



# Nuclear Cooperation with Other Countries: A Primer

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## **Summary**

In order for the United States to engage in civilian nuclear cooperation with other states, it must conclude a framework agreement that meets specific requirements under section 123 of the Atomic Energy Act (AEA). The AEA also provides for exemptions to these requirements, export control licensing procedures, and criteria for terminating cooperation. Congressional review is required for section 123 agreements; the AEA establishes special parliamentary procedures by which Congress may act on a proposed agreement.

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## What Is a “Section 123” Agreement?

Under existing law (Atomic Energy Act [AEA] of 1954; P.L. 95-242; 42 U.S.C. §2153 et seq.)<sup>1</sup> all significant U.S. nuclear cooperation with other countries requires a peaceful nuclear cooperation agreement.<sup>2</sup> Significant nuclear cooperation includes the transfer of U.S.-origin special nuclear material<sup>3</sup> subject to licensing for commercial, medical, and industrial purposes. Such agreements, which are “congressional-executive agreements” requiring congressional approval, do not guarantee that cooperation will take place or that nuclear material will be transferred, but rather set the terms of reference and authorize cooperation. The AEA includes requirements for an agreement’s content, conditions for the President to exempt an agreement from those requirements, presidential determinations and other supporting information to be submitted to Congress, conditions affecting the implementation of an agreement once it takes effect, and procedures for Congress to consider and approve the agreement.

Section 123 of the AEA requires that any agreement for nuclear cooperation meet nine nonproliferation criteria and that the President submit any such agreement to the House Committee on Foreign Affairs and the Senate Committee on Foreign Relations. The Department of State is required to provide the President an unclassified Nuclear Proliferation Assessment Statement (NPAS), which the President is to submit, along with the agreement, to those two committees. The State Department is also required to provide a classified annex to the NPAS, prepared in consultation with the Director of National Intelligence. The NPAS is meant to explain how the agreement meets the AEA nonproliferation requirements. The President must also make a written determination “that the performance of the proposed agreement will promote and will not constitute an unreasonable risk to, the common defense and security.”

## Requirements Under the Atomic Energy Act

Section 123 of the AEA specifies the necessary steps for engaging in nuclear cooperation with another country:

- **Section 123a.** states that the proposed agreement is to 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 several criteria described in that section and includes

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<sup>1</sup> The Atomic Energy Act (AEA) was amended by the Nuclear Nonproliferation Act of 1978 (NNPA) (P.L. 95-242) to include stringent nonproliferation requirements for significant U.S. nuclear exports. For example, the act required non-nuclear-weapon states to have full-scope International Atomic Energy Agency safeguards as a condition for entering into nuclear cooperation agreements with the United States. For existing and future agreements, the NNPA added a provision for Congress to review export licenses. The act also included a provision for halting exports if a country tested a nuclear device, violated safeguards agreements, or continued nuclear weapons-related activities.

<sup>2</sup> Section 57 b. (2) of the AEA allows for limited forms of nuclear cooperation related to the “development or production of any special nuclear material outside of the United States” without a nuclear cooperation agreement if that activity has been authorized by the Secretary of Energy following a determination that it “will not be inimical to the interest of the United States.” Agreements governing such cooperation are also known as “Section 810” agreements, after 10 Code of Federal Regulations Part 810.

<sup>3</sup> The term “special nuclear material,” as well as other terms used in the statute, is defined in 42 U.S.C. §2014. “Special nuclear material” means (1) plutonium, uranium enriched in the isotopes 233 or 235, and any other material that is determined to be special nuclear material, but does not include source material, or (2) any material artificially enriched by any of the foregoing, but does not include source material.

details on the kinds of information the executive branch must provide to Congress.

- **Section 123b.** specifies the process for submitting the text of the agreement to Congress.
- **Section 123c.** 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). This report does not discuss such agreements.
- **Section 123d.** specifies how Congress approves agreements that do cover significant nuclear cooperation (transfer of nuclear material or reactors larger than 5 MWe), including exempted agreements.

Section 123a., paragraphs (1) through (9), lists nine criteria that an agreement must meet unless the President determines an exemption is necessary. These include guarantees that

- safeguards on transferred nuclear material and equipment continue in perpetuity;
- full-scope International Atomic Energy Agency (IAEA) safeguards are applied in non-nuclear weapon states;
- nothing transferred is used for any nuclear explosive device or for any other military purpose; except in the case of cooperation agreements with nuclear weapon states, the United States has the right to demand the return of transferred nuclear materials and equipment, as well as any special nuclear material produced through their use, if the cooperating state detonates a nuclear explosive device or terminates or abrogates an IAEA safeguards agreement;
- there is no retransfer of material or classified data without U.S. consent;
- physical security on nuclear material is maintained;
- there is no enrichment or reprocessing by the recipient state of transferred nuclear material or nuclear material produced with materials or facilities transferred pursuant to the agreement without prior approval;
- storage for transferred plutonium and highly enriched uranium is approved in advance by the United States; and
- any material or facility produced or constructed through use of special nuclear technology transferred under the cooperation agreement is subject to all of the above requirements.

## **Exempted vs. Non-exempted Agreements**

The President may exempt an agreement for cooperation from any of the requirements in Section 123a. if he determines that the requirement would be “seriously prejudicial to the achievement of U.S. non-proliferation objectives or otherwise jeopardize the common defense and security.” The AEA provides different requirements, conditions, and procedures for exempt and non-exempt agreements.<sup>4</sup> To date, all of the section 123 agreements in force are non-exempt agreements.<sup>5</sup>

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<sup>4</sup> Nuclear cooperation agreements with nuclear weapon states recognized by the NPT are provided for in the AEA, and are therefore non-exempt agreements. The NPT defines nuclear weapon states as those that exploded a nuclear weapon (continued...)

Prior to the adoption of P.L. 109-401, the Henry J. Hyde United States-India Peaceful Atomic Energy Cooperation Act of 2006, the President would have needed to exempt the nuclear cooperation agreement with India from some requirements of Section 123 a. P.L. 109-401, however, exempted nuclear cooperation with India from some of the AEA's requirements.<sup>6</sup>

## Congressional Review

Under the AEA, Congress has the opportunity to review a 123 agreement for two time periods totaling 90 days of continuous session.<sup>7</sup> The President must submit the text of the proposed nuclear cooperation agreement, along with required supporting documents (including the unclassified NPAS) to the House Foreign Affairs Committee and the Senate Foreign Relations Committee. The President is to consult with the committees “for a period of not less than 30 days of continuous session.” After this period of consultation, the President is to submit the agreement to Congress, along with the classified annex to the NPAS and a statement of his approval of the agreement and determination that it will not damage the national security interests of the United States. This action begins the second period, of 60 days of continuous session. In practice, the President has submitted the agreement to Congress, along with the unclassified NPAS, its classified annex, and his approval and determination, at the beginning of the full 90-day period. The 60-day period has been considered as following immediately upon the expiration of the 30-day period.

If the President has not exempted the agreement from any requirements of section 123a., it becomes effective at the end of the 60-day period unless, during that time, Congress adopts a joint resolution disapproving the agreement and the resolution becomes law. If the agreement is an exempted agreement, Congress must adopt a joint resolution of approval and it must become law by the end of the 60-day period or the agreement will not enter into force. At the beginning of this 60-day period, joint resolutions of approval or disapproval, as appropriate, are to be automatically introduced in each house. During this period, the committees are to hold hearings on the proposed agreement and “submit a report to their respective bodies recommending whether it should be

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(...continued)

or other nuclear explosive device prior to January 1, 1967: China, France, Russia, the United Kingdom, and the United States.

<sup>5</sup> The United States has concluded more than 20 bilateral nuclear cooperation agreements, as well as similar agreements with the European Atomic Energy Community and the IAEA. A list of those agreements may be found at <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=20042&prog=zgp&proj=znpp>. The United States and Russia signed a civilian nuclear cooperation agreement on May 6, 2008. President Bush submitted the agreement to Congress on May 13, but subsequently withdrew it from congressional consideration September 8, 2008 in response to Russia's military actions in Georgia. (See CRS Report RL34655, *U.S.-Russian Civilian Nuclear Cooperation Agreement: Issues for Congress*, by Mary Beth Nikitin.) The Bush Administration also signed such an agreement with the United Arab Emirates January 15, 2009, but the two governments reopened the text for negotiation after the Obama administration took office. The revised agreement was signed May 21, 2009 and entered into force December 17, 2009. (See CRS Report R40344, *The United Arab Emirates Nuclear Program and Proposed U.S. Nuclear Cooperation*, by Christopher M. Blanchard and Paul K. Kerr.)

<sup>6</sup> See CRS Report RL33016, *U.S. Nuclear Cooperation with India: Issues for Congress*, by Paul K. Kerr. The agreement entered into force in December 2008.

<sup>7</sup> When calculating periods of “continuous session” under the AEA, every calendar day is counted, including Saturdays and Sundays. Only days on which either chamber has adjourned for more than three days pursuant to the adoption a concurrent resolution authorizing the adjournment do not count toward the total. If Congress adjourns its final session *sine die*, continuity of session is broken, and the count must start anew when it reconvenes.

approved or disapproved.” If either committee has not reported the requisite joint resolution of approval or disapproval by the end of 45 days, it is automatically discharged from further consideration of the measure. After the joint resolution is reported or discharged, Congress is to consider it under expedited procedures, as established by section 130.i. of the AEA.

Section 202 of P.L. 110-369, the United States-India Nuclear Cooperation Approval and Nonproliferation Enhancement Act, which President Bush signed into law October 8, 2008, amended section 123 of the AEA to require the President to keep the Senate Foreign Relations Committee and the House Foreign Affairs Committee “fully and currently informed of any initiative or negotiations relating to a new or amended agreement for peaceful nuclear cooperation.”

## Export Licensing

The AEA sets out procedures for licensing exports to states with whom the United States has nuclear cooperation agreements. (Sections 126, 127, and 128 codified as amended at 42 U.S.C. 2155, 2156, 2157.) Each export of nuclear material, equipment, or technology requires a specific export license or other authorization. The Nuclear Regulatory Commission (NRC) is required to meet criteria in sections 127 and 128 in authorizing export licenses. These criteria are as follows:

- Application of IAEA safeguards to any material or facilities proposed to be exported, material or facilities previously exported, and to any special nuclear material used in or produced through the use thereof (these are not full-scope safeguards, but safeguards required under Article III.2 of the nuclear Nonproliferation Treaty [NPT]).
- Nothing exported can be used for any nuclear explosive device or for research on or development of any nuclear explosive device.
- Recipient states must have adequate physical security on “such material or facilities proposed to be exported and to any special nuclear material used in or produced through the use thereof.”
- Recipient states are not to retransfer exported nuclear materials, facilities, sensitive nuclear technology, or “special nuclear material produced through the use of such material” without prior U.S. approval.
- Recipient states may not reprocess or alter in form or content exported nuclear material or special nuclear material produced through the use of exported nuclear material without prior U.S. approval.
- The foregoing conditions must be applied to any nuclear material or equipment that is produced or constructed under the jurisdiction of the recipient by or through the use of any exported sensitive nuclear technology.
- Section 128 requires that recipient non-nuclear-weapon states must have full-scope IAEA safeguards.

The President must judge that the proposed export or exemption will “not be inimical to the common defense and security” or that any export of that type “would not be inimical to the common defense and security because it lacks significance for nuclear explosive purposes.” The executive branch may also consider other factors, such as “whether the license or exemption will

materially advance the nonproliferation policy of the United States by encouraging the recipient nation to adhere” to the NPT; whether “failure to issue the license or grant the exemption would otherwise be seriously prejudicial” to U.S. nonproliferation objectives; and whether the recipient nation has agreed to conditions identical to those laid out in Section 127.

Section 126b. (2) contains a provision for the President to authorize an export in the event that the NRC deems that the export would not meet section 127 and 128 criteria. The President must determine “that failure to approve an export would be seriously prejudicial to the achievement of U.S. nonproliferation objectives or otherwise jeopardize the common defense and security.” In that case, the President would submit his executive order, along with a detailed assessment and other documentation, to Congress for 60 days of continuous session. After 60 days of continuous session, the export would go through unless Congress were to adopt a concurrent resolution of disapproval.<sup>8</sup>

Section 128b.(2) 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 adopting such safeguards, or that U.S. foreign policy interests dictate reconsideration. Such a determination would become effective unless Congress were to adopt a concurrent resolution of disapproval within 60 days of continuous session.

Additionally, section 129b.(1) forbids the export of “nuclear materials and equipment or sensitive nuclear technology” to any country designated as a state sponsor of terrorism.<sup>9</sup> Section 129b.(3) allows the President to waive this provision.

## Termination of Cooperation

Section 129a. of the AEA requires that the United States end 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.”

Section 129a. also requires that the United States 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 non-nuclear weapon state to obtain nuclear explosives or the materials and technologies needed to manufacture them; or re-transferred or entered into an agreement for exporting reprocessing equipment, materials or technology to a non-nuclear

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<sup>8</sup> In light of the Supreme Court’s 1983 decision in *INS v. Chadha*, passing a concurrent resolution could invite a legal challenge because it is arguably unconstitutional. Although 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.

<sup>9</sup> Section 129b. (2) states that the prohibitions described in the previous section “shall not apply to exports, reexports, transfers, or retransfers of radiation monitoring technologies, surveillance equipment, seals, cameras, tamper-indication devices, nuclear detectors, monitoring systems, or equipment necessary to safely store, transport, or remove hazardous materials ... except to the extent that such technologies, equipment, seals, cameras, devices, detectors, or systems are available for use in the design or construction of nuclear reactors or nuclear weapons.”

weapon state, unless in connection with an international agreement to which the United States subscribes.

The President can waive termination of exports 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 Committee on Foreign Affairs and the Senate Foreign Relations Committee for 60 days of continuous session. The determination becomes effective unless Congress adopts a concurrent resolution opposing the determination.

## **Legislative Developments in the 111<sup>th</sup> Congress**

Representative Ileana Ros-Lehtinen introduced H.R. 547 January 15, 2009. Referred to the House Foreign Affairs Committee the same day, the bill contains a provision that would require Congress to enact a joint resolution of approval before any peaceful nuclear cooperation agreement could become effective. It also would require the President to keep the House Foreign Affairs Committee and the Senate Foreign Relations Committee “fully and currently informed of any initiative or negotiations relating to a new or amended agreement for peaceful nuclear cooperation ... prior to the President’s announcement of such initiative or negotiations.” In addition, the bill would mandate periodic presidential consultation with the committees about the progress of negotiations concerning such agreements.

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