Complementary and Managed Access

under the U.S.-IAEA Additional Protocol

Product No. 613P

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May 2010

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From the DTIRP Outreach series: Product No. 613P

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INTRODUCTION

The complementary and managed access provisions in the U.S.-IAEA Additional Protocol (AP)[1] are key elements of U.S. implementation policy. As stated in Article 7, these provisions clarify the United States' right to use managed access procedures "to prevent the dissemination of proliferation sensitive information, to meet safety or physical protection requirements, or to protect proprietary or commercially sensitive information."

In addition, as a recognized nuclear weapon state (NWS) under the Nuclear Non-Proliferation Treaty (NPT)[2], the United States has the right to invoke its national security exclusion (NSE) to prevent IAEA inspectors' access to information, locations, and activities of direct national security significance. The Department of Defense (DoD) conducts security vulnerability assessments (SVA) of DoD equities (facilities, programs, information, and activities) located at or near declarable locations in order to determine whether these equities could be vulnerable during an on-site inspection and whether they have direct national security significance.

The U.S.-IAEA AP entered into force on January 6, 2009. As an NWS, the United States is not obligated to conclude safeguards agreements with the IAEA, nor to declare sites or to allow the IAEA to conduct on-site inspection activities. However, the United States voluntarily concluded an AP with the IAEA, which allows the IAEA to inspect its civil nuclear locations and related activities. The purpose of the U.S.-IAEA AP is primarily to demonstrate U.S. support for international safeguards and to assist the IAEA with developing the procedures, tools, and techniques needed to detect undeclared nuclear activities in non-nuclear weapon states (NNWS).

Following a brief review of the events leading up to the need to develop the AP, this pamphlet focuses on the complementary and managed access provisions contained in Articles 4-7 of the U.S.-IAEA AP, and how the United States intends to implement these provisions.

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[1] Formal title: Protocol Additional to the Agreement between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America. (INFCIRC 288/Add.1).

[2] Formal title: Treaty on the Non-Proliferation of Nuclear Weapons.

BACKGROUND

The primary international barrier against the proliferation of nuclear weapons is the Nuclear Non-Proliferation Treaty (NPT), which entered into force in 1970. To verify compliance with the NPT, the treaty obligates each NNWS to conclude bilateral nuclear safeguards agreements with the IAEA. These agreements, which currently include Safeguards Agreements and Additional Protocols to these Safeguards Agreements, obligate the state to declare its nuclear activities and to allow the IAEA to conduct on-site inspections primarily to detect possible clandestine nuclear programs and/or a diversion of nuclear materials away from legitimate peaceful purposes.

As an NWS under the NPT, the United States voluntarily concluded the U.S.-IAEA Safeguards Agreement[3] (also known as the "Voluntary Offer Agreement") in 1977. This agreement entered into force in 1980. (The other four acknowledged NWS—China, France, Great Britain, and Russia—have also voluntarily concluded Safeguards Agreements and APs with the IAEA.) NWS participate in the IAEA's safeguards regime to encourage NNWS to conclude their own bilateral agreements with the IAEA. NWS recognize the importance of ensuring that the economies of NNWS are not unfairly disadvantaged as a result of incurring the costs associated with applying safeguards on their nuclear activities and allowing the IAEA to conduct on-site inspections.

In the early 1990s, the IAEA discovered secret nuclear weapons programs in Iraq and North Korea. The international community, led by the United States, agreed to strengthen the IAEA's capabilities for detecting clandestine nuclear activities and materials. For this purpose, the IAEA Board of Governors adopted the Model Additional Protocol (INFCIRC/540) (Model AP) in 1997.

The Model AP contains no new arms control or disarmament provisions, but it expands the types of locations to be declared and enables the IAEA to conduct more intrusive types of inspection activities. Under the Model AP, all civilian nuclear fuel cycle-related activities are required to be declared—not just end of fuel cycle-related activities. Nuclear fuel cycle-related activities not involving nuclear material are also included.

These expanded provisions, including the right of the IAEA to request complementary access, also apply to the United States and to the other NWS. However, as an NWS, the United States has the right to apply managed access procedures and to exclude from declaration and access all activities with direct national security significance.

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[3] Formal title: Agreement Between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America (INFCIRC/288).

COMPLEMENTARY ACCESS

Article 4 of the Model AP prohibits the IAEA from "systematically" seeking to verify the information provided by a State Party. Article 4 does provide the IAEA with the right to "selectively" request complementary access to certain declared and undeclared locations to resolve questions or inconsistencies regarding this information and, most importantly, to "assure the absence of undeclared nuclear material and activities." This right strengthens the IAEA's ability to detect clandestine nuclear activities involving NNWS.

The United States does not foresee circumstances in which the IAEA would need to request complementary access in this country. However, the United States allows complementary access in order to strengthen the overall international safeguards regime both by setting an example and by providing opportunities for the IAEA to improve its capabilities for detecting undeclared nuclear activities in NNWS. As an NWS, the United States is not obligated to declare its nuclear materials or nuclear weapons programs. However, the United States has agreed to declare its civil nuclear activities, excepting those having direct national security significance.

Under the Model AP, the IAEA is normally required to provide at least 24 hours advance notice prior to conducting complementary access. However, only two hours advance notice is required when IAEA inspectors request complementary access in conjunction with regular safeguards activities at the same site (e.g., during design information verification visits or routine inspections). In exceptional circumstances—such as when immediate access is needed to enable IAEA inspectors to detect clandestine nuclear activities involving NNWS—advance notice may be reduced to less than two hours.

In the event the IAEA were to request complementary access in the United States, the IAEA would consult with the U.S. government. When providing complementary access, the United States will apply managed access procedures. When the United States is not able to grant requests for complementary access, every reasonable effort will be made, without delay, to satisfy the IAEA's requirements by other means.

According to the Model AP, the IAEA's purposes for requesting complementary access may vary according to the type of location selected. Figure 1 (on page 5) summarizes these purposes and locations as specified under Article 4. The types of inspection activities that may be permitted at certain locations are specified in Article 6. These are summarized in Figure 2 (on pages 6-7).

Complementary Access Purposes and Specified Locations

Access Purpose	Specified Location
• To assure, on a selective basis, the absence of undeclared nuclear materials and activities	• Any place on a site • Any location identified by the United States including uranium mines and concentration plants, thorium concentration plants, other places where uranium or thorium is present in threshold amounts, locations of nuclear materials exempt from safeguards, and locations of intermediate high-level waste containing plutonium, highly enriched uranium (HEU), or uranium-233
• To resolve a question or inconsistency relating to the correctness or completeness of U.S. declarations	• Locations of nuclear fuel cycle-related research and development (R&D) activities not involving nuclear material conducted anywhere and are funded, authorized, or conducted on behalf of the United States • Locations engaged in activities including the manufacture, assembly, and/or construction of a variety of special materials handling equipment (such as diffusion barriers, zirconium tubes, reactor control rods, and hot cells) • Locations of nuclear fuel cycle-related R&D activities not involving nuclear material, which are related to enrichment, the reprocessing of nuclear fuel, or the processing of intermediate or high-level waste containing plutonium, HEU, or uranium-233, but are not funded, authorized, or conducted on behalf of the United States • Undeclared locations (identified by the IAEA) outside a site the IAEA might consider to be functionally related to the activities of that site
• To confirm the declared decommissioned status of a facility or location outside facilities where nuclear material was customarily used	• Any decommissioned facility or decommissioned location outside facilities where nuclear material was customarily used

Figure 1

Common and Location-Specific Inspection Activities

Common Inspection Activities

Allowable in All Areas

- Visual observation
- Use of radiation detection & measurement devices
- Collection of environmental samples (not expected to occur in the United States, see page 9)
- Other mutually agreed measures

Figure 2

Location-Specific Activities

Allowable Activities	Specified Locations
Article 6 Paragraph a	
• Apply seals and other identifying and tamper-indicating devices	• Any place on a declared site • A decommissioned facility or a decommissioned location outside facilities where nuclear material was customarily used
Article 6 Paragraph b	
• Nuclear material item counting • Measurement and sampling • Examine related records	• Uranium mines and mills • Thorium mills • Locations handling source material not suitable for fuel fabrication • Locations importing and exporting source material intended for non-nuclear purposes • Any location that further processes intermediate or high-level waste containing plutonium, HEU, or uranium-233
Article 6 Paragraph c	
• Examine production and shipping records	• Locations conducting certain fuel cycle-related R&D activities *not* involving nuclear material
Article 6 Paragraph d	
• Location-specific environmental sampling (rarely, see page 6)	• Any location specified by the IAEA ***except:*** – locations specified in Article 6.a–c above – *areas excluded under the NSE* • Locations outside selected facilities

Sampling & Other Inspection Activities

Article 6 specifies "common" and "location-specific" inspection activities that may be conducted during complementary access. Common inspection activities may be conducted at all locations, but location-specific inspection activities may only be conducted at the locations specified in paragraphs a-d of Article 6 (see Figure 2, pages 6-7).

One location-specific activity provided for in Article 6.d is the right to conduct location-specific environmental sampling. The United States does not foresee circumstances under which the IAEA would need to conduct location-specific environmental sampling in this country.

In the United States, the IAEA is also not expected to conduct "wide area" environmental sampling as described in Article 9. However, should the IAEA wish to conduct such sampling, the IAEA would first be obligated to consult with the United States as well as obtain the approval of the IAEA Board of Governors. If the United States is unable to provide access to requested locations, the provisions of Article 9 obligate the United States to "make every reasonable effort to satisfy [the IAEA's] requirements at alternative locations."

Inspection Equipment

During complementary access, IAEA inspectors may only use inspection equipment that has been approved and certified for use in the United States. Specific items of inspection equipment may only be used in areas where it can be operated safely and in accordance with U.S. implementation guidance and with the security procedures provided by the lead agency responsible for U.S.-IAEA AP implementation at the location where the access is requested. The United States will also apply managed access procedures.

MANAGED ACCESS

Reflecting the United States' status as an NWS, the managed access provisions of Article 7 in the U.S.-IAEA AP specify the rights of the United States to "make arrangements ... to prevent the dissemination of proliferation-sensitive information, to meet safety or physical protection requirements, or to protect proprietary or commercially sensitive information." The United States also has the option of informing the IAEA in advance of the places at a site where managed access may be applied. By contrast, NNWS may request the right to employ managed access procedures under certain circumstances, and such requests are subject to IAEA approval.

As stated in the U.S.-IAEA AP, the purposes for which the United States intends to employ managed access procedures are:

Article 1.c

- To protect activities having direct national security significance, or the locations or information associated with such activities;

Article 7.a

- To prevent the dissemination of proliferation-sensitive information;
- To meet safety or physical protection requirements; and
- To protect proprietary or commercially sensitive information.

Although the United States may invoke the NSE when appropriate to protect locations and information with direct national security significance, the United States prefers to employ managed access procedures and to facilitate the IAEA's ability to conduct on-site inspection activities and/or complementary access when possible.

Security Countermeasures

To determine whether and how DoD equities (facilities, programs, information, and activities) can be adequately protected during on-site inspection activities, DoD may conduct a security vulnerability assessment (SVA). In accordance with the results of the SVA, appropriate and cost-effective security countermeasures can be developed and applied.

The types of security countermeasures the United States intends to employ, as needed, are specified in the U.S.-IAEA subsidiary arrangement on managed access.

Examples of the countermeasures listed in this arrangement include the following:

- Removing sensitive papers from office spaces;
- Shrouding sensitive displays, stores, and equipment;
- Shrouding sensitive pieces of equipment, such as computers or electronic systems;
- Logging off computer systems and turning off data indicating devices;
- Restricting the use of inspection equipment and activities; and
- Allowing only individual inspectors to have access to certain areas of the inspection site (in exceptional cases).

Additional countermeasures, which have successfully been applied at U.S. facilities during on-site inspection activities conducted under other arms control treaties and agreements, also include:

- Planning the inspection route to:
  - minimize opportunities for the inspection team to observe sensitive technologies or information; and to
  - minimize the inspection team's contact with facility personnel who are not actively involved in hosting the inspection; and
- Coordinating the responses of facility personnel who may be asked to answer technical or operational questions posed by the inspectors.

CONCLUSION

Understanding the complementary and managed access provisions contained in the U.S.-IAEA AP, and how the United States plans to implement these provisions, is important for accurately determining your facility's potential vulnerabilities under this agreement. Conducting a security vulnerability assessment may also be a prudent step for identifying and protecting national security, confidential business, and proliferation sensitive information from inadvertent disclosure or compromise during an on-site inspection.

For more information about AP implementation or to request assistance with conducting a security vulnerability assessment, please contact the DTIRP Outreach Program Manager at 1-800-419-2899 or send an email to: dtirpoutreach@dtra.mil.

Additional information and materials on a wide range of arms control treaty and security-related topics are available on the DTIRP Website at: http://dtirp.dtra.mil.

TERMS & ABBREVIATIONS

AP	Additional Protocol
Decommissioned facility	Closed-down facility from which nuclear material has already been removed
DOC	Department of Commerce
DoD	Department of Defense
DOE	Department of Energy
DTIRP	Defense Treaty Inspection Readiness Program
DTRA	Defense Threat Reduction Agency
Dual-use commodities	Material and industrial equipment with non-nuclear industrial applications that would be of significant value if used in a nuclear explosives program or in a nuclear fuel cycle activity
Effective Kilogram	Special unit of measurement used in safeguarding nuclear material; obtained by: a) for plutonium, the weight of plutonium in kilograms; b) for enriched uranium of 1% and greater, multiplying its weight in kilograms by the square of its enrichment; c) for uranium with an enrichment between 0.5 and 1.0%, multiplying its weight in kilograms by 0.0001; and d) for depleted uranium with an enrichment of less than 0.5% and for thorium, multiplying their weights by 0.00005
EIF	Entry into force
Facility	A reactor, critical facility, conversion plant, fuel fabrication plant, reprocessing plant, isotope separation plant, separate storage installation, or any location customarily using more than 1 effective kilogram of nuclear material

HEU	Highly enriched uranium—uranium containing more than 20% of the isotope uranium-235
IAEA	International Atomic Energy Agency
INFCIRC	IAEA Information Circular—the primary means used by the IAEA to publish documents and agreement texts
INFCIRC/140	Nuclear Non-Proliferation Treaty (NPT)
INFCIRC/153	Model Safeguards Agreement
INFCIRC/288	U.S.-IAEA Safeguards Agreement
INFCIRC/288/Add.1	U.S.-IAEA Additional Protocol
INFCIRC/540	Model Additional Protocol
Integrated Safeguards	Refers to both a country's Safeguards Agreement(s) and Additional Protocol(s)
Lead Agency	The U.S. department or agency responsible for providing information or declarations to the IAEA (i.e. DOC, DOE, and the NRC)
Location outside facility	Any installation or location, which is not a facility, where nuclear material is customarily used in amounts of 1 effective kilogram or less
NNWS	Non-nuclear weapon state(s)
NPT	Nuclear Non-Proliferation Treaty
NRC	Nuclear Regulatory Commission
NSE	National security exclusion
Nuclear material	Any source or special fissionable material as defined in Article XX of the IAEA Statute; does not apply to ore or ore residue

NWS	Nuclear weapon state(s)
R&D	Research and development
Site	The area delimited by the United States in the relevant design information for a facility, a closed-down facility, a location (or closed-down location) outside facilities where nuclear material is/was customarily used. It shall also include all installations collocated with the facility or location for the provision or use of essential services, including hot cells for processing irradiated materials not containing nuclear material, installations for the treatment, storage and disposal of waste, and buildings associated with specified items
SVA	Security vulnerability assessment
U.S.-IAEA AP	U.S.-IAEA Additional Protocol

RELATED MATERIALS

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