

Briefing for the Nuclear Regulatory Commission

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NEW ADDITIONAL PROTOCOL

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STRENGTHENING NUCLEAR SAFEGUARDS THROUGH THE ADDITIONAL PROTOCOL

IAEA safeguards, required by the NPT, are designed to verify states' declarations concerning their nuclear material and facilities, and thereby allow it to verify that nuclear material is not diverted for nuclear weapons. Periodic on-site verification of inventories forms the basis for Agency verification of the state's accounting efforts, including both their correctness and completeness. However, the measures provided by NPT safeguards agreements have only a limited capability to detect clandestine nuclear weapon programs such as the one discovered in Iraq, which relied both on undeclared facilities and misuse of declared facilities. After the Iraq experience, the international community recognized the need to give the IAEA sharper tools to detect undeclared nuclear material and activities. The Additional Protocol amends existing safeguards agreements to provide the new tools needed.

The Additional Protocol requires States to provide additional information and to permit access not permitted under existing agreements. It provides for expanded declarations of states' nuclear-related activities, including:

- fuel cycle-related R&D not involving nuclear material,
- certain nuclear-related manufacturing,
- source material holdings and production,
- certain waste processing, and
- imports and exports of NSG trigger list items (whose export is licensed by NRC).

To allow the Agency to verify the absence of undeclared nuclear material and activities, it broadens IAEA access to locations with nuclear material and provides new access to locations with substantial source material or waste. It also provides for access on a more restrictive basis to other declared locations and to undeclared locations when the IAEA determines there to be questions or inconsistencies related to the State's declaration. In each case, the Agency is permitted to take environmental samples and use other verification tools.

The United States, as a nuclear-weapon State Party to the NPT is not obligated to accept IAEA safeguards or the Additional Protocol. In each case, however, the U.S. pledged to accept the same measures as other states in order to demonstrate that adherence does not place other countries at a commercial disadvantage. Our willingness to accept protocol measures in the U.S. was a significant factor in the decision by many non-nuclear-weapon states to accept a strong model protocol and to move expeditiously toward implementing their own protocols.

As with the U.S. safeguards agreement, the U.S. Additional Protocol contains a provision not contained in agreements for NNWS that permits the U.S. to disallow application of protocol provisions where they impact activities of direct national security significance to the United States. Thus, the United States will not provide

information or access to any location that the U.S. decides is of national security significance.

OVERVIEW OF SAFEGUARDS IMPLEMENTATION IN THE U.S.

The IAEA safeguards system is the verification system for the Nuclear Non-Proliferation Treaty (NPT). The U.S., as a nuclear weapons state party to the NPT, is not obligated to accept safeguards but pledged to do so to demonstrate that the system would not place unfair burdens on other states' nuclear industries. IAEA safeguards are carried out in the United States pursuant to the U.S.-IAEA Safeguards Agreement, which entered into force in 1981.

Initially, safeguards in the U.S. were applied at NRC licensee facilities, typically one commercial fuel fabricator and two reactors using that fabricator's products. In the early 1990s, the IAEA ended inspections in the U.S., though the fuel fabricators continued their reporting to IAEA. In the mid-90s, at U.S. request, the IAEA began to apply safeguards to some excess weapons-usable material in the U.S. Starting in 1997, safeguards were applied to HEU downblending at BWX Technologies, an NRC licensee, beginning with downblending of HEU purchased from Kazakhstan. Safeguards may be applied to NRC-licensed facilities planned for the U.S. plutonium disposition program.

Application of safeguards in the U.S. is overseen by the interagency IAEA Steering Committee, which includes NRC. NRC chairs the subcommittee responsible for implementation of safeguards in the U.S. and, together with other Agencies, negotiates with the IAEA the details of safeguards implementation in the U.S. NRC has been an important contributor to policy concerning implementation of safeguards domestically and internationally. Implementation of the protocol in the U.S. will require some additional reporting from NRC licensees. It will also broaden IAEA access rights at locations covered by the current agreement and expand the list of locations subject to IAEA access rights, although the intensity of new access is likely to be very low.

NRC staff member Ted Sherr serves as U.S. representative to the key advisory body at the IAEA, the Standing Advisory Group on Safeguards Implementation (SAGSI), which has an important role in shaping the implementation of the Protocol. Sherr and other NRC staff also played an important role in negotiating the Additional Protocol.

LEGAL AUTHORITY TO IMPLEMENT THE ADDITIONAL PROTOCOL

Issue Presented: What will be NRC's legal authority for implementing its responsibilities under the Additional Protocol?

Legal Analysis: We are planning on following the example contained in the implementing legislation for the Chemical Weapons Convention (CWC) for granting agencies the legal authority to undertake their treaty implementing responsibilities. Under the CWC legislation, the President is (1) authorized to implement the provisions of both the CWC and its implementing legislation and (2) required to designate which agencies shall issue, amend, or revise regulations in order to implement the CWC and its implementing legislation. After the CWC implementing legislation was enacted, the President issued an Executive Order (EO) and a Presidential Decision Directive (PDD), which set forth the specifics regarding which agency would implement what portions of the CWC and its implementing legislation. Both the EO and PDD were the products of interagency negotiation and agreement.

Similarly, with respect to the Additional Protocol, we plan to propose that the implementing legislation authorize the President (1) to implement the provisions of the Additional Protocol and its implementing legislation and (2) to designate which agencies (including the NRC) shall issue, amend, or revise regulations in order to implement the Additional Protocol and its implementing legislation. After the legislation is enacted, the President will delineate the responsibilities of agencies with respect to implementing the Additional Protocol. This delineation will reflect interagency agreement regarding the appropriate division of responsibilities.

Benefits: The primary benefit of following the CWC implementing approach is that it provides the Executive Branch maximum flexibility in implementing the Protocol. In other words, in the future, if the various agencies involved decided to revise the procedures/responsibilities for implementation, this could be achieved through interagency agreement and a new executive directive. However, if specific agency responsibilities were set forth in the implementing legislation itself rather than in an executive directive, any change to these responsibilities would require a new law to be passed by Congress. This could frustrate timely and efficient implementation of the Protocol.

IMPLEMENTATION ACTIVITIES UNDER THE ADDITIONAL PROTOCOL

NRC has agreed to implement Protocol responsibilities directly affecting NRC licensees (Attachment 1). These require:

- Issuing regulations requiring declarations of a general nature concerning
 - (1) the sites of a small number of nuclear facilities licensed by NRC, and
 - (2) locations with large holdings of source materials such as uranium ore;
- Arranging for IAEA access to these sites, if requested, for verification;
- Providing information about exports of certain items of nuclear equipment subject to NRC's export control authority;
- Confirming imports of such items upon IAEA request;*
- Providing IAEA access if needed to verify an import;* and
- Responding to inquiries about locations the IAEA considers might be functionally related to a declared licensee site.*

It is proposed that NRC accept responsibility for several additional tasks (Attachment 2). These include obtaining declarations on:

- The scale of operations for locations manufacturing 15 specific nuclear-related items whose export is licensed by the NRC;
 - The production capacity of uranium mines and uranium and thorium concentration plants;
 - The gross quantity of source material at locations possessing more than 10 metric tons;
 - Exports and imports of more than 10 metric tons of source material; and
 - Fuel-cycle-related R&D not involving nuclear material.
- NRC would also be responsible for providing IAEA access to these locations if requested by the IAEA.

We anticipate that the level of effort required to carry out these responsibilities is low. Preliminary estimates from NRC staff were on the order of 2 full time equivalents (FTE) for the items listed in Attachment I and one more FTE for Attachment II. Regulations requiring appropriate declarations would be needed. We anticipate using a contractor-operated, USG-wide data collection system to collate declaration data from all

* Our present thinking is that the State Department would take on these tasks.

affected locations and prepare draft U.S. declarations. The declarations require only very limited information. IAEA access was intentionally designed to be infrequent -- there is no systematic verification -- and would be especially so in a nuclear-weapon state. For each of the above types of locations, DOE license-exempt installations would remain the responsibility of DOE for both declaration and access. DOE also would provide for declaration of DOE-funded nuclear R&D projects declarable under the Protocol, and already collects a significant portion of the required data on mines and mills.

ATTACHMENT I

PROTOCOL IMPLEMENTATION TASKS ACCEPTED BY NRC

NRC staff has indicated its willingness to be responsible for implementation of U.S. obligations to make the following declarations and provide for any associated IAEA access.

Article 2.a.(ii) - Discussion of proposed safeguards improvements at NRC-licensed eligible facilities, if requested by IAEA.

Article 2.a.(iii) - Site declarations and site access for certain NRC-licensed eligible facilities and, if specifically requested by IAEA, for locations other than facilities that contain nuclear material and which are licensed by NRC or by U.S. state governments pursuant to agreements with the NRC.

Article 2.a.(vii) - Declarations of and access to locations with material exempted from safeguards (except at DOE license-exempt installations, where DOE would be responsible for declaration and access). (No such material exists or is likely to exist in the U.S.)

Article 2.a.(viii) - Declarations of and access to locations possessing or processing intermediate-level or high-level waste containing Pu, HEU, or U-233 on which safeguards have been terminated. (No such material exists or is likely to exist in the U.S.)

Article 2.a.(ix) - Declarations of exports of Annex II items (i.e., certain items of nuclear equipment subject to NRC's export control authority), and, upon request by the IAEA, confirmation of imports of such items.*

Article 2.b.(ii) - Responding to IAEA requests for information regarding locations outside of a declared site which the Agency considers might be functionally related to that site.*

* Our present thinking is that the State Department would take on these tasks.

ATTACHMENT II

PROTOCOL IMPLEMENTATION TASKS PROPOSED FOR NRC

It is also proposed that NRC provide for the declarations listed below and any associated IAEA access. Performance of these tasks would take advantage of NRC's expertise in comparable areas and its demonstrated ability to work effectively with both industry and the IAEA.

Article 2.a.(i) - Declaration of and access to locations of government-funded, -authorized, or -controlled nuclear fuel cycle-related R&D not involving nuclear material.

Discussion: Declarations require the location and a brief statement of the R&D activities present. Declarations are NOT required for theoretical and basic scientific research; R&D on industrial radioisotope applications and medical, hydrological, and agricultural applications; and research on health and environmental effects and improved maintenance.

Article 2.a.(iv) - Declaration of and access to locations manufacturing nuclear-related items listed in Annex I of the Protocol, except at DOE license-exempt installations.

Discussion: Annex I lists 15 sensitive nuclear items already subject to NRC export control authority, such as gas centrifuges, heavy water, and reactor control rods. Declarations are limited to general information, including location, owner, products, and scale of operations.

Article 2.a.(v) - Declaration of and access to mines and concentration plants. (We anticipate that DOE/EIA, which already requires reporting of most of the required data, will be responsible for collecting the declaration data.)

Discussion: Declarations are limited to location, operational status, and estimated production capacity for each location, plus current annual production (in tons) for the U.S. as a whole. The IAEA can also request annual production data for an individual location.

Article 2.a.(vi) - Declaration of and access to locations possessing large amounts of source material, and of export and import of large amounts of source material (except at DOE

license-exempt installations, where DOE would be responsible for declaration and access if allowable).

Discussion: Locations with more than 10 MT of uranium or 20 MT of thorium must be declared. Declarations are limited to location, chemical composition, and quantity in tons of the element in question.

Article 2.b.(i) - Declaration of and access to locations carrying out non-government-funded nuclear fuel cycle-related R&D not involving nuclear material which are specifically related to enrichment, reprocessing, and processing of intermediate or high-level waste. (U.S. obligation in Protocol is to "make every reasonable effort" to provide this information.)

Discussion: Declarations require the location address and a brief summary of the R&D projects present.

Access requirements:

All access under the Protocol is subject to the requirement that the IAEA "not mechanistically or systematically seek to verify" the declared information. Access is expected to be infrequent.

For locations possessing or producing source material, declarable under Articles 2.a.(v) and 2.a.(vi), the IAEA is allowed access on a selective basis to verify the absence of undeclared materials and activities. For the other locations above, access is allowed if needed to resolve a question or inconsistency related to the U.S. declaration. The IAEA is generally required to seek to resolve such questions through prior consultations, seeking access only if necessary.

Funding Implementation of the Additional Protocol

NRC will need both legal authority and an appropriation to implement its portion of the Additional Protocol's provisions. Legal authority is discussed separately, at Tab~~C~~^C. We have identified two ways for NRC to obtain the needed funding: direct appropriation or reimbursement pursuant to an interagency agreement.

Funding by direct appropriation to NRC appears to be the most straightforward approach. We understand that Congress recently freed NRC from the full cost-recovery requirement. In State's view, there is a good argument that treaty obligations, such as these, should be funded by the federal government, rather than the licensees.

Alternatively, the Department of State or another executive agency could be designated as the "responsible agency" for such implementation activities. The NRC could then undertake implementing these activities pursuant to an interagency agreement with the responsible agency. The responsible agency, of course, would reimburse the NRC for expenses related to conducting such activities. The responsible agency would need to budget and obtain Congressional support for these activities.

Preliminary estimates from NRC staff members suggest that the level of effort required to carry out these new implementing activities is relatively small, i.e., on the order of three full-time equivalents positions. The Department of State is prepared to identify staff members to work with NRC counterparts on next steps related to funding these implementation activities.

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