “transfers of dual-use items that could be used in enrichment, reprocessing or heavy water production facilities will be subject to the Parties’ respective applicable laws, regulations and license policies.” Such transfers would, therefore, be subject to the same restrictions described in P.L. 109-401. Any other transfers of such technology would require changes to existing U.S. law. The State Department has said that Washington does not intend to negotiate an amendment to the agreement.<sup>84</sup> Furthermore, “as a matter of policy, the United States does not transfer dual-use items for use in sensitive nuclear facilities” and “will not assist India in the design, construction, or operation of sensitive nuclear technologies through the transfer of dual-use items, whether under the [nuclear cooperation] Agreement or outside the Agreement,” according to the State Department.<sup>85</sup>

## **Nuclear Testing/Right of Return**

P.L. 109-401 does not exempt the agreement from a future cutoff in exports if India tests a nuclear explosive device again.<sup>86</sup> However, the agreement does not explicitly mention U.S. responses to such a test of such a device. Instead, the agreement states that “either Party shall have the right to terminate this Agreement prior to its expiration on one year’s written notice to the other Party”—that is, the agreement does not limit the grounds upon which the agreement may be terminated.

Similarly, the agreement provides that the party seeking termination

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<sup>83</sup> See, for example, Sharon Squassoni, “Issues in U.S.-India Nuclear Cooperation,” November 7, 2007, <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=19697&prog=zgp&proj=znpp,za>, and Daryl G. Kimball and Fred McGoldrick “U.S.-Indian Nuclear Agreement: A Bad Deal Gets Worse,” August 3, 2007, at [http://www.armscontrol.org/pressroom/2007/20070803\\_IndiaUS.asp?print](http://www.armscontrol.org/pressroom/2007/20070803_IndiaUS.asp?print).

<sup>84</sup> Questions for the Record, 2007 (#8).

<sup>85</sup> *Ibid.* (#s 4 and 5).

<sup>86</sup> As noted, the President retains the right to waive the termination of nuclear exports.

has the right to cease further cooperation under this Agreement if it determines that a mutually acceptable resolution of outstanding issues has not been possible or cannot be achieved through consultations.

This provision means that nuclear cooperation under the agreement may be terminated by a party during the one-year notice period for termination of the agreement.

The agreement also specifies that the two governments are to “hold consultations” prior to ceasing cooperation or terminating the agreement. The United States and India are to

take into account whether the circumstances that may lead to termination or cessation resulted from a Party’s serious concern about a changed security environment or as a response to similar actions by other States which could impact national security.

This provision suggests that, in the event that India conducts a nuclear explosive test, New Delhi may argue that the agreement should not be terminated (and nuclear cooperation should not cease) because geopolitical circumstances justified the test. However, in such cases, the U.S. right to terminate and cease cooperation under this provision would not be constrained by the results of the consultations.

With regard to the U.S. right of return, Section 123 a. (4) of the AEA requires that nuclear cooperation agreements include

a stipulation that the United States shall have the right to require the return of any nuclear materials and equipment transferred pursuant thereto and any special nuclear material produced through the use thereof if the cooperating party detonates a nuclear explosive device or terminates or abrogates an agreement providing for IAEA safeguards.

The July agreement states that, following the cessation of cooperation under this agreement, either party has the right to require the return of “any nuclear material, equipment, non-nuclear material or components transferred under this Agreement and any special fissionable material produced through their use.” However, the agreement does not say explicitly that a future Indian test of a nuclear explosive device would allow the United States to exercise its right of return. Rather, it provides for a right of return whenever a party has given notice of termination of the agreement and has ceased nuclear cooperation, which would include but not be limited to the circumstances specified in Section 123.a(4) of the AEA. The agreement also provides that a “notice by a Party that is invoking the right of return shall be delivered to the other Party on or before the date of termination of this Agreement.” This means that the right of return cannot be exercised after the one-year interval prior to the agreement’s termination.

## **Fuel Supply**

A closely related issue is the agreement’s four assurances regarding India’s future nuclear fuel supply:

- The United States is willing to incorporate assurances regarding fuel supply in the bilateral U.S.-India agreement on peaceful uses of nuclear energy under Section 123 of the U.S. AEA, which would be submitted to the U.S. Congress.
- The United States will join India in seeking to negotiate with the IAEA an India-specific fuel supply agreement.

- The United States will support an Indian effort to develop a strategic reserve of nuclear fuel to guard against any disruption of supply over the lifetime of India's reactors.
- If, despite these [above] arrangements, a disruption of fuel supplies to India occurs, the two governments would jointly convene a group of friendly supplier countries (including countries such as Russia, France, and the United Kingdom) to pursue such measures as would restore fuel supply to India.

The last two provisions are particularly controversial because they could potentially provide India a way to mitigate the effects of a U.S. cessation of nuclear exports (in the event that, for example, India were to test a nuclear weapon).<sup>87</sup> Indeed, India's then-Foreign Secretary Saran asserted in a February 18, 2008, statement that, under the 123 agreement, India is entitled to build a strategic fuel reserve "to last the lifetime of such reactors." And a spokesperson for India's ruling Congress Party indicated in September 2008 that reserve supplies of fuel would enable New Delhi to continue operating its reactors even if other countries were to halt cooperation in response to an Indian nuclear test.<sup>88</sup>

P.L. 109-401 contains several provisions that could be in tension with the July agreement. For example, Section 103 (b) (10) addresses the issue of a fuel reserve:

Any nuclear power reactor fuel reserve provided to the Government of India for use in safeguarded civilian nuclear facilities should be commensurate with reasonable reactor operating requirements.

With regard to supplying India with nuclear fuel after a nuclear test, Section 103 a. (6)<sup>89</sup> says that the United States should

Seek to prevent the transfer to a country of nuclear equipment, materials, or technology from other participating governments in the NSG or from any other source if nuclear transfers to that country are suspended or terminated.

Similarly, Section 102 (13) expresses the sense of Congress that the United States "should not seek to facilitate or encourage the continuation of nuclear exports to India by any other party if such exports are terminated under United States law."

However, President Bush's September 10, 2008, message transmitting the agreement to Congress characterizes the agreement's fuel-supply assurances as "political commitments" that are not "legally binding" because the agreement is only a "framework agreement" that does not compel specific nuclear cooperation. Furthermore, according to the State Department, the "disruption of fuel supplies" referred to in the agreement refers only to disruptions "that may result through no fault" of India's.<sup>90</sup>

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<sup>87</sup> In a February 18, 2008, statement, Saran asserted that, under the 123 agreement, India is entitled to build a strategic fuel reserve "to last the lifetime of such reactors."

<sup>88</sup> "BJP, Left On 'Unholy Alliance' To Oppose N-Deal: Congress," *Press Trust of India*, September 5, 2008.

<sup>89</sup> As noted, the President's signing statement says that he "shall construe" Section 103 as "advisory."

<sup>90</sup> Questions for the Record, 2007 (#16).

Regarding the question of non-U.S. suppliers, Washington has not sought commitments from any other country to supply fuel to India. The “United States would be compelled to encourage transfers of nuclear fuel to India by other” NSG members if supply disruptions “occur through no fault of India’s own,” according to the State Department.<sup>91</sup> However, these assurances “are not ... meant to insulate India against the consequences of a nuclear explosive test or a violation of nonproliferation commitments.” Indeed, such U.S. commitments “would no longer apply” if the United States were to terminate the agreement in response to an Indian nuclear test.

With respect to fuel reserves, the agreement does not define what it means to “support an Indian effort to develop a strategic reserve.” Furthermore, the State Department suggests that the United States may not supply India with a fuel reserve sufficient for the lifetime of India’s reactors, though the department’s 2008 responses to Questions for the Record do not specify the size of any such reserve.<sup>92</sup>

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<sup>91</sup> Ibid. (#18).

<sup>92</sup> Ibid. (#19-20).

## Appendix A. U.S. Nuclear Cooperation with India: History and Bush Administration Policy

The United States actively promoted nuclear energy cooperation with India from the mid-1950s, building nuclear power reactors (Tarapur), providing heavy water for the CIRUS research reactor, and allowing Indian scientists to study at U.S. nuclear laboratories. However, India refused to join the 1970 Nuclear Nonproliferation Treaty (NPT), arguing that it was discriminatory. The NPT defines a nuclear-weapon state as “one which has manufactured and exploded a nuclear weapon or other nuclear explosive device” prior to January 1, 1967. These states are China, France, Russia, the United Kingdom, and the United States. The treaty allows these states to retain their nuclear weapons, although they are also to pursue negotiations “in good faith” on nuclear disarmament by an unspecified date. All other parties to the NPT, are non-nuclear-weapon states. Although India conducted a “peaceful” nuclear test in 1974 and tested nuclear weapons in 1998, it is not a recognized nuclear-weapon state.<sup>93</sup>

India’s 1974 nuclear test reinforced the notion that nuclear technology transferred for peaceful purposes could be used to produce nuclear weapons.<sup>94</sup> Congress responded to that test by passing the Nuclear Non-Proliferation Act of 1978 (NNPA, P.L. 95-242), which imposed tough new requirements for U.S. nuclear exports to non-nuclear-weapon states. These included a requirement that recipients of nuclear exports must have full-scope safeguards on their nuclear facilities, as well as a requirement that the United States terminate nuclear exports if a recipient state detonates a nuclear explosive device or engages in activities related to acquiring or manufacturing nuclear weapons.<sup>95</sup> The United States created the Nuclear Suppliers Group (NSG), a voluntary nuclear export regime, in 1975. The NSG published guidelines in 1978 “to apply to nuclear transfers for peaceful purposes to help ensure that such transfers would not be diverted to unsafeguarded nuclear fuel cycle or nuclear explosive activities.”<sup>96</sup>

The full-scope safeguards requirement created a problem for U.S. fuel supplies to India’s reactors at Tarapur, which were built by U.S. firms and fueled by U.S. low-enriched uranium, pursuant to

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<sup>93</sup> The final document from the 2000 Review Conference stated that India and Pakistan’s 1998 tests “do not in any way confer a nuclear-weapon-State status or any special status whatsoever.”

<sup>94</sup> Although India maintained a certain ambiguity by calling its 1974 test a “peaceful nuclear explosion,” the 1998 tests leave little doubt that the experience gained was put to use in a nuclear weapons program. Plutonium produced in the CIRUS reactor, which the United States supplied with heavy water, was used in the 1974 test. See Victor Gilinsky and Paul Leventhal, “India Cheated,” *Washington Post*, June 15, 1998. U.S. documents from the early 1970s indicate that the United States interpreted its nuclear cooperation agreement with India to prohibit peaceful nuclear explosions. Washington communicated this position to New Delhi.

<sup>95</sup> The NNPA, in part, amended the Atomic Energy Act of 1954. See 42 U.S.C. 2151 et seq. Prior to the 1970 NPT, safeguards (inspections, material protection, control and accounting) were applied to specific facilities or materials (known as INFCIRC/66-type agreements). The NPT requires safeguards on all nuclear material in all peaceful nuclear activities for non-nuclear-weapon-state parties.

<sup>96</sup> IAEA Document INFCIRC/254, *Guidelines for Transfers of Nuclear-related Dual-use Equipment, Materials, Software, and Related Technology*. Part 1 covers “trigger list” items: those especially designed or prepared for nuclear use: (i) nuclear material; (ii) nuclear reactors and equipment; (iii) non-nuclear material for reactors; (iv) plant and equipment for reprocessing, enrichment and conversion of nuclear material and for fuel fabrication and heavy water production; and (v) associated technology. Part 2 covers dual-use items. Additional NSG criteria for dual-use exports include NPT membership and/or full-scope safeguards agreement; appropriate end-use; whether the technology would be used in a reprocessing or enrichment facility; the state’s support for nonproliferation; and the risk of potential nuclear terrorism.

a 1963 nuclear cooperation agreement. After passage of the NNPA, the Carter Administration exported two more uranium shipments under executive order after the Nuclear Regulatory Commission refused to approve an export license on nonproliferation conditions. Although the House voted to disapprove the President's determination, the Senate voted 46-48 on a resolution of disapproval. After 1980, all nuclear exports from the United States to India were cut off under the terms of the NNPA. France supplied fuel under the terms of the U.S. agreement with India until France also adopted a full-scope safeguards requirement in 1995. After the NSG adopted the full-scope safeguards condition in 1992, China supplied the reactor. Russia supplied fuel from 2001 to 2004.<sup>97</sup>

Although the NPT requires safeguards on items going to non-nuclear-weapon states, it does not explicitly prohibit nuclear commerce with states outside the NPT. However, the 1995 NPT Review and Extension Conference, NPT states-parties supported the principle that non-NPT parties should not be eligible for the same kinds of assistance as NPT parties in good standing. Nevertheless, as noted, India tested several nuclear weapons in 1998; Pakistan followed suit shortly thereafter. Later that year, the U.N. Security Council adopted Resolution 1172, which called upon those countries to "stop their nuclear weapon development programmes, to refrain from weaponization or from the deployment of nuclear weapons, to cease development of ballistic missiles capable of delivering nuclear weapons and any further production of fissile material for nuclear weapons."

## **Bush Administration Policy<sup>98</sup>**

The Bush Administration had been considering a strategic partnership with India as early as 2001. Indian officials identified their growing energy needs as an area for cooperation, particularly in nuclear energy. The U.S.-India 2004 Next Steps in Strategic Partnership (NSSP) initiative included expanded cooperation in civil nuclear technology as one of three goals. Phase I of the NSSP, completed in September 2004, required addressing proliferation concerns and ensuring compliance with U.S. export controls.<sup>99</sup>

On July 18, 2005, President Bush announced the creation of a global partnership with India in a joint statement with Prime Minister Manmohan Singh.<sup>100</sup> Noting the "significance of civilian nuclear energy for meeting growing global energy demands in a cleaner and more efficient manner," President Bush said he would "work to achieve full civil nuclear energy cooperation with India" and would "also seek agreement from Congress to adjust U.S. laws and policies."

The joint statement noted that the United States

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<sup>97</sup> China was not a member of the NSG until 2004. Russia, an NSG member, exported fuel, citing a safety exception, but NSG members objected so strongly that Moscow suspended supply in 2004. Russia agreed to resupply Tarapur in 2006 and informed the NSG on February 27, 2006, reportedly citing the NSG safety exception.

<sup>98</sup> See also CRS Report RL33072, *U.S.-India Bilateral Agreements and "Global Partnership"*, by K. Alan Kronstadt, and CRS Report RL33529, *India-U.S. Relations*, coordinated by K. Alan Kronstadt.

<sup>99</sup> See fact sheet on the NSSP at <http://www.state.gov/r/pa/prs/ps/2004/36290.htm>.

<sup>100</sup> Joint Statement Between President George W. Bush and Prime Minister Manmohan Singh, White House Press Release, July 18, 2005, Washington, DC (hereafter cited as "July 18 Joint Statement") <http://www.whitehouse.gov/news/releases/2005/07/20050718-6.html>.



will work with friends and allies to adjust international regimes to enable full civil nuclear energy cooperation and trade with India, including but not limited to expeditious consideration of fuel supplies for safeguarded nuclear reactors at Tarapur.

The United States committed to encouraging its partners to consider this request—a reversal in the U.S. position, which has been to ban fuel to Tarapur—and to consulting with its partners on Indian participation in ITER (collaboration on fusion research) and in the Generation IV International Forum for future reactor design.

Prime Minister Singh conveyed that India “would take on the same responsibilities and practices and acquire the same benefits and advantages as other leading countries with advanced nuclear technology, such as the United States.”<sup>101</sup> India agreed to

- identify and separate its civilian and military nuclear facilities and programs;
- declare its civilian facilities to the IAEA;
- voluntarily place civilian facilities under IAEA safeguards;
- sign an Additional Protocol for civilian facilities;
- continue its unilateral nuclear test moratorium;
- work with the United States to conclude a Fissile Material Cut Off Treaty (FMCT);<sup>102</sup>
- refrain from transferring enrichment and reprocessing technologies to states that do not have them, as well as support international efforts to limit their spread;
- secure its nuclear materials and technology through comprehensive export control legislation and through harmonization and adherence to MTCR and NSG guidelines.

## Issues of Controversy

The AEA requires congressional approval and oversight of peaceful nuclear cooperation agreements. As Senator Lugar noted, “Ultimately the entire Congress ... must determine what effect the Joint Statement will have on U.S. efforts to halt the proliferation of weapons of mass destruction.”<sup>103</sup> Congress held eight hearings in 2005 and 2006 on the global partnership and has consulted with the Administration on various aspects of the U.S.-India nuclear agreement.<sup>104</sup> The

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<sup>101</sup> July 18 Joint Statement.

<sup>102</sup> See CRS Report RS22474, *Banning Fissile Material Production for Nuclear Weapons: Prospects for a Treaty (FMCT)*, by Sharon Squassoni, for more detailed information about the issue and negotiations.

<sup>103</sup> Opening Statement, Chairman Richard G. Lugar, Senate Foreign Relations Committee hearing on “Implications of U.S.-India Nuclear Energy Cooperation,” November 2, 2005, (hereafter referred to as November 2, 2005, SFRC India hearing).

<sup>104</sup> The House International Relations Committee held the following hearings: “The U.S. and India: An Emerging Entente?” (September 8, 2005); “The U.S.-India Global Partnership: The Impact on Nonproliferation” (October 26, 2005); and “U.S.-India Global Partnership: How Significant for American Interests?” (November 16, 2005); “The U.S.-India Global Partnership” (April 5, 2006); “U.S.-India Global Partnership: Legislative Options” (May 11, 2006). See <http://www.internationalrelations.house.gov/> for testimonies of witnesses. The Senate Foreign Relations Committee held the following hearings: “Implications of U.S.-India Nuclear Energy Cooperation” (November 2, 2005); “U.S.-India Atomic Energy Cooperation: The Indian Separation Plan and the Administration’s Legislative Proposal” (April 5, (continued...))

discussion of the following issues is drawn in part from the hearings and from the emerging debate.

## **Strategy vs. Tactics**

The Bush Administration described its “desire to transform relations with India” as “founded upon a strategic vision that transcends even today’s most pressing security concerns.”<sup>105</sup> There is clearly broad congressional support for cultivating a close relationship with India, yet some Members of Congress have suggested that civil nuclear cooperation may not be the most appropriate vehicle for advancing our relationship. In a House International Relations Committee hearing on September 8, 2005, then-Congressman Jim Leach stated,

I don’t know any member of Congress that doesn’t want to have a warming of relations with the government of India.... I also don’t know many members of Congress who are pushing for the precise commitment that the administration has made.<sup>106</sup>

Congressman Leach suggested instead that U.S. support for a permanent seat for India on the United Nations Security Council might have been a more appropriate gesture.

Other observers outside of Congress have questioned whether U.S. energy assistance should focus on expanding nuclear power, in contrast to other energy alternatives. Henry Sokolski of the Nonproliferation Policy Education Center has argued that Indian energy needs might be better met through free market allocation, including improved efficiency. He asserts that nuclear power is the least leveraged of India’s options to meet India’s energy needs, given that it currently provides only 2.7% of installed electrical capacity.<sup>107</sup> India’s projections of its nuclear energy needs are predicated on an estimated annual growth rate of 8%, which some observers believe may be unrealistic.<sup>108</sup> One well-known Indian commentator, Brahma Chellaney, argued in the *International Herald Tribune* that the premise that India should meet its rapidly expanding energy needs through importing nuclear power reactors was flawed. Chellaney argued that a better approach for India would be to secure clean-coal and renewable energy technologies.<sup>109</sup>

The Senate Foreign Relations Committee’s November 2, 2005, hearing sought, among other things, to answer the question of why civil nuclear cooperation was so important to the U.S.-Indian strategic relationship. Then-Under Secretary of State Nicholas Burns told committee

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(...continued)

2006); and “U.S.-India Atomic Energy Cooperation: Strategic and Nonproliferation Implications” (April 26, 2006). See <http://foreign.senate.gov/hearing.html> for testimonies.

<sup>105</sup> Statement of Under Secretary of State for Political Affairs, R. Nicholas Burns, September 8, 2005, House Committee on International Relations, Hearing on “The U.S. and India: An Emerging Entente?” (hereafter cited as “September 8, 2005, HIRC US-India hearing”) p. 1.

<sup>106</sup> Remarks by Congressman Jim Leach, September 8, 2005, House International Relations Committee U.S.-India Hearing.

<sup>107</sup> Henry Sokolski, “Implementing the Indian Nuclear Deal: What’s at Risk, What Congress Should Require,” Briefing to Congress, September 2005.

<sup>108</sup> See “India’s Growth Target Unrealistic,” *Financial Times*, January 23, 2003, which quotes the Asia Development Bank.

<sup>109</sup> Brahma Chellaney, “US Deal is a Bad Choice for Power Generation,” *International Herald Tribune*, December 27, 2005.

members that “India had made this the central issue in the new partnership developing between our countries.”<sup>110</sup>

## **Impact on U.S. Nonproliferation Policies**

The Bush Administration characterized civil nuclear cooperation with India as a “win” for nonproliferation because it would bring India into the “nonproliferation mainstream.” In short, the Administration proposed that India should be courted as an *ally* in U.S. nonproliferation policy, rather than continue as a *target* of U.S. nonproliferation policy. According to this reasoning, India should become an ally for three reasons: past policies have not worked; India has a relatively good nonproliferation record; and India could be a useful ally in the nonproliferation regime.

Some observers, however, are concerned that India may not support U.S. nonproliferation policies sufficiently to warrant nuclear cooperation, particularly where the United States faces its greatest nuclear proliferation threat: Iran. For example, at the September 8, 2005, House Foreign Affairs Committee hearing, several Members of Congress questioned whether the United States had obtained assurances from India of its support on Iran before it issued the July 18, 2005, joint statement.

### *Iran*

Two factors may present challenges to Indian support for U.S. policies toward Iran. First, India has a growing strategic relationship with Iran, not limited to its interest in a proposed \$7.4 billion, 2800-km-long gas pipeline between Iran, Pakistan, and India. Second, India has a strong tradition of foreign policy independence, as a long-time leader of the Non-Aligned Movement (NAM) states and as a vigorous opponent of the discriminatory nature of the Nuclear Nonproliferation Treaty.<sup>111</sup> One witness before the House International Relations Committee hearing on November 16, 2005, suggested that opposition from the United States on the gas pipeline project is considered to be “interference with India’s autonomy in foreign relations, as well as disregard for its security and energy needs.”<sup>112</sup>

On Iran’s nuclear program, Indian officials have stated they do not support a nuclear weapons option for Tehran. However, they did not agree with the United States on the urgency of reporting Iran’s nuclear program to the U.N. Security Council, which the United States has proposed since 2003, nor on the need to limit Iran’s nuclear fuel cycle development. When the IAEA Board of Governors passed a resolution (GOV/2005/77) on September 24, 2005, finding Iran in noncompliance with its safeguards agreement, India voted with the United States, provoking significant domestic dissent. According to India’s then-Foreign Secretary Shyam Saran, India voted for the resolution and against the majority of NAM states which abstained, because it felt

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<sup>110</sup> Statement of Under Secretary of State for Political Affairs, R. Nicholas Burns, November 2, 2005, Senate Foreign Relations Committee Hearing on Implications of U.S.-India Nuclear Energy Cooperation.

<sup>111</sup> See Miriam Rajkumar, “Indian Independence,” Carnegie Analysis, September 20, 2005, at <http://www.carnegieendowment.org/npp/publications/index.cfm?fa=view&id=17486>.

<sup>112</sup> Dr. Francine Frankel, Statement before the House International Relations Committee, November 16, 2005, “India’s Potential Importance for Vital U.S. Geopolitical Objectives in Asia: A Hedge Against a Rising China?”

obligated after having pressured France, Germany, and the United Kingdom to omit reference to immediate referral to the U.N. Security Council.<sup>113</sup> Moreover, India explained its vote this way:

In our Explanation of Vote, we have clearly expressed our opposition to Iran being declared as noncompliant with its safeguards agreements. Nor do we agree that the current situation could constitute a threat to international peace and security. Nevertheless, the resolution does not refer the matter to the Security Council and has agreed that outstanding issues be dealt with under the aegis of the IAEA itself. This is in line with our position and therefore, we have extended our support.<sup>114</sup>

On February 4, 2006, following Iran's resumption of some uranium enrichment research and development, the IAEA Board of Governors met in an emergency session and voted to report Iran's noncompliance to the U.N. Security Council.<sup>115</sup> India voted with the United States to report Iran, although this followed a controversial remark to the press the previous week by Ambassador David Mulford that India would have to support the United States on Iran in Vienna or the U.S. Congress would not support the peaceful nuclear cooperation agreement.<sup>116</sup> Several years later, New Delhi voted in support of a November 27, 2009, IAEA Board resolution that criticized Iran's failure to comply with its IAEA and U.N. Security Council obligations.

Iran may also test India's support for curtailing peaceful nuclear programs. New Delhi has always been an advocate of states' rights to develop the peaceful uses of nuclear energy and for 30 years has derided the NPT and nonproliferation policies as discriminatory. The official Iranian press agency reported Prime Minister Singh as telling President Ahmadinejad on September 22, 2005, that solutions to Iran's nuclear problem should be based on the principle that Iran as an NPT member should retain its lawful rights.<sup>117</sup> On September 26, 2005, Foreign Secretary Saran told the press that "With respect to Iran's right to peaceful uses of nuclear energy, that is something which we have ourselves no reservations about."<sup>118</sup> In September 2006, India joined in the 118-nation Nonaligned Movement NAM summit statement that expressed support for Iran's "choices and decisions in the field of peaceful uses of nuclear technology and its fuel cycle policies."<sup>119</sup>

### ***Reported Indian Transfers of WMD-related items to Iran***<sup>120</sup>

Concerns about India's relationship with Iran extend, for some, to the transfer of weapons of mass destruction (WMD)-related items. Entities in India and Iran appear to have engaged in very limited nuclear-, chemical-, and missile-related transfers over the years. There are no publicly-available indications of activities related to biological weapons. In the early 1990s, when Iran

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<sup>113</sup> "Press Briefing by Foreign Secretary on the events in UN and IAEA," New Delhi, September 26, 2005, available at [http://www.indianembassy.org/press\\_release/2005/Sept/29.htm](http://www.indianembassy.org/press_release/2005/Sept/29.htm).

<sup>114</sup> Briefing by MEA Official Spokesperson on Draft Resolution on Iran in IAEA, New Delhi, September 24, 2005, available at [http://www.indianembassy.org/press\\_release/2005/Sept/16.htm](http://www.indianembassy.org/press_release/2005/Sept/16.htm).

<sup>115</sup> See CRS Report R40094, *Iran's Nuclear Program: Tehran's Compliance with International Obligations*, by Paul K. Kerr.

<sup>116</sup> "U.S.-India Nuclear Deal Could Die, Envoy Warns," *Washington Post*, January 26, 2006.

<sup>117</sup> "Ahmadinejad Thanks India for Positive Stands on Iran in IAEA," IRNA, September 23, 2005.

<sup>118</sup> September 26, 2005, press briefing, op. cit.

<sup>119</sup> Iran Republic News Agency, "118 Countries Back Iran's Nuclear Program" *Iran Times*, September 18, 2006.

<sup>120</sup> See CRS Report RS22530, *India and Iran: WMD Proliferation Activities*, by Sharon Squassoni, for more information related to sanctions imposed for Indian transfers to Iran.

actively sought nuclear-related assistance and technology from many foreign sources, India appears to have played only a minor role in contrast to other states. India signed an agreement in November 1991 to provide a 10 megawatt research reactor to Tehran, but cancelled under pressure from the United States. Nonetheless, India reportedly trained Iranian nuclear scientists in the 1990s.<sup>121</sup>

In September 2004, the United States imposed sanctions on two Indian nuclear scientists, Dr. Y.S.R. Prasad and Dr. C. Surendar, under the Iran Nonproliferation Act. Indian officials protested, stating that cooperation had taken place under the auspices of the IAEA Technical Cooperation program. Other reports suggest that the scientists, who had served as chairman and managing director of the Nuclear Power Corporation of India, Limited, which runs India's power reactors, passed information to Iran on tritium extraction from heavy water reactors.<sup>122</sup> Sanctions were lifted on Dr. Surendar in 2005.

In the chemical area, there is one confirmed transfer of 60 tons of thionyl chloride, a chemical that can be used in the production of mustard gas, from India to Iran in March 1989.<sup>123</sup> Other shipments in that time frame reportedly were halted under U.S. pressure. India does not appear in the CIA's unclassified nonproliferation report to Congress as a supplier of chemical-weapons-related exports to Iran since the report began publication in 1997. India signed the Chemical Weapons Convention in 1993 and deposited its instrument of ratification until 1996. However, in December 2005, the United States imposed sanctions on Sabero Organic Chemicals Gujarat Limited and Sandhya Organic Chemicals Pvt. Limited, pursuant to the Iran Nonproliferation Act of 2000. In July 2006, the United States imposed sanctions on Balaji Amines and Prachi Poly Products, chemical manufacturers, pursuant to the Iran and Syrian Nonproliferation Act.<sup>124</sup>

### *Enrichment and Reprocessing*

One of India's commitments in the July 2005 statement was to refrain from transferring enrichment and reprocessing technologies to states that do not already have those technologies and to support international efforts to limit their spread. As discussed in greater detail below, the NSG is considering adopting criteria for exporting enrichment and reprocessing technology.

India's External Affairs Minister Shri Pranab Mukherjee stated September 5, 2008, that:

India will not be the source of proliferation of sensitive technologies, including enrichment and reprocessing transfers. We stand for the strengthening of the non-proliferation regime. We support international efforts to limit the spread of [enrichment and reprocessing] equipment or technologies to states that do not have them.<sup>125</sup>

David Albright, president of the Institute for Science and International Security (ISIS), published a report on March 10, 2006, asserting that India had potentially exported centrifuge enrichment-

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<sup>121</sup> See [http://www.nti.org/e\\_research/profiles/Iran/2867.html](http://www.nti.org/e_research/profiles/Iran/2867.html).

<sup>122</sup> John Larkin and Jay Solomon, "As Ties Between India and Iran Rise, U.S. Grows Edgy," *Wall Street Journal*, March 24, 2005.

<sup>123</sup> Thionyl chloride is a Schedule 3 chemical under the Chemical Weapons Convention. It has military and civilian uses, and is widely used in the laboratory and in industry.

<sup>124</sup> See list of sanctions at <http://www.state.gov/t/isn/c15234.htm>.

<sup>125</sup> The full text of Mukherjee's statement is in the **Appendix A**.

related technology by virtue of tendering public offers and providing blueprints for technology to interested parties.<sup>126</sup> A September 18, 2008, ISIS report described Indian sales of documents related to centrifuges, as well as illicit Indian procurement of a chemical used in reprocessing.<sup>127</sup> It is not clear whether New Delhi's procurement practices facilitate transfer of technology, but the U.S. nuclear cooperation agreement will have no impact on those procurement practices. Although the State Department asserted in responses to questions for the record from Senator Lugar that the United States will not engage in reprocessing or enrichment technology cooperation with India,<sup>128</sup> other NSG members may transfer such technology.

The Nuclear Proliferation Assessment Statement (NPAS) notes that India, by concluding an Additional Protocol to its IAEA safeguards agreement, "will commit to reporting to the IAEA on exports of all NSG Trigger List items."

### **Impact on the Nuclear Nonproliferation Regime**

India's status outside the nuclear nonproliferation regime raised possible concerns that the nuclear agreement could negatively affect nuclear nonproliferation efforts. Some considerations include cohesion within the NSG, effects on non-nuclear-weapon member states of the NPT, potential missed opportunities to strengthen the nuclear nonproliferation regime, and whether U.S. nuclear cooperation might in any way assist, encourage, or induce India to manufacture nuclear weapons, in possible violation of our Article I obligation under the NPT.

### ***NSG Cohesion***

Cohesion within the Nuclear Suppliers Group (NSG) is critical to effective implementation of export controls. As noted, the NSG has followed the U.S. lead on requiring full-scope safeguards as a condition of nuclear supply. During the September 8, 2005, hearing, then-House International Relations Committee Chairman Henry Hyde noted that "many of us are strong supporters of the NSG and would not want to see it weakened or destroyed." Chairman Hyde asked whether the Administration could assure the committee that

no matter what else happens, that the administration will continue to abide by NSG guidelines, and if you are unable to gain consensus within the NSG for the amendments you need, you will not implement the new India policy in violation of NSG guidelines.

Then-Ambassador Joseph told the committee that "we intend to take no action that would undercut the effectiveness of the NSG," and further, that the Administration did not intend to change the consensus procedure or even change the NSG full-scope safeguards condition of nuclear supply.<sup>129</sup> P.L. 109-401 states that the NSG should decide "by consensus to permit supply to India of nuclear items covered by" the NSG guidelines.

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<sup>126</sup> David Albright and Susan Basu, "India's Gas Centrifuge Program: Stopping Illicit Procurement and the Leakage of Technical Centrifuge Know-How." Available at <http://www.isis-online.org/publications/southasia/indianprocurement.pdf>.

<sup>127</sup> David Albright and Paul Brannan, "Indian Nuclear Export Controls and Information Security: Important Questions Remain." Available at [http://www.isis-online.org/publications/southasia/India\\_18September2008.pdf](http://www.isis-online.org/publications/southasia/India_18September2008.pdf).

<sup>128</sup> "Questions for the Record Submitted to Under Secretaries Nicholas Burns and Robert Joseph by Chairman Richard G. Lugar (#6), Senate Foreign Relations Committee, November 2, 2005."

<sup>129</sup> September 8, 2005, HIRC US-India hearing.

Dissent within the NSG could be counterproductive to achieving other U.S. nuclear nonproliferation objectives, such as discouraging enrichment and reprocessing, persuading North Korea to give up its nuclear weapons, and constraining Iran's suspected nuclear weapons program, all of which rely on the considerable support of friends and allies. Moreover, harmonizing export controls has played a key role in U.S. counter- and non-proliferation policies and is particularly important for interdiction efforts. U.S.-India cooperation could prompt other suppliers, like China, to justify supplying other non-nuclear-weapon states, like Pakistan. China, which joined the NSG in 2004, has reportedly favored an NSG decision based on criteria, not just an exception for India.<sup>130</sup> Indeed, Beijing has apparently agreed to construct two additional nuclear power reactors in Pakistan.<sup>131</sup> Russia, which only halted fuel supplies to the Indian Tarapur reactors in December 2004 at the insistence of the NSG, agreed in 2006 to resume fuel supplies to Tarapur under the guise of the safety exception, reportedly to the dismay of many NSG members.<sup>132</sup>

### *Effect on NPT Member States*

India has complained for years that it has been excluded from regular nuclear commerce because of its status outside the NPT. Some observers believe this is a good thing and shows that the treaty works. Others believe that a new paradigm is needed for India because it will not join the NPT as a non-nuclear-weapon state.

The NPT is basically a two-way bargain. Non-nuclear-weapon states under the NPT give up the option of developing nuclear weapons in exchange for the promise of peaceful nuclear cooperation. Nuclear weapon states under the treaty commit to eventual disarmament. India, as a state outside the NPT, is bound by neither of these commitments. Some observers may see the offer of nuclear cooperation previously reserved for states under the NPT with full-scope safeguards not only as undermining the agreements made by non-nuclear-weapon states, but also the commitments made by nuclear weapon states to disarm. In this view, India's continued unilateral testing moratorium is insufficient, compared with signing the Comprehensive Test Ban Treaty (CTBT). Similarly, its support for Fissile Material Cutoff Treaty (FMCT) negotiations is insufficient, compared with capping its nuclear weapons fissile material production now, as four of the five nuclear weapon states formally have done. Some have suggested that the absence of an Indian cap on fissile material production for weapons may make it difficult for China to declare it has halted fissile material production for weapons. Others have suggested that, absent a cap on fissile material production, it would be difficult to ensure that peaceful nuclear cooperation was not indirectly assisting or encouraging India's nuclear weapons program.

The revelations during the early 1990s of the Iraqi and North Korean clandestine nuclear weapons programs led to the strengthening of the NPT and export control regimes. At the 1995 NPT Review and Extension Conference, NPT parties affirmed the NSG's decision to require full-scope safeguards for nuclear exports, supporting the principle that non-NPT parties should not be eligible for the same kinds of assistance as NPT parties in good standing. At the 2000 Review Conference, NPT parties again supported that principle. According to the U.S. ambassador to the conference at that time, "reinforcement of this guideline is important given some who have

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<sup>130</sup> See, for example, "Nuclear Nonproliferation System is Challenged," *People's Daily*, March 16, 2006.

<sup>131</sup> See CRS Report RL34248, *Pakistan's Nuclear Weapons: Proliferation and Security Issues*, by Paul K. Kerr and Mary Beth Nikitin.

<sup>132</sup> "Concern over Russian Plan to Sell Nuclear Reactor Fuel," *Financial Times*, March 15, 2006.

questioned whether this principle should be relaxed for India and Pakistan, which have not accepted full-scope IAEA safeguards. The answer from NPT parties is clearly no.”<sup>133</sup>

In the past 10 years, virtually all states agreed to strengthen the nonproliferation regime, sacrificing some sovereignty by allowing additional, intrusive inspections under the Additional Protocol. In the wake of 2004 revelations about Pakistani scientist A.Q. Khan’s nuclear black market sales, non-nuclear-weapon states under the NPT are also being asked to consider further restrictions on their sovereignty by voluntarily restricting their access to sensitive nuclear technologies like uranium enrichment and reprocessing. If some states view the U.S.-Indian nuclear cooperation agreement as a breach of faith in the basic bargain of the NPT, they might be less inclined to accept additional sacrifices, to the detriment of the nonproliferation regime.

### *Missed Opportunities*

Then-Ambassador Joseph described the nuclear initiative as representing “a substantial net gain for nonproliferation. It is a win for our strategic relationship, a win for energy security, and a win for nonproliferation.” Joseph said he was “convinced that the nonproliferation regime will emerge stronger as a result.”<sup>134</sup>

However, some experts have suggested the United States asked for too little. For example, Fred McGoldrick, Harold Bengelsdorf, and Lawrence Scheinman argued in the October 2005 issue of *Arms Control Today* that

It is open to serious doubt whether the proposed Indian concessions were significant enough to justify the accommodations promised by the United States and whether the steps the United States and India agreed to take in the civil nuclear area will, on balance, be supportive of global nonproliferation efforts.... If the Bush Administration is able to implement the joint declaration without significant modification, it will have given the Indians a great deal—acknowledgment as a de facto nuclear weapon state and access to the international nuclear energy market—in return for largely symbolic concessions in the nonproliferation area.<sup>135</sup>

Special Advisor for Nonproliferation and Arms Control to the Secretary of State Robert Einhorn, then of the Center for Strategic and International Studies, told Members of the House International Relations Committee on October 26, 2005, that several of the steps pledged by India are “simply reaffirmations of existing positions.”<sup>136</sup> The Indian embassy itself has downplayed the depth and breadth of its nonproliferation commitments, describing all but its safeguards commitments under the July 2005 statement in the following way:

A number of existing policies were also reiterated by India, among them a unilateral moratorium on nuclear testing, working towards conclusion of a multilateral Fissile Material Cut-off Treaty, non-transfer of enrichment and reprocessing technologies, securing nuclear

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<sup>133</sup> Ambassador Norman Wulf, “Observations from the 2000 NPT Review Conference,” *Arms Control Today*, November 2000.

<sup>134</sup> September 8, 2005, HIRC US-India hearing.

<sup>135</sup> Fred McGoldrick, Harold Bengelsdorf, Lawrence Scheinman, “The U.S.-India Nuclear Deal: Taking Stock,” *Arms Control Today*, October 2005, pp. 6-12. See [http://www.armscontrol.org/act/2005\\_10/OCT-Cover.asp](http://www.armscontrol.org/act/2005_10/OCT-Cover.asp).

<sup>136</sup> Statement by Robert J. Einhorn, Center for Strategic and International Studies, “The U.S.-India Global Partnership: The Impact on Nonproliferation” October 26, 2005.



materials and technology through export control, and harmonisation with MTCR and NSG guidelines.<sup>137</sup>

India has had a self-imposed nuclear test moratorium for years, although supporters of this agreement note that this agreement would bind India bilaterally to honoring that pledge. India has supported FMCT negotiations for years, despite continuing to produce fissile material for use in nuclear weapons. Since the pace of the Conference on Disarmament's discussions regarding an FMCT has been glacial, support for negotiations could allow India to continue producing fissile material indefinitely. Prime Minister Singh told his Parliament on August 17, 2006, that "India is willing to join only a non discriminatory, multilaterally negotiated and internationally verifiable FMCT."<sup>138</sup>

The most far-reaching of the commitments is to separate civilian and military facilities, declare civilian facilities, and place them under safeguards. Administration officials have pointed to this aspect of the agreement as a nonproliferation "plus." Yet, allowing India broad latitude in determining which of its facilities to put under international safeguards is a privilege accorded currently only to nuclear weapon states under the NPT. Although the United States has said that it does not recognize India as an NPT nuclear-weapon state, excluding military facilities from inspections is a tacit recognition of their legitimacy.

Then-IAEA Director General Dr. Mohamed ElBaradei said that he has "always advocated concrete and practical steps towards the universal application of IAEA safeguards."<sup>139</sup> In remarks to the Carnegie Endowment's Nonproliferation Conference in November 2005, Dr. ElBaradei cited additional safety benefits of putting more Indian facilities under safeguards. However, it should be noted that the NSG already has an exception to its full-scope safeguards requirement for safety-related items.

The Bush Administration asserted that India has an "exceptional" record of nonproliferation and, despite a few isolated sanctions, most of the evidence supports the view that India has exercised restraint in export controls.<sup>140</sup> As such, however, New Delhi's promise to refrain from transferring enrichment and reprocessing technologies to states that do not have them, as well as its promise to adhere to NSG guidelines, may be little more than a formality.

Many observers have noted that India has not taken any measures to restrain its nuclear weapons program. For example, India has not agreed to end fissile material production for nuclear

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<sup>137</sup> "Backgrounder on India-U.S. Civilian Nuclear Energy Cooperation," Indian Embassy, July 29, 2005. See [http://www.indianembassy.org/press\\_release/2005/July/29.htm](http://www.indianembassy.org/press_release/2005/July/29.htm).

<sup>138</sup> Prime Minister Singh, "Excerpts from Prime Minister's Reply to Discussion in Raja Sabha on Civil Nuclear Energy Cooperation with the United States." Remarks are available at the Indian Ministry of External Affairs website, <http://mea.gov.in>.

<sup>139</sup> "IAEA Director General Reacts to U.S.-India Cooperation Agreement," See <http://www.iaea.org/NewsCenter/PressReleases/2005/prn200504.html>. Critics of the IAEA point out that it is an organization that measures its success in part by how much nuclear material and how many facilities are under inspection.

<sup>140</sup> On September 29, 2004, the State Department published Public Notice 4845 in the Federal Register imposing sanctions pursuant to the Iran Nonproliferation Act of 2000. Two Indian scientists were named—Dr. Prasad and C. Surendar. The State Department has not revealed what technology or equipment was transferred, but both scientists have worked for the Nuclear Power Corporation of India, Limited., a government-owned entity that runs India's nuclear power plants. The Indian embassy reported in December 2005 that sanctions on Dr. Surendar had been removed. See [http://www.indianembassy.org/press\\_release/5.asp](http://www.indianembassy.org/press_release/5.asp). In the December 30, 2005, Federal Register, Public Notice 5257 stated simply that sanctions on an Indian entity issued in Public Notice 4845 had been rescinded.

weapons. Although then-Ambassador Joseph stated in 2005 that the United States remained “committed to achieving Indian curtailment of fissile material production,” he added that the Bush Administration would “not insist on it for purposes of this civil nuclear initiative.”<sup>141</sup> Moreover, Indian officials pointed out that “there is no commitment at all to cease production of fissile material ahead of the conclusion of such a multilateral [FMCT] treaty.”<sup>142</sup> Prime Minister Singh told the Parliament in August 2006 that “our position on this matter is unambiguous. We are not willing to accept a moratorium on the production of fissile material.”<sup>143</sup> Furthermore, although India committed to a moratorium on testing nuclear weapons, New Delhi did not commit to signing the CTBT.

### *U.S. NPT Article I Obligations/Aiding India’s Nuclear Arsenal*

Article I of the NPT states that

each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

Given that India will continue to make nuclear weapons, but is considered under the NPT to be a non-nuclear-weapon state, the question arises as to whether U.S. assistance might in any way violate Article I.<sup>144</sup> In testimony before the House International Relations Committee, David Albright of ISIS stated that “without India halting production of fissile material for its nuclear weapons programs, nuclear assistance, particularly any in the areas involving the fuel cycle, would likely spill over to India’s nuclear weapons program.”<sup>145</sup>

Three areas raise potential concerns: whether the separation plan is adequate to ensure that cooperation does not in any way assist in the development or production of nuclear weapons; whether cooperation confers nuclear weapons state status on India, with an unintended consequence of encouraging the Indian nuclear weapons program; and whether opening up the international uranium market frees up India’s domestic uranium for use in its weapons program.

#### *Separation Plan Credibility*

Bush Administration officials repeatedly have stressed that India’s separation plan must be credible, transparent, and defensible from a nonproliferation standpoint,<sup>146</sup> and that “the resultant safeguards must contribute to our nonproliferation goals.”<sup>147</sup> To those observers who interpreted

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<sup>141</sup> September 8, 2005, HIRC US-India hearing.

<sup>142</sup> “Backgrounder on India-U.S. Nuclear Energy Cooperation,” July 29, 2005.

<sup>143</sup> “Excerpts from Prime Minister’s Reply,” August 17, 2006, op. cit.

<sup>144</sup> See Zia Mian and M.V. Ramana, “Wrong Ends, Means, and Needs: Behind the U.S. Nuclear Deal with India,” *Arms Control Today*, January/February 2006. See also Robert Einhorn, “Limiting the Damage,” *The National Interest*, Winter 2005/2006.

<sup>145</sup> Statement of David Albright before the House International Relations Committee on October 26, 2005, (hereafter cited as “HIRC October 26, 2005, hearing”).

<sup>146</sup> Statement of Dr. Joseph, November 2, 2005, SFRC India hearing.

<sup>147</sup> *Ibid.*

that statement to mean that a separation plan would need to take into account India's past commitments (e.g., use of purportedly "peaceful" nuclear reactors like CIRUS to produce plutonium for nuclear weapons) and the impact on its nuclear weapons program (e.g., capping India's fissile material production), the separation plan may not appear credible. To those observers who interpreted "credible" to mean that all power reactors that supplied electricity would be declared civilian because they have a civilian use, the separation plan also may not appear credible.

Bush Administration officials defended the separation plan as credible and defensible because it covers more than just a token number of Indian facilities, provides for safeguards in perpetuity, and includes upstream and downstream facilities.<sup>148</sup> However, although IAEA safeguards ensure that nuclear material is not diverted, there are no procedures or measures in place to ensure that information, technology and know-how are not transferred from the civil sector to the military sector. This issue, which the September 2008 NPAS does not appear to address, could become a key loophole. For example, U.S. assistance to one of the eight indigenous power reactors, whether focused on nuclear safety, improving operational efficiency, or extending its lifetime, could easily be applied by Indian personnel to one of the similar, but unsafeguarded indigenous power reactors. Some Indian commentators, however, have suggested that the United States has little technology to offer India, and others have doubted whether U.S. assistance would be provided to those indigenous power reactors.

#### *Conferring Nuclear Weapon-State Status*

A second area that raises concerns is whether nuclear cooperation confers nuclear weapon state status on India, which could encourage its weapons program. Senator Lugar noted in a hearing on November 2, 2005, that

prior to the July 18 joint statement India had repeatedly sought unsuccessfully to be recognized as an official nuclear weapons state, a status the NPT reserves only for the United States, China, France, Russia and the United Kingdom. Opponents argue that granting India such status will undermine the essential bargain that is at the core of NPT, namely, that only by foregoing nuclear weapons can a country gain civilian nuclear assistance.

Under Secretary of Defense for Acquisition, Technology & Logistics Dr. Ashton Carter, then of Harvard's Kennedy School of Government, stated during the same hearing that:

India obtained *de-facto* recognition of its nuclear weapons status. The United States will behave, and urge others to behave, as if India were a nuclear weapons state under the NPT. We won't deny it most civil nuclear technology or commerce. We won't require it to put all of its nuclear facilities under IAEA safeguards—only those it declares to be civil. Beyond these technicalities, nuclear recognition confers an enormous political benefit on India.

Secretary Rice, in response to a question for the record in April 2006 on India's nuclear weapon state status, stated that "while India has nuclear weapons and we must deal with this fact in a realistic, pragmatic manner, we do not recognize India as a nuclear weapon state or seek to legitimize India's nuclear weapons program." However, other officials' statements appear to lend more support to India. Then-Under Secretary of State Nicholas Burns told reporters on March 2,

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<sup>148</sup> Questions for the Record Submitted to Secretary of State Condoleezza Rice by Senator Richard Lugar (#2) Senate Foreign Relations Committee, April 5, 2006.

2006, that “India is a nuclear weapons power, and India will preserve part of its nuclear industry to service its nuclear weapons program.”<sup>149</sup>

Former IAEA Director General ElBaradei argues that the U.S.-India deal is “neutral” because “it does not confer any ‘status,’ legal or otherwise, on India as a possessor of nuclear weapons.”<sup>150</sup> Nonetheless, the successful U.S. effort to create an exemption in its nuclear cooperation law for New Delhi has placed India in the company of only four other nations—the United Kingdom, France, China, and Russia—all *de jure* nuclear weapon states. Many observers believe that this legitimizes India’s nuclear weapons program by providing *de facto* recognition. Indian official statements repeatedly have used the term “advanced nuclear states” as synonymous with nuclear weapon states; Prime Minister Singh told the Parliament in August 2006 that

The July Statement did not refer to India as a Nuclear Weapons State because that has a particular connotation in the NPT, but it explicitly acknowledged the existence of India’s military nuclear facilities. It also meant that India would not attract full-scope safeguards such as those applied to non-nuclear weapon states that are signatories to the NPT and there would be no curbs on continuation of India’s nuclear weapon related activities. In these important respects, India would be very much on par with the five Nuclear Weapon States who are signatories to the NPT. Similarly, the Separation Plan provided for an India specific safeguards agreement with the IAEA with assurances of uninterrupted supply of fuel to reactors together with India’s right to take corrective measures in the event fuel supplies are interrupted. We have made clear to the US that India’s strategic programme is totally outside the purview of the July Statement, and we oppose any legislative provisions that mandate scrutiny of our nuclear weapons programme or our unsafeguarded nuclear facilities.

### *Offsetting India’s Uranium Shortage*

Finally, critics of U.S.-Indian civil nuclear cooperation have argued that giving India access to the international uranium market would free up New Delhi’s domestic uranium resources for use in its weapons program.<sup>151</sup> India has limited indigenous uranium reserves and apparently has difficulty producing reactor fuel from these reserves. New Delhi has reportedly reduced its power reactors’ electricity output because of fuel shortages.<sup>152</sup> Since the NSG’s 1992 adoption of the full-scope safeguards condition for exports, New Delhi has not had access to the international uranium market.<sup>153</sup> Foreign Secretary Saran pointed out on February 18, 2008, that “a major expansion in nuclear power in the medium term” would require India to import “higher capacity reactors and uranium fuel.”<sup>154</sup> Similarly, the NPAS states that “India must import fuel, reactors, and other technologies ... to meet its nuclear electricity-generating targets.”

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<sup>149</sup> White House, Office of the Press Secretary, “Press Briefing by Under Secretary of State for Political Affairs Nick Burns,” Maurya Sheraton Hotel and Towers, New Delhi, India, March 2, 2006.

<sup>150</sup> Mohamed ElBaradei, “Rethinking Nuclear Safeguards,” *Washington Post*, June 14, 2006.

<sup>151</sup> See Henry Sokolski, “Fissile isn’t Facile,” *Wall Street Journal*, February 21, 2006.

<sup>152</sup> See Charles Ferguson, “Reshaping the U.S.-Indian Nuclear Deal to Lessen the Nonproliferation Losses,” *Arms Control Today*, April 2008. Ferguson cites information from the Nuclear Power Corporation of India. See also “Uranium Shortage Hits Nuclear Power,” *The Hindu Business Line*, May 21, 2008.

<sup>153</sup> Several countries have supplied low-enriched uranium to the U.S.-origin Tarapur reactors, including France, China and Russia.

<sup>154</sup> “India and the Nuclear Domain.” Available at <http://mea.gov.in/>.

India's current fuel situation means that New Delhi cannot produce sufficient fuel for both its nuclear weapons program and its projected civil nuclear program. A panel of nuclear experts concluded in 2006 that

India's production of weapon grade plutonium is currently constrained by the competing demands of India's nuclear-power reactors for its limited domestic supply of natural uranium. If India could import fuel for its civilian nuclear reactors, it could use more domestic uranium for the production of weapon materials.<sup>155</sup>

Acknowledging the country's uranium limitations, a leading Indian nuclear strategist K. Subrahmanyam suggested December 12, 2005, in *The Times of India*, that New Delhi should use imported nuclear fuel to preserve its domestic uranium reserves for nuclear weapons:

Given India's uranium ore crunch and the need to build up our minimum credible nuclear deterrent arsenal as fast as possible, it is to India's advantage to categorize as many power reactors as possible as civilian ones to be refueled by imported uranium and conserve our native uranium fuel for weapon-grade plutonium production.<sup>156</sup>

Proponents of U.S.-Indian nuclear cooperation have made several arguments regarding the Article I issue. None of these claims, however, refute the fact that India's access to the international uranium market will result in more indigenous Indian uranium available for weapons because it will not be consumed by New Delhi's newly safeguarded reactors.<sup>157</sup> For example, proponents of the deal argue that India already has sufficient uranium to increase its nuclear arsenal and that New Delhi does not plan to increase that arsenal. The NPAS states that "India is capable of maintaining and expanding its existing nuclear arsenal within the limit of its indigenous resources and capabilities." Secretary Rice made a similar argument during an April 5, 2006, House International Relations Committee hearing. But these arguments do not address the constraints India faces in pursuing its civilian and military nuclear programs using only indigenous uranium.

The NPAS also addresses New Delhi's intentions regarding its future nuclear arsenal. First, the statement says that Washington has "no evidence indicating that India plans to use additional domestic uranium reserves in its nuclear weapons programs as a consequence of implementing" the nuclear cooperation agreement. Second, the NPAS argues that New Delhi has "a posture of nuclear restraint," citing India's stated no-first-use nuclear weapon policy and need for only a "credible minimum deterrent." India, however, has never defined what it means by such a deterrent; Saran stated during an April 2006 television interview that "there is no responsibility on

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<sup>155</sup> Zia Mian, A.H. Nayyar, R. Rajaraman and M.V. Ramana, *Fissile Materials in South Asia: The Implications of the U.S.-India Nuclear Deal*, September 2006. Available at [http://www.fissilematerials.org/ipfm/site\\_down/rr01.pdf](http://www.fissilematerials.org/ipfm/site_down/rr01.pdf).

<sup>156</sup> K. Subrahmanyam, former head of the Institute for Defence Studies and Analysis, was appointed Head of the National Security Council Advisory Board (NSCAB) established by the first Vajpayee government to draft the Indian nuclear doctrine. See also Dr. A. Gopalakrishnan, "Civilian and Strategic Nuclear Facilities of India," January 5, 2006.

<sup>157</sup> It is worth noting that even before the NPT entered into force, negotiators recognized that a state outside the treaty could preserve its domestic uranium sources for a possible weapons program as long as it agreed to accept IAEA safeguards on the items it imported. In the late 1960s, however, Congress was more concerned about ensuring that the United States could supply its allies outside the treaty, such as Japan and Germany, with nuclear fuel. According to Mason Willrich's history of the NPT, as long as India does not become a party to the treaty, it can continue to import from the parties nuclear materials and equipment subject to safeguards for use in its civil nuclear power program. This would free its indigenous resources, particularly its limited uranium supply, for possible concentration on a nuclear weapons program. (Mason Willrich, *Non-proliferation Treaty: Framework for Nuclear Arms Control*, The Michie Company, Charlottesville, VA, 1969, p. 125.)

part of India to declare what its minimum deterrent is.”<sup>158</sup> Moreover, New Delhi’s intentions are irrelevant to determining U.S. compliance with its Article I obligations.

Furthermore, the NPAS appears to argue that the agreement may reduce India’s potential to produce additional fissile material for weapons, because the additional indigenous Indian reactors placed under safeguards “will no longer be available for this purpose.” However, the statement characterizes the reactors’ potential to produce fissile material for weapons as “theoretical.” Moreover, as noted, India is not obligated to place future reactors under safeguards.

The State Department report submitted with the agreement notes that IAEA safeguards will prevent India from using its civil nuclear facilities for its nuclear weapons program. It also describes the ways in which U.S. export control policies prevent exported U.S. dual-use nuclear technologies from being used for military purposes.<sup>159</sup>

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<sup>158</sup> “India Won’t Define Minimum N-Deterrent: Saran,” *Press Trust of India*, April 8, 2006.

<sup>159</sup> *Report Pursuant to Section 104 (c) of the Hyde Act Regarding Civil Nuclear Cooperation with India*. Submitted to Congress September 10, 2008. (Hereafter cited as, “2008 State Department Report.”)

## **Appendix B. India's September 5, 2008, Statement on Disarmament and Nonproliferation**

Statement by External Affairs Minister of India Shri Pranab Mukherjee on the Civil Nuclear Initiative

To reiterate India's stand on disarmament and nonproliferation, EAM has made the following statement:

A Plenary meeting of the Nuclear Suppliers Group to consider an exception for India from its guidelines to allow for full civil nuclear cooperation with India is being held in Vienna from September 4-5, 2008.

India has a long-standing and steadfast commitment to universal, non-discriminatory and total elimination of nuclear weapons. The vision of a world free of nuclear weapons which Shri Rajiv Gandhi put before the UN in 1988 still has universal resonance.

We approach our dialogue with the Nuclear Suppliers Group and all its members in a spirit of cooperation that allows for an ongoing frank exchange of views on subjects of mutual interest and concern. Such a dialogue will strengthen our relationship in the years to come.

Our civil nuclear initiative will strengthen the international non-proliferation regime. India believes that the opening of full civil nuclear cooperation will be good for India and for the world. It will have a profound positive impact on global energy security and international efforts to combat climate change.

India has recently submitted a Working Paper on Nuclear Disarmament to the UN General Assembly, containing initiatives on nuclear disarmament. These include the reaffirmation of the unequivocal commitment of all nuclear weapon States to the goal of complete elimination of nuclear weapons; negotiation of a Convention on the complete prohibition of the use or threat of use of nuclear weapons; and negotiation of a Nuclear Weapons Convention prohibiting the development, production, stockpiling and use of nuclear weapons and on their destruction, leading to the global, non-discriminatory and verifiable elimination of nuclear weapons within a specified timeframe.

We remain committed to a voluntary, unilateral moratorium on nuclear testing. We do not subscribe to any arms race, including a nuclear arms race. We have always tempered the exercise of our strategic autonomy with a sense of global responsibility. We affirm our policy of no-first-use of nuclear weapons.

We are committed to work with others towards the conclusion of a multilateral Fissile Material Cut-off Treaty in the Conference on Disarmament that is universal, non-discriminatory and verifiable.

India has an impeccable non-proliferation record. We have in place an effective and comprehensive system of national export controls, which has been constantly updated to meet the highest international standards. This is manifested in the enactment of the Weapons of Mass Destruction and their Delivery Systems Act in 2005. India has taken the necessary steps to secure nuclear materials and technology through comprehensive export control legislation and through harmonization and committing to adhere to Missile Technology Control Regime and Nuclear Suppliers Group guidelines.

India will not be the source of proliferation of sensitive technologies, including enrichment and reprocessing transfers. We stand for the strengthening of the non-proliferation regime. We support international efforts to limit the spread of ENR equipment or technologies to states that do not have them. We will work together with the international community to advance our common objective of non-proliferation. In this regard, India is interested in participating as a supplier nation, particularly for Thorium-based fuel and in establishment of international fuel banks, which also benefit India.

India places great value on the role played by the IAEA's nuclear safeguards system. We look forward to working with the IAEA in implementing the India-specific Safeguards Agreement concluded with the IAEA. In keeping with our commitment to sign and adhere to an Additional Protocol with respect to India's civil nuclear facilities, we are working closely with the IAEA to ensure early conclusion of an Additional Protocol to the Safeguards Agreement.

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