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

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Summary

On July 18, 2005, President Bush announced 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, global partnership with India to promote stability, democracy, prosperity and peace.

India, which has not signed the Nuclear Nonproliferation Treaty (NPT) and does not have International Atomic Energy Agency safeguards on all nuclear material in peaceful nuclear activities, 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.

Nonproliferation experts have argued that the potential costs of nuclear cooperation with India to U.S. and global nonproliferation policy may far exceed the benefits. At a time when the United States has called for all states to strengthen their domestic export control laws and for tighter multilateral controls, U.S. nuclear cooperation with India would require loosening its own nuclear export legislation, as well as creating a NSG exception. This is at odds with nearly three decades of U.S. nonproliferation policy and practice. Some believe the proposed agreement undercuts the basic bargain of the NPT, could undermine hard-won restrictions on nuclear supply, and could prompt some suppliers, like China, to justify supplying other states outside the NPT regime, like Pakistan. Others contend that allowing India access to the international uranium market will free up its domestic uranium sources to make more nuclear weapons.

U.S. nuclear cooperation is governed by the Atomic Energy Act (AEA). The Administration proposed legislation in 2006 that, in addition to providing waivers of relevant provisions of the AEA (Sections 123 a. (2), 128, and 129), would have allowed an agreement to enter into force without a vote from Congress, as though it conformed to AEA requirements. In late July 2006, the House passed H.R. 5682, which provided the necessary waivers but retained the prerogative of Congress to vote on the actual cooperation agreement later. The Senate passed its version of H.R. 5682 on November 16, 2006, and on December 7, the House approved the conference report. The Senate approved the conference report by unanimous consent early on December 9, and President Bush signed the bill into law (P.L. 109-401) on December 18, 2006. The law requires that the following, among other things, must occur before nuclear cooperation can proceed: submission of a finalized text of a cooperation agreement to Congress, approval of an IAEA safeguards agreement by the IAEA Board of Governors, consensus agreement within the NSG to make an exception for India, and passage of a joint resolution of approval of the agreement by the Congress. India and the United States reached agreement in July 2007 on the text of a nuclear cooperation agreement, and New Delhi has been conducting discussions with the International Atomic Energy Agency since this past November. This report will be updated as necessary.

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Recent Developments

India and the United States announced July 27, 2007, that they had reached agreement on the text of a nuclear cooperation agreement.[1] Since then, New Delhi and the International Atomic Energy Agency (IAEA) have met four times to formulate a nuclear safeguards agreement. Such an agreement is required by P.L. 109-401, the Henry J. Hyde United States-India Peaceful Atomic Energy Cooperation Act of 2006, which President Bush signed into law December 18, 2006.

In his signing statement, President Bush noted that the act "will strengthen the strategic relationship between the United States and India."[2] 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 were ceding authority to approve U.S. exports to the Nuclear Suppliers Group. 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."

Many steps are still ahead before nuclear cooperation can occur. P.L. 109-401 contains seven requirements that must be met for the President to exercise his waiver authority, and to present the final cooperation agreement to Congress for its approval. The agreement itself cannot enter into force without a joint resolution of approval

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[1] 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].

[2] See [http://www.whitehouse.gov/news/releases/2006/12/20061218-12.html].

from Congress. The seven 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 progress toward concluding an Additional Protocol; (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 (like the Nuclear Suppliers Group [NSG] and the Missile Technology Control Regime [MTCR]); and (7) a consensus decision by the NSG to make an exception for India.

The most recent meeting between India and the IAEA, which was held in January 2008, did not yield an agreement on safeguards. Another meeting should take place "soon," according to the IAEA.[3] But even if the two sides do conclude an agreement, domestic political opposition may dissuade New Delhi from implementing the remaining steps. The NSG will not formally consider exempting India from its restrictions on nuclear exports until the IAEA board has approved a safeguards agreement.

Background

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. Although India was active in negotiations of the 1968 Nuclear Nonproliferation Treaty (NPT), India refused to join the NPT on grounds that it was discriminatory. The "peaceful" nuclear test in 1974 demonstrated that nuclear technology transferred for peaceful purposes could be used to produce nuclear weapons.[4] In the United States, the Congress responded 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 — full-scope safeguards and termination of exports if such a state detonates a nuclear explosive device or engages in activities related to acquiring or manufacturing nuclear weapons, among other things.[5] Internationally, the United States created the Nuclear Suppliers Group (NSG) in 1975 to implement nuclear export controls. The NSG

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[3] Communication from IAEA spokesperson, February 4, 2008.

[4] For an excellent analysis of the proliferation implications of U.S. nuclear exports to India, see Gary Milhollin, "Stopping the Indian Bomb," *The American Journal of International Law*, July 1987, 81 A.J.I.L. 593. See [http://www.wisconsinproject.org/pubs/articles/1987/stoppingindianbomb.htm].

[5] 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 required safeguards on all nuclear material in all peaceful nuclear activities for non-nuclear-weapon-state parties (those states not having detonated a nuclear explosive device prior to January 1, 1967).

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."[6]

Conditioning U.S. nuclear exports on non-nuclear-weapon states having full-scope safeguards created a problem particularly for India's reactors at Tarapur, which were built by U.S. firms and fueled by U.S. low-enriched uranium, pursuant to 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 (NRC) refused to approve an export license on nonproliferation conditions. Although the House voted to disapprove the President's determination, the Senate voted 46 to 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 (1995). After the NSG adopted the full-scope safeguards condition in 1992, China picked up the slack, and Russia supplied fuel from 2001 to 2004.[7] The issue of LEU fuel for Tarapur became one of pride for the Indians, particularly since their other reactors use natural uranium and they reportedly do not have the enrichment capability to supply Tarapur with fuel. 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. In 1995, at the NPT Extension Conference, states supported the principle that non-NPT parties should not be eligible for the same kinds of assistance as NPT parties in good standing.

Global Partnership[8]

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

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[6] 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.

[7] 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 Russia suspended supply in 2004. Russia agreed to resupply Tarapur in late February and informed the NSG on February 27, 2006, reportedly citing the NSG safety exception.

[8] See also CRS Report RL33072, *U.S.-India Bilateral Agreements and "Global Partnership,"* and CRS Report RL33529, *India-U.S. Relations,* by K. Alan Kronstadt.

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.[9]

On July 18, 2005, President Bush announced the creation of a global partnership with India in a joint statement with Prime Minister Manmohan Singh.[10] 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 "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."[11] India agreed to:

- identify and separate its civilian and military nuclear facilities and programs;
- declare its civilian facilities to the International Atomic Energy Agency (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);[12]
- 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

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[9] See fact sheet on the NSSP at [http://www.state.gov/r/pa/prs/ps/2004/36290.htm].

[10] 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].

[11] July 18 Joint Statement.

[12] See CRS Report RS22474, *Banning Fissile Material Production for Nuclear Weapons: Prospects for a Treaty (FMCT)*, by Sharon Squassoni, Andrew Demkee, and Jill Marie Parillo, for more detailed information about the issue and negotiations.

to Missile Technology Control Regime (MTCR) and NSG guidelines.

Issues for Consideration

The Atomic Energy Act of 1954, as amended, requires Congressional approval and oversight of peaceful nuclear cooperation agreements (details described below). As Senator Lugar has 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."[13] 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.[14] The discussion of potential issues for consideration is drawn in part from the hearings and from the emerging debate.

Strategy vs. Tactics

The Bush Administration has described its "desire to transform relations with India" as "founded upon a strategic vision that transcends even today's most pressing security concerns."[15] There is clearly broad 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, 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.[16]

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[13] 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).

[14] 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, 2006); and "U.S.-India Atomic Energy Cooperation: Strategic and Nonproliferation Implications" (April 26, 2006). See [http://foreign.senate.gov/hearing.html] for testimonies.

[15] 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.

[16] Remarks by Congressman Jim Leach, September 8, 2005, HIRC US-India Hearing.

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.[17] 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.[18] 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.[19]

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. Under Secretary of State Nicholas Burns told Committee members that "India had made this the central issue in the new partnership developing between our countries."[20]

Impact on U.S. Nonproliferation Policies

The Administration has characterized civil nuclear cooperation with India as a "win" for nonproliferation because it would bring India into the "nonproliferation mainstream." In short, the Administration is proposing that India should be courted as an *ally* in U.S. (not global) nonproliferation policy, rather than continue as a *target* of U.S. (and global) 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 anyway, 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

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[17] Henry Sokolski, "Implementing the Indian Nuclear Deal: What's at Risk, What Congress Should Require," Briefing to Congress, September 2005.

[18] See "India's Growth Target Unrealistic," *Financial Times*, January 23, 2003, which quotes the Asia Development Bank.

[19] Brahma Chellaney, "US Deal is a Bad Choice for Power Generation," *International Herald Tribune*, December 27, 2005.

[20] 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.

example, at the September 8 HIRC 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 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.[21] 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."[22]

On Iran's nuclear program, Indian officials have stated they do not support a nuclear weapons option for Iran. 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 Indian Foreign Secretary Shyam Saran, India voted for the resolution and against the majority of NAM states which abstained, because it felt obligated after having pressured the EU-3 to omit reference to immediate referral to the U.N. Security Council.[23] 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.[24]

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[21] See Miriam Rajkumar, "Indian Independence," Carnegie Analysis, September 20, 2005, at [http://www.carnegieendowment.org/npp/publications/index.cfm?fa=view&id=17486].

[22] 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?"

[23] "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].

[24] 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].

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.[25] India voted with the United States to report Iran, although this followed a controversial remark to the press the previous week by U.S. Ambassador to India, 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.[26]

Iran may also test India's support for curtailing peaceful nuclear programs. India has always been an advocate of states' rights to develop the peaceful uses of nuclear energy and for thirty 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.[27] 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."[28] 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."[29]

Reported Indian transfers of WMD-related items to Iran.[30] Concerns about India's relationship with Iran extend, for some, to the transfer of 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 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.[31] More recently, India's

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[25] See CRS Report RS21592, *Iran's Nuclear Program: Recent Developments*, by Sharon Squassoni.

[26] "U.S.-India Nuclear Deal Could Die, Envoy Warns," *Washington Post*, January 26, 2006.

[27] "Ahmadinejad Thanks India for Positive Stands on Iran in IAEA," IRNA, September 23, 2005.

[28] September 26, 2005 press briefing, op. cit.

[29] Iran Republic News Agency, "118 countries back Iran's nuclear program" *Iran Times*, September 18, 2006.

[30] 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.

[31] See [http://www.nti.org/e_research/profiles/Iran/2867.html].

Foreign Minister Jaswant Singh stated in December 2003 that India "has and would continue to help Iran in its controversial bid to generate nuclear energy."[32]

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, Ltd. (NPCIL), which runs India's power reactors, passed information to Iran on tritium extraction from heavy water reactors.[33] 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.[34] 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 Ltd and Sandhya Organic Chemicals Pvt. Ltd, 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.[35]

Restricting Enrichment and Reprocessing. One of India's commitments in the July 18 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. To some observers, U.S. efforts to restrict development of those aspects of the nuclear fuel cycle (enrichment and reprocessing) that are most useful in a nuclear weapons development program are seen as creating a new category of "have-nots" — those states that can have some peaceful nuclear technology but cannot be trusted with it all. In other words, states like Japan, Germany, and Brazil might be trusted with sensitive technologies, but states like Iran and North Korea cannot be trusted. Historically, India has supported states' inalienable right to all peaceful uses of nuclear energy.

David Albright, president of the Institute for Science and International Security, published a report on March 10, 2006 that asserted that India had potentially exported centrifuge enrichment-related technology by virtue of tendering public offers and

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[32] "India Denies Nuclear Cooperation with Iran," *Agence France Presse*, December 13, 2003.

[33] John Larkin and Jay Solomon, "As Ties Between India and Iran Rise, U.S. Grows Edgy," *Wall Street Journal*, March 24, 2005.

[34] 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.

[35] See list of sanctions at [http://www.state.gov/t/isn/c15234.htm].

providing blueprints for technology to interested parties.[36] It is not clear whether Indian procurement practices facilitate transfer of technology, but the U.S. nuclear cooperation agreement will have no impact on those procurement practices. One question that arises is how India will be treated with respect to the U.S. policy restricting the expansion of enrichment and reprocessing technology. Is India a technology holder or not? On the one hand, 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.[37] On the other hand, some observers have suggested that other NSG members may be interested in such cooperation with India and may not place as stringent requirements on India.

Other Priorities. In his February 11, 2004, speech, President Bush outlined several counterproliferation priorities, including expanding the Proliferation Security Initiative; strengthening laws and international controls against weapons of mass destruction (WMD) and missile proliferation (ultimately resulting in adoption of UNSCR 1540); expanding the G8 Global Partnership; and strengthening IAEA safeguards through universal adoption of the Additional Protocol. Ambassador Joseph has noted that India's adherence to NSG and MTCR guidelines would help ensure that WMD and missile-related technologies would not be transferred. Although India's adoption of the Additional Protocol would contribute to its universalization, there are few proliferation benefits to be realized from the adoption of such a protocol in a nuclear weapons state. Finally, although the United States reportedly has asked India to endorse PSI, that endorsement has not been forthcoming.

Impact on the Nonproliferation Regime

India's status outside the nonproliferation regime raises possible concerns that the nuclear agreement could negatively affect nuclear nonproliferation efforts. Some considerations include cohesion within the NSG, effect 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 NSG is critical to effective implementation of export controls. As noted earlier, 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, House International Relations Committee Chairman Henry Hyde noted that "Many of us are strong supporters of the NSG and would not

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[36] 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].

[37] "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."

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.

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.[38] 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.

Dissent within the NSG could be counterproductive to achieving other objectives the United States is pursuing in nuclear nonproliferation, such as restricting the fuel cycle, disarming North Korea, and restraining Iran, all of which rely on the considerable support of friends and allies. Moreover, harmonizing export controls has played a key role in Bush counter- and non-proliferation policies in the last few years 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 shared some negative views on the nuclear cooperation agreement, and reportedly favors an NSG decision based on criteria, not just an exception for India.[39] Russia, which only halted fuel supplies to the Indian Tarapur reactors in December 2004 at the insistence of the NSG, has already stepped into the breach by resuming fuel supplies to Tarapur under the guise of the safety exception, reportedly to the dismay of many NSG members.[40]

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 policy works. Others believe that a new paradigm is needed for India because it will not join the NPT as a non-nuclear weapon state. One observer argued in a 2005 law review journal that India could join the NPT as a non-nuclear weapon state and not give up its nuclear weapons, primarily because the NPT defines "nuclear weapon states" but does not define non-nuclear weapon states and because the treaty does not expressly prohibit non-nuclear weapon states from possessing nuclear weapons, just from acquiring, manufacturing, receiving transfers of or control of nuclear weapons and not to seek

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[38] September 8, 2005, HIRC US-India hearing.

[39] See, for example, "Nuclear Nonproliferation System is Challenged," *People's Daily*, March 16, 2006.

[40] "Concern over Russian Plan to Sell Nuclear Reactor Fuel," *Financial Times*, March 15, 2006.

or receive any assistance in manufacturing nuclear weapons.[41] However, that approach would require India to stop producing fissile material for nuclear weapons and place all nuclear material (except that which is in its nuclear weapons) under IAEA safeguards.

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 NPT were not required immediately to disarm, but to 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 eventually disarm. In this view, India's continued unilateral testing moratorium is insufficient, compared with signing the Comprehensive Test Ban Treaty and its support for 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 proliferation shocks of the 1990s, when the Iraqi and North Korean clandestine nuclear weapons programs surfaced, 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 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 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."[42]

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 revelations in 2004 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

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[41] David S. Jonas, "Variations on Non-nuclear: May the 'Final Four' Join the Nuclear Nonproliferation Treaty as Non-nuclear Weapon States While Retaining Their Nuclear Weapons?" *Michigan State Law Review*, Summer 2005, p. 417 ff. Mr. Jonas is General Counsel of the National Nuclear Security Agency.

[42] Ambassador Norman Wulf, "Observations from the 2000 NPT Review Conference," *Arms Control Today*, November 2000.

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. 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." Ambassador Joseph said he was "convinced that the nonproliferation regime will emerge stronger as a result."[43]

However, some observers 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.[44]

Robert Einhorn, 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."[45] The Indian embassy itself, not surprisingly, has downplayed the depth and breadth of its nonproliferation commitments, describing all but its safeguards commitments under the July 18 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 materials and technology through export control, and harmonisation with MTCR and NSG guidelines.[46]

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

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[43] September 8, 2005, HIRC US-India hearing.

[44] 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].

[45] Statement by Robert J. Einhorn, Center for Strategic and International Studies, "The U.S.-India Global Partnership: The Impact on Nonproliferation" October 26, 2005.

[46] "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].

honoring that pledge. If the NSG used a similar criterion in approving exports, it could further strengthen that pledge. India has supported FMCT negotiations for years, despite continuing to produce fissile material for use in nuclear weapons. Since the pace of FMCT negotiations has been glacial, support for negotiations could allow India to continue producing fissile material indefinitely. Moreover, the draft treaty on FMCT tabled by the United States in Geneva on May 18, 2006, would not require India's accession for the treaty to enter into force, thus lessening the pressure on India to join. 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."[47] Unfortunately, this conflicts with the U.S. draft proposal, which contains no verification measures.

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 "in no way recognizes India as an NPT nuclear weapons state," excluding military facilities from inspections is a tacit recognition of their legitimacy.

IAEA Director General Dr. ElBaradei said that he has "always advocated concrete and practical steps towards the universal application of IAEA safeguards."[48] 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 Administration has 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.[49] As such, however, India's promise to refrain from transferring enrichment and reprocessing technologies

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[47] 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].

[48] "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.

[49] 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, Ltd., 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]. 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.

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 there are no measures in this global partnership to restrain India's nuclear weapons program. Many have suggested that the United States should have asked India to halt fissile material production for weapons. Ambassador Bob Joseph stated that the United States remains "committed to achieving Indian curtailment of fissile material production, and we have strongly encouraged a move in this direction. We stand willing to explore options that might serve this objective, but we will not insist on it for purposes of this civil nuclear initiative."[50] Indian officials, on the other hand, have taken pains to point out that "There is no commitment at all to cease production of fissile material ahead of the conclusion of such a multilateral [FMCT] treaty."[51] 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."[52] Other observers have noted that although India committed to a test ban, it did not commit to signing the Comprehensive Test Ban Treaty. Still other observers have suggested that if India insists on being treated as a nuclear weapon state, it should undertake responsibilities similar to those of the other nuclear weapon states, for example, placing fissile material excess to defense needs under safeguards. Many believe that real limits on India's nuclear weapons program would constitute a "win" for nonproliferation.

U.S. NPT Article I Obligations. 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 "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."[53] 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."[54]

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

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[50] Sept 8, 2005, HIRC US-India hearing.

[51] "Backgrounder on India-U.S. Nuclear Energy Cooperation," July 29, 2005.

[52] "Excerpts from Prime Minister's Reply," August 17, 2006, op. cit.

[53] 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.

[54] Statement of David Albright before the House International Relations Committee on October 26, 2005 (hereafter HIRC October 26, 2005 hearing).

program; and whether opening up the international uranium market frees up India's domestic uranium for use in its weapons program.

Administration officials have 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.[55] The conclusion that the plan calls for safeguards in perpetuity, as described in greater detail below, may be premature. Until India negotiates and the IAEA Board of Governors approves a safeguards agreement, it is unclear that safeguards will be applied in perpetuity to India's eight indigenous reactors that have been declared. More importantly, while 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 could become a key loophole, particularly because the separation plan places eight indigenous power reactors under safeguards, while leaving at least eight indigenous power reactors outside of safeguards. Without additional measures to prevent the transfer of personnel or knowledge from the safeguarded program to the unsafeguarded program, there would be little assurance that assistance to the safeguarded program could not migrate to the military program. 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 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.

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." Dr. Ashton Carter, testifying at that SFRC hearing, stated 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 of State 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

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[55] Questions for the Record Submitted to Secretary of State Condoleezza Rice by Senator Richard Lugar (#2) Senate Foreign Relations Committee, April 5, 2006.

program." However, other officials' statements appear to lend more support to India. Under Secretary of State Nicholas Burns told reporters on March 2, 2006, that "... India is a nuclear weapons power, and India will preserve part of its nuclear industry to service its nuclear weapons program."[56]

Mohamed ElBaradei, Director General of the IAEA, views the U.S.-India deal as "neutral" because "it does not confer any 'status', legal or otherwise, on India as a possessor of nuclear weapons."[57] Nonetheless, a successful U.S. effort to gain an exemption in U.S. nuclear cooperation law would place 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; India's separation plan compares Indian nuclear capabilities only to those of other 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.

Finally, critics of U.S.-Indian nuclear cooperation have argued that giving India access to the international uranium market would free up India's domestic uranium resources for its weapons program.[58] India's leading strategist K. Subrahmanyam suggested as much in a December 12, 2005 article in *The Times of India*:

> 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."[59]

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[56] 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.

[57] Mohamed ElBaradei, "Rethinking Nuclear Safeguards," *Washington Post*, June 14, 2006.

[58] See Henry Sokolski, "Fissile isn't Facile," *Wall Street Journal*, February 21, 2006.

[59] K. Subrahmanyam, former head of the Institute for Defence Studies and Analysis, was (continued...)

Secretary Rice countered the critics in the House International Relations Committee hearing on April 5, 2006:

> ...Clearly this agreement does not constrain India's nuclear weapons program... Neither, however, ... does it enhance India's capability to build nuclear weapons. India has about, by most estimates, 50,000 tons or so of uranium in its reserves. That means that the very small percentage of that that would be needed for a military program, they could get, certainly, without this agreement I would note that we do not believe that the constraint on India's nuclear program is the availability or absence of nuclear material. With 50,000 tons of uranium available to them, only a very small percentage of that would be needed for a military program..

Secretary Rice seemed to be suggesting that having more uranium would not encourage or assist India's nuclear weapons program because it already had the fissile material it needed. If, as Secretary Rice suggests, India's military requirements are dwarfed by civilian requirements, then finding international sources for civilian requirements could result in a windfall for the weapons program. However, the question for the United States is not whether India intends to ramp up its weapons program with freed-up uranium, but whether U.S. and other states' actions create a new capability for India to do so.

A report by Ashley Tellis, a Bush Administration advisor who helped negotiate parts of the agreement with India, echoes Secretary Rice's arguments.[60] Tellis states that India does not seek to maximize its nuclear arsenal, that uranium shortages are exaggerated and transient, and that nuclear weapons require much less uranium than civilian power reactors. Tellis poses the question of whether U.S. assistance allows India to do something it can't do now, and whether India would, as a result of U.S. cooperation, ramp up its weapons program, and concludes that it would not. However, such conclusions are ultimately speculative, given the secrecy of India's weapons program.

For the purpose of identifying whether the United States is complying with its Article I obligations, the appropriate question is whether U.S. assistance encourages India's nuclear weapons program. There is no question that opening the international uranium market to India will result in more indigenous Indian uranium available for weapons, because it will not be consumed by India's newly safeguarded reactors. In the view of many nonproliferation analysts, the key to ensuring that civilian nuclear cooperation does not assist India's weapons program is to insist on India halting its fissile material production for weapons. That would narrow the area of concern to technology transfer to the weapons and delivery systems themselves, rather than

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[59] (...continued)
appointed Head of the National Security Council Advisory Board (NSCAB) established by the first Vajpayee government to draft the Indian nuclear doctrine. He currently chairs PM Singh's Global Strategic Developments Task Force. See also Dr. A. Gopalakrishnan, "Civilian and Strategic Nuclear Facilities of India," January 5, 2006.

[60] Ashley J. Tellis, "Atoms for War? U.S.-Indian Civilian Nuclear Cooperation and India's Nuclear Arsenal," Carnegie Endowment for International Peace, 2006. Available at [http://www.carnegieendowment.org/files/atomsforwarrevised1.pdf].

fissile material production in reactors, enrichment facilities, and reprocessing plants. Among others, Henry Sokolski suggested in the *Wall Street Journal* that "If we want to keep this aid from freeing up India's domestic nuclear resources to make more bombs...we have to get serious about India capping its nuclear weapons program."

It is worth noting that even before the NPT entered into force, negotiators recognized that a state outside the NPT 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 Non-Proliferation 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.[61]

Key Steps

Several key steps remain before the July 2007 agreement can be implemented. Although P.L. 109-401 allows the President certain authorities to waive restrictions in the Atomic Energy Act, at least seven actions must occur before the agreement for cooperation can enter into force. India took the first step by identifying civilian nuclear facilities in March 2006 and began preliminary negotiations with the IAEA on a safeguards arrangement. As noted above, the United States and India concluded the peaceful nuclear cooperation agreement in July 2007; U.S. officials began negotiations with India on the agreement itself in mid-2006. After a safeguards agreement has been concluded, an agreement for cooperation has been finalized, NSG approval has been obtained, and all the other relevant determinations are made, the executive branch must bring the final agreement for cooperation back to Congress for a joint resolution of approval.

Separation Plan and Safeguards[62]

U.S. and Indian officials agreed on India's separation plan in March 2006. The key elements of India's separation plan are:[63]

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[61] Mason Willrich, *Non-proliferation Treaty: Framework for Nuclear Arms Control*, The Michie Company, Charlottesville, VA, 1969, p. 125.

[62] See CRS Report RL33292, *India's Nuclear Separation Plan: Issues and Views*, by Sharon Squassoni, for details on the separation plan.

[63] 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]. The plan was updated on May 11, 2006 to include names of reactors and upstream facilities, as

(continued...)

- 8 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 (6 are already under safeguards)[64]
- Future power reactors may also be placed under safeguards, if India declares them as civilian
- Some facilities in the Nuclear Fuel Complex (e.g., fuel fabrication) will be specified as civilian in 2008.
- 9 research facilities and 3 heavy water plants would be declared as civilian, but are "safeguards-irrelevant."

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

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

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, 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.

In addition, the statement in the Implementation Document that the India-specific safeguards agreement will provide "for safeguards to guard against withdrawal of safeguarded nuclear material from civilian use at any time as well as for providing for corrective measures that India may take to ensure uninterrupted operation of its civilian reactors in the event of disruption of foreign fuel supplies" raises questions about whether the Indian interpretation of safeguards in perpetuity mirrors the U.S. interpretation. Corrective measures are not defined, but probably mean the use of unsafeguarded nuclear material in an indigenous reactor. In that case, there could be periods of time when such reactors, using unsafeguarded nuclear material, would not necessarily be inspected. Moreover, IAEA safeguards agreements for states outside the NPT (INFCIRC-66 type) do not require safeguards

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[63] (...continued)
well as dates they would be submitted to safeguards.

[64] According to the May 11th update, the 8 indigenous reactors to be safeguarded are: 4 at Rajasthan (RAPS 3, 4, 5 & 6); 2 at Uttar Pradesh (NAPS 1, 2); and 2 at Gujrat (KAPS 1, 2).

in perpetuity for reactors that a state voluntarily places under safeguards, although they can be written that way.[65] According to one IAEA official, since 1974, the duration of 66-type agreements has been tied to actual use of supplied material or items, rather than fixed periods of time,[66] which would support the concept of lifting safeguards on the reactors once they are no longer using safeguarded material.

Another question that arises is whether India, in the absence of full-scope safeguards, can provide sufficient confidence that U.S. peaceful nuclear technology will not be diverted to nuclear weapons purposes, as many believe it was in 1974.[67] In response to a question for the record submitted by Senator Lugar on April 5, 2006 on whether exports of nuclear material or reactors from the United States would in any way assist India's nuclear weapons program, the Administration noted that "Any items sent to India would be subject to safeguards, and implementation of the Additional Protocol would provide further assurances of the non-diversion of such items or material."[68] However, the Additional Protocol provides assurances of absence of undeclared activities, rather than of the non-diversion of safeguarded items, contrary to Secretary Rice's assertions.

The application of "permanent" safeguards on the facilities declared to be civilian could make the separation more meaningful.[69] Early in the process, Indian officials had suggested they would adopt a strictly voluntary safeguards arrangement, such as those in force for nuclear weapon states wherein facilities can be put on and taken off of lists of eligible facilities. In his November 2, 2005 testimony before the

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[65] Paragraph 16 of INFCIRC/66 states "In the light of Article XII.A.5 of the Statute, it is desirable that safeguards agreements should provide for the continuation of safeguards, subject to the provisions of this document, with respect to produced special fissionable material and to any materials substituted therefor."

[66] Laura Rockwood, "Legal Instruments Related to the Application of the Safeguards," paper for conference, "Safeguards: Verifying Compliance with Nonproliferation Commitments," Kingston, Jamaica, April 25-26, 1996.

[67] 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. The documents are available at [http://www.armscontrol.org/country/india/Historic_Documents_India_Nuclear_Test.asp].

[68] The Additional Protocol is a measure to strengthen safeguards by providing for additional information, access and inspection tools. INFCIRC/540, concluded in 1997, is the model upon which states' protocols to their safeguards agreements are based.

[69] There are three basic types of safeguards agreements: INFCIRC/66, INFCIRC/153, and voluntary safeguards agreements made by the five nuclear weapon states. INFCIRC, an abbreviation of "Information Circular," is a designation the IAEA uses to record its agreements with states and organizations. INFCIRC/66 and /153 are model agreements; the actual agreements with states will bear different numbers. INFCIRC/66 agreements predate the NPT and were used in bilateral safeguards arrangements, whereas INFCIRC/153 agreements are "full-scope safeguards" under the NPT.

Senate Foreign Relations Committee, Under Secretary Joseph stated that the United States "would not view a voluntary offer arrangement as defensible from a nonproliferation standpoint or consistent with the Joint Statement, and therefore do not believe it would constitute an acceptable safeguards arrangement." He also asserted that safeguards must be applied in perpetuity.[70] This stems from a U.S. legal obligation under Section 123 a. (1) of the Atomic Energy Act to maintain safeguards with respect to all U.S. materials and equipment transferred pursuant to the agreement *as long as that material or equipment remains under the jurisdiction of the cooperating party, irrespective of whether the agreement is terminated or suspended* [emphasis added]. Although it is likely that safeguards will be applied in perpetuity to anything the United States transfers, it may not be as likely that safeguards will be applied in perpetuity to those indigenous reactors India places under safeguards, for the reasons described above. The safeguards agreement, yet to be negotiated between India and the IAEA, will determine whether that is the case.

Administration officials repeatedly have stressed that India's separation plan must be credible, transparent, and defensible from a nonproliferation standpoint,[71] and that "the resultant safeguards must contribute to our nonproliferation goals."[72] To those observers who interpreted 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. Secretary Rice has stressed, however, that more reactors under safeguards means more transparency, more physical security, better nuclear safety, and therefore increased safety for the United States.[73] Even so, some observers may argue that types of facilities safeguarded are critical in assessing whether the plan is defensible from a nonproliferation standpoint. For example, in terms of preventing terrorist access to fissile material, safeguarding facilities like reprocessing and enrichment plants and breeder reactors could be viewed as providing a significant nonproliferation benefit because the materials produced by these plants are a few steps closer to potential use in a bomb. In addition, safeguards on enrichment, reprocessing plants, and breeder reactors would support the 2002 U.S. National Strategy to Combat Weapons of Mass Destruction, in which the United States pledged to "continue to discourage the worldwide accumulation of separated plutonium and to minimize the use of highly-enriched uranium."[74]

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[70] Statement of Robert G. Joseph, Under Secretary of State for Arms Control and International Security, November 2, 2005, SFRC India hearing.

[71] Statement of Dr. Joseph, November 2, 2005, SFRC India hearing.

[72] Ibid.

[73] Condoleezza Rice, "Our Opportunity With India," *Washington Post*, March 13, 2006.

[74] National Strategy to Combat Weapons of Mass Destruction, December 2002. Available at [http://www.whitehouse.gov/news/releases/2002/12/WMDStrategy.pdf].

India-IAEA Discussions. After the United States and India concluded the nuclear agreement this past July, New Delhi delayed beginning talks with the IAEA on a safeguards agreement because of domestic opposition from Communist and other leftist parties, known as the Left Front.[75] The United Progressive Alliance government, led by Prime Minister Mamohan Singh, depends 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 if the government went ahead with safeguards discussion. In November, however, the Left Front agreed to allow the government to engage in discussions with the IAEA. The talks were announced November 21.[76] The two parties have met a total of four times.

India has indicated that, once a safeguards text has been agreed upon with the IAEA Secretariat, the government will seek approval from an ad hoc political committee (which includes the Communists) before proceeding further with the agreement. External Affairs Minister Pranab Mukherjee told a Calcutta audience February 3 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."[77] Similarly, Communist Party of India (Marxist) General Secretary Prakash Karat stated November 16 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."[78] The IAEA board can approve a safeguards agreement by a simple majority vote, but the board has approved all previous such agreements by consensus.[79]

NSG Support

U.S. officials have consulted both formally and informally with NSG members thus far.[80] In late March 2006, NSG members held another Consultative Group meeting, at which the United States presented a draft decision for potential discussion at the NSG plenary in May 2006. That draft sought an exception for India to the NSG requirements of full-scope safeguards, notwithstanding the exceptions for safety

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[75] Those parties argue 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).

[76] See also CRS Report RL33529, *India-U.S. Relations*, by K. Alan Kronstadt. It is worth noting that the opposition Bharatiya Janata Party has also continued to express its opposition to the deal.

[77] "N-deal strategic to India's progress: Pranab Mukherjee," *Indo Asian News Service*, February 3, 2008.

[78] "After Left Nod, Govt Decides To Go Ahead With IAEA Talks On N-Deal," *Financial Express*, November 16, 2007.

[79] Communication from IAEA officials December 14, 2007.

[80] "NSG Begins Mulling Response To U.S.-India Cooperation Deal," *Nuclear Fuel*, September 26, 2005.

assistance and for those agreements signed before the full-scope safeguards requirement came into effect in 1992. It did not contain any restrictions on enrichment or reprocessing cooperation, nor on heavy water or HEU or plutonium sales.[81]

According to a State Department official, the United States has since developed a second draft, which incorporates the suggestions of other NSG members.[82] However, Washington has not yet circulated the proposal to the NSG Consultative Group out of concern that it would leak, thereby enabling the Indian leftist parties to use the draft to raise additional objections to the deal and stop discussions between New Delhi and the IAEA.[83] In any case, the United States intends to present its new draft at an NSG Consultative Group meeting once the IAEA Board of Governors approves a safeguards agreement. Because of the issue's complexity, the Group may need to meet twice before the NSG Plenary considers a final decision. The next NSG plenary meeting is scheduled for May 2008, but a special session could be convened to consider the Indian case.[84]

Other responses have been mixed, especially from Sweden and Canada. Some states, including Ireland, Sweden, Norway, and the Netherlands, reportedly have raised questions.

Acting Deputy Assistant Secretary of State for International Security And Nonproliferation Richard Stratford said in September 2007 that the United States is supporting India's demand for an exemption from NSG guidelines without conditions.[85] Some countries, such as France, Russia, and the United Kingdom, have all supported an exemption from the NSG's full-scope safeguards requirement for exports to India. However, a group of 10 NSG members have begun to discuss adding conditions to the U.S.-proposed exemption, the State Department official said.[86] According to one report, some of these countries support conditions listed in a January letter signed by over 130 individuals and non-governmental organizations.[87]

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[81] A copy of the proposal may be found at [http://www.armscontrol.org/projects/india/20060327_DraftNSGProposal.asp].

[82] Personal communication, February 4, 2008.

[83] The Consultative Group is the NSG's "standing intersessional working body." (See [http://www.nuclearsuppliersgroup.org/activities.htm].)

[84] Wade Boese, "Revived U.S.-Indian Deal Heads to IAEA," *Arms Control Today*, December 2007.

[85] U.S. "Trying Hard" To Convince NSG," *The Indian Express*, September 21, 2007.

[86] The countries are Austria, Denmark, Finland, Ireland, the Netherlands, New Zealand, Norway, Portugal, Sweden, and Switzerland.

[87] Mark Hibbs, "NSG Prepares To Set Specific Conditions For Lifting Sanctions Against India,"*Nuclear Fuels*, January 14, 2008. The letter can be found at [http://www.armscontrol.org/pressroom/2008/NSGappeal.asp]

The Atomic Energy Act and Consultations with Congress

Under existing law (Atomic Energy Act of 1954; P.L. 95-242; 42 U.S.C. § 2153 et seq.) all significant nuclear cooperation requires an agreement for cooperation.[88] 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 safeguards for significant nuclear exports non-nuclear weapon states.[89]

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 Nuclear Nonproliferation Treaty (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 (in Section 129), which are spelled out in more detail below. The sections 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;
- **Section 123 b.** specifies the process for submitting the text of the agreement to Congress;

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[88] 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.

[89] P.L. 83-703, 42 U.S.C. §§ 2153 et seq.

- **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.).[90]
- **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 23 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.[91]

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 International Atomic Energy Agency (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 Nuclear Nonproliferation Treaty, explode a nuclear device before January 1, 1967.[92] The President may exempt an agreement for cooperation from any

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[90] 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.

[91] 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.

[92] 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, 95th Cong., (continued...)

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 agreement."[93] 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.[94]

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 Nuclear Regulatory Commission (NRC) is required to meet criteria in Sections 127 and 128 in 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

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[92] (...continued)
2nd sess., 1978, vol. 3, p. 329.

[93] This new requirement was added by the Export Administration Amendments Act of 1985, P.L. 99-64, Section 301 (b) (2), 99 Stat. 120.

[94] 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.

of U.S. nonproliferation objectives or otherwise jeopardize the common defense and security." 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 passes a concurrent resolution of disapproval.[95]

In the case of exports pursuant to an exempted agreement for cooperation (i.e., exempted from the full-scope safeguards requirement), as described above, the NRC would not have to meet the full-scope safeguards requirement in assessing whether it could issue export licenses (Section 128 b. (3)). Congress would review one license every 12 months. If Congress passed a resolution of disapproval, no further exports could be made during that Congress.[96]

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 disagrees with the President's determination.[97]

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 U.S.;
- assisted, encouraged, or induced any other non-nuclear weapon state to obtain nuclear explosives or the materials and technologies

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[95] 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.

[96] 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.

[97] 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.

> 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 International Relations Committee and the Senate Foreign Relations Committee for 60 days of continuous session. The determination becomes effective unless Congress opposes it.[98]

Evolution of P.L. 109-401[99]

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 mark-ups, 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 version of the H.R. 5682 were remarkably similar, with four differences.[100] 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 watered down into 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

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[98] Section 129 specifies 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." Again, in light of *Chadha*, Congress could choose to enact a joint resolution stating it does not favor the determination, or enact a law expressly rejecting the determination.

[99] See CRS Report RL33561, *U.S.-India Nuclear Cooperation: A Side-By-Side Comparison of Current Legislation*, by Sharon Squassoni and Jill Marie Parillo (hereafter cited as CRS Report RL33561) for more detail on the bills.

[100] See H.Rept. 109-590 and for S.Rept. 109-288, dated July 20, 2006, background on the bill.

a multinational facility participating in a project approved by the International Atomic Energy Agency (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;
- 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 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) a cutoff in exports if India is found to have violated NSG or MTCR guidelines; (4) 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 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."[101] 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

[101] See [http://www.whitehouse.gov/news/releases/2006/12/20061218-12.html]

words, the President was questioning whether Congress were ceding authority to approve U.S. exports to the Nuclear Suppliers Group. 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.

Potential Issues for Congress

It may be some time before all the requirements are met for the executive branch to bring a final cooperation agreement before Congress again. When that happens, Congress will have another opportunity to consider the specific parameters of cooperation. In addition to meeting the requirements set out in P.L. 109-401, Congress may want to assess how well the actual agreement meets the other nonproliferation requirements of the Atomic Energy Act (other than full-scope safeguards). Some substantive questions could include whether the Indian safeguards agreement meets the U.S. requirements for perpetuity; whether U.S. assistance could benefit India's nuclear weapons program and whether India's nonproliferation record, as described in the Nuclear Nonproliferation Assessment Statement, contains anything that causes concern for Members, or would have a negative impact on U.S. national security.

Although joint resolutions of approval for nuclear cooperation agreements receive expedited consideration, significant concerns about the agreement could result in the passage of a joint resolution of approval with conditions, as happened in the case of the 1985 U.S. nuclear cooperation agreement with China. In P.L. 99-183, Congress required the President to certify that (a) reciprocal arrangements would ensure that nuclear materials, facilities or components would be used solely for peaceful purposes; (b) China was not violating paragraph 2 of Section 129 (particularly with respect to assisting non-nuclear weapon states in a nuclear weapons program); and (c) that U.S. approval for subsequent potential Chinese requests to enrich, reprocess or alter in any form material provided under the agreement would not be automatic. A presidential certification on the three matters was not made until January 12, 1998.

The Nuclear Cooperation Agreement

The agreement announced in July 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 argues that the agreement "is consistent with applicable U.S. law,"[102] some members of Congress have 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, states 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 have also raised questions about several aspects of the agreement, arguing that they may be inconsistent with P.L.109-401.[103]

Sensitive Nuclear Technology . Despite the 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.

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.[104] 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

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[102] Department of State Fact Sheet July 27, 2007, at [http://www.state.gov/r/pa/prs/ps/2007/89552.htm].

[103] 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,zsa], 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].

[104] As noted above, the President retains the right to waive the termination of nuclear exports.

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 "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 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 its termination or the cessation of cooperation. 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 Atomic Energy Act 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 Atomic Energy Act. 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. Atomic Energy Act, 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 United States and India would jointly convene a group of friendly supplier countries to include 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 tests a nuclear weapon).

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)[105] 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, the State Department characterizes the agreement's fuel-supply assurances as political, rather than legal, obligations. Additionally, the U.S. commitments under the fuel-supply provisions are unclear. For example, the agreement does not define what it means to "support an Indian effort to develop a strategic reserve." And the United States has not sought commitments from any other country to supply fuel to India.

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[105] As noted above, the President's signing statement says that he "shall construe" Section 103 as "advisory."

Appendix. Frequently Asked Questions About U.S.-India Nuclear Cooperation

What was the agreement signed on March 2, 2006?

In July 2005, India committed to identifying and separating its civilian and military nuclear facilities and programs. On March 2, 2006, U.S. and Indian officials agreed upon a "separation" plan.

Is membership in the Nuclear Nonproliferation Treaty (NPT) necessary to sign a peaceful nuclear cooperation agreement?

No, but the Nuclear Nonproliferation Act of 1978 made comprehensive International Atomic Energy Agency (IAEA) safeguards a requirement for nuclear cooperation with non-nuclear weapon states.

What are comprehensive IAEA safeguards?

States that join the NPT as non-nuclear weapon states are obligated to sign an agreement with the IAEA to safeguard all the nuclear material in their state and under their jurisdiction. These are called "comprehensive" or "full-scope" nuclear safeguards, or INFCIRC/153-type safeguards.

Does India have IAEA safeguards now on some nuclear facilities?

India has facility-specific (INFCIRC/66-type) safeguards on two U.S.-supplied reactors at Tarapur, two Canadian-supplied reactors at Rajasthan, and has concluded a safeguards agreement for two Russian-supplied reactors under construction at Kudankulam. India also applies intermittent safeguards at its reprocessing plant at Tarapur when safeguarded fuel is present.

If India has nuclear weapons, why isn't it considered a nuclear weapons state?

The Nuclear Nonproliferation Treaty (NPT) defined nuclear weapons states as those states that had detonated a nuclear explosive device before January 1, 1967. Those states are the United States, the United Kingdom, Russia, France, and China. U.S. law follows the NPT definition.

Which laws did the Administration seek to adjust?

The Atomic Energy Act (P.L. 83-703) does not prohibit nuclear cooperation with India, but has three provisions that contain restrictions. The first is Section 123, which requires non-nuclear weapon state recipients of U.S. nuclear cooperation to have full-scope safeguards, among other requirements. The second is Section 128, which requires full-scope safeguards to license nuclear exports. The third is Section 129, which would terminate nuclear exports if a non-nuclear weapon state has conducted a nuclear test after 1978 or continues a nuclear weapons program without steps to terminate such activities.

What facilities did India designate as civilian?

In a statement to the Indian Parliament on March 7, 2006, India identified 14 out of 22 power reactors to declare as civilian; some facilities at the fuel fabrication complex to be identified in the future; some spent fuel storage; 3 heavy water plants (which are not required to be safeguarded); and several research facilities (which are not required to be safeguarded). India has stated that the 14 plants equal 65% of its total nuclear electricity capacity (known as megawattage). However, six of those plants are already covered by existing IAEA safeguards agreements.

On May 11, 2006, Indian officials provided more details. The eight indigenous power reactors to be safeguarded include RAPS 3, 4, 5, & 6 (at Rajasthan); two at Uttar Pradesh (NAPS 1, 2); and two at Gujrat (KAPS 1, 2). The safeguards will be phased in beginning in 2007 and completed by 2014. Other facilities (so-called "upstream") were also identified in May, to include a uranium oxide plant, two ceramic fuel fabrication plants, an enriched uranium oxide plant, an enriched fuel fabrication plant and the Gadolinia Facility.

What does P.L. 109-401 accomplish?

P.L. 109-401, "The Henry J. Hyde United States-India Peaceful Atomic Energy Cooperation Act of 2006," was signed into law by President Bush on December 18, 2006. It allows the President to waive certain restrictions contained in the Atomic Energy Act, namely that non-nuclear weapon states, as defined by the NPT and U.S. law, must have full scope, or comprehensive safeguards on all nuclear material in their state before the United States can engage in nuclear cooperation with them. P.L. 109-401 sets out seven requirements that the President must determine to have happened before he can exercise his waiver authority. These 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 progress toward concluding an Additional Protocol; (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 (like NSG and MTCR); and (7) a consensus decision by the NSG to make an exception for India.

What are the next steps?

1. Indian and IAEA officials must negotiate a safeguards agreement, and the Board of Governors of the IAEA must approve it;

2. NSG member states must agree by consensus to make an exception for India; and

3. Congress must approve the text of the "123 agreement" in a joint resolution of approval.