

# Board of Governors

**GOV/INF/2011/7**

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## Assurance of Supply: IAEA Low Enriched Uranium Bank

### Solicitation for Host State

#### **A. Introduction**

1. On 3 December 2010, the Board of Governors adopted resolution GOV/2010/70 whereby it decided, *inter alia*, to adopt the following Recommended Actions contained in document GOV/2010/67<sup>1</sup>:

(a) establish an IAEA LEU bank as described in document GOV/2010/67;

(b) authorize the Director General to accept voluntary contributions of funds, services and material offered to the Agency for the establishment and operation of an IAEA LEU bank by the Governments of Member States of the Agency, organizations with which the Agency is in relationship under Article XVI.A of its Statute, and non-governmental sources, in accordance with the approval process set out in the Rules Regarding the Acceptance of Voluntary Contributions of Money to the Agency (GC(45)/RES/9), and the Rules to Govern the Acceptance of Gifts of Services, Equipment and Facilities (INFCIRC/370/Rev.2);

(c) approve the Model Supply Agreement (Attachment 1 to GOV/2010/67) as the standard text for Supply Agreements that are to be concluded with Member States for the supply of LEU from the IAEA LEU bank;

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<sup>1</sup> Assurance of Supply: Establishment of an IAEA Low Enriched Uranium (LEU) Bank for the Supply of LEU to Member States, GOV/2010/67 (26 November 2010).

(d) request the Director General to consider proposals from any Member State interested to act as a Host State for the IAEA LEU bank on the basis foreseen in GOV/2010/67 and to negotiate with one or more Member States a draft Host State Agreement, in accordance with the criteria set out in paragraphs 15 and 16 of GOV/2010/67, for approval by the Board;

(e) Authorize the Director General to operate the IAEA LEU bank in accordance with relevant provisions of GOV/2010/67 and subject to the conclusion of the Host State Agreement referred to in paragraph (d) above;

(f) authorize the Director General to conclude and subsequently implement a Supply Agreement with a Member State for the supply of LEU from the IAEA LEU bank when the Director General concludes that the Member State meets the eligibility criteria set out in GOV/2010/67, without the requirement for a case-by-case authorization by the Board, but with the requirement for the Director General to keep the Board informed of the progress of individual Agreements; and

(g) request the Director General to keep the Board informed on the detailed financial and administrative plan for the on-going operation of the LEU bank to ensure its effective management and sustainability.

2. With regard to the establishment and operation of the IAEA LEU bank, GOV/2010/67 (paragraphs 15 and 16) states that:

*“15. The Agency shall be the owner of the LEU in the IAEA LEU bank and the LEU shall be under its control and in its formal legal possession. The Agency shall be responsible for storing and protecting materials in its possession by ensuring, through any Host State Agreement, that the LEU is safeguarded against natural and other hazards, unauthorized removal or diversion, damage or destruction, including sabotage, and forcible seizure. In addition, the Agency through any Host State Agreement shall ensure the application of IAEA safeguards to the LEU in the IAEA LEU bank, as well as the application of the safety standards and measures, and the physical protection measures by the Host State or States. The IAEA LEU bank shall be located in one or more Member States that is prepared to act as a Host State. For effective operation of the LEU bank, it would be preferable for the Host State or States to have a developed nuclear infrastructure.*

*16. The Agency, with Board approval, shall conclude with any Host State a Host State Agreement, similar to the present IAEA Headquarters Agreement, that shall provide for the safety and security and appropriate liability coverage of the storage facility and shall afford those privileges and immunities to the Agency that are necessary for the independent operation of the IAEA LEU bank, including the right to transport LEU to and from the IAEA LEU bank as determined by the Agency in accordance with the Statute and the Host State(s) agreement. In addition, if necessary, guaranteed transit arrangements shall be concluded with States neighbouring the Host State.”*

3. With regard to the funding of the IAEA LEU bank, GOV/2010/67 (paragraph 14), inter alia, states that:

*“The costs of all requirements associated with the operation of the [IAEA LEU] bank shall be covered exclusively either by the pledged contributions [...] or by additional voluntary contributions of funds and services accepted by the Director General [...].”*

4. The present document outlines the requirements identified by the Secretariat for the selection of a Host State with a suitable site to locate an IAEA LEU bank. It also includes guidance for the provision of information for the submission by interested Member States of “Expressions of Interest” to serve as a Host State. Member States interested in offering to host the IAEA LEU bank are invited to communicate to the Secretariat the relevant capabilities and characteristics in the areas listed below. The Secretariat intends to assess the information submitted, inter alia, through reviews and on-site missions, as required, prior to the negotiation of any Host State Agreement.

## **B. Technical Requirements (Infrastructure and Site Characteristics)**

5. As specified in GOV/2010/67 (paragraph 11), an IAEA LEU bank shall be a physical stock of LEU of standard commercial specification, with U-235 at enrichment levels ranging up to 4.95%.<sup>2</sup> As specified in GOV/2010/67 (paragraph 15), an IAEA LEU Bank preferably would be located in a Host State or States with a developed nuclear infrastructure. The Secretariat expects that such infrastructure includes the capability to handle enriched uranium hexafluoride (UF<sub>6</sub>), as described below.

6. As also specified in GOV/2010/67 (paragraph 15), the IAEA shall be the owner of the LEU in the IAEA LEU bank and the LEU shall be under its control and in its formal legal possession. The IAEA shall through a Host State Agreement, inter alia, ensure that the LEU is safeguarded against natural and other hazards, unauthorized removal, and damage or destruction.

7. Technical requirements for the site for the proposed IAEA LEU bank are set out below.

### **B.1.1. Nuclear Licensed Site with Existing UF<sub>6</sub> Operations**

8. It is envisaged by the Secretariat that the proposed IAEA LEU bank shall comprise a segregated structure<sup>3</sup> suitable for the long term storage of sixty 30B cylinders filled with enriched UF<sub>6</sub> and associated handling and transportation equipment.<sup>4</sup>

9. The proposed IAEA LEU bank shall be located on a licensed nuclear site with industrial scale operations, and fully operational infrastructure, for the handling, storage, transportation and processing of UF<sub>6</sub>, including cylinder management equipment, safety and security systems, and emergency response plans for leaks, fires and other emergencies. The proposed site shall have human resources with experience in handling enriched UF<sub>6</sub>.

10. The proposed LEU bank site shall have all required services available,<sup>5</sup> including utilities such as water and electricity as well as local road or rail transportation infrastructure suitable for movement of fully loaded UF<sub>6</sub> cylinders to the proposed point of export from the territory of the Host State.

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<sup>2</sup> The IAEA LEU shall have an enrichment range of 2% – 4.95% corresponding to the requirements of the latest ASTM C-996 standard specification for UF<sub>6</sub>.

<sup>3</sup> For example, this may be an engineered concrete or steel framed structure, with insulated wall and roof panels, covering an area of approximately 2 000 square metres, including UF<sub>6</sub> cylinder handling equipment, an overhead crane with a lifting capacity of at least 15 tons, and a large capacity fork lift.

<sup>4</sup> This would comprise a standard tractor with trailer, 20 industry standard flat racks each with a capacity for 4 full 30B cylinders loaded in UX-30 over packs.

11. The proposed site is envisaged to have a low probability of seismic activity and of extreme weather events such as floods, cyclones or tornadoes.

12. The operator of the proposed site is expected to be willing and able to monitor the IAEA LEU inventory and provide reports to the IAEA on a frequency agreed with the IAEA, and shall confirm the acceptance of nuclear material accountancy and control measures, as well as audits, of the IAEA LEU inventory, and accord unencumbered access to IAEA inspectors and staff at the request of the IAEA. It is envisaged that the site operator shall be responsible for all necessary safety and security measures and arrangements, as agreed with the IAEA.<sup>6</sup>

### **B.1.2. Nuclear Safety and Nuclear Security**

13. It is envisaged by the Secretariat that the Host State shall have in place an adequate nuclear regulatory and legal framework that provides for nuclear safety and nuclear security measures.

14. It is also envisaged that the proposed site shall meet the requirements specified in the relevant IAEA Safety Standards, as well as other relevant international nuclear safety instruments, as advised by the Secretariat.<sup>7</sup>

15. For nuclear security, the Host State shall have in force domestic legislation covering physical protection requirements for nuclear material in use, storage and transit, comparable with those specified in the “Convention on the Physical Protection of Nuclear Material (INFCIRC/274, Rev.1) and the Amendment” thereto (GOV/INF/2005/10-GC(49)INF/6), as well as other relevant international nuclear security instruments as advised by the Secretariat.<sup>8</sup>

16. The Host State and the operator of the proposed site shall accept remote and local electronic monitoring by the IAEA of the IAEA LEU bank and of the LEU cylinders stored therein using a monitoring system to be selected by the IAEA, and shall facilitate the installation, operation and maintenance by the IAEA or its agents of the monitoring system.

17. The proposed site shall have adequate emergency preparedness equipment and systems, and decontamination equipment stored on site, including protective suits, hand-held detectors and radiation monitors.<sup>9</sup>

18. Upon the request of the IAEA, the Host State should commit to accept IAEA safety and security review missions to the proposed LEU bank site. These missions should include inter alia: the International Physical Protection Advisory Service (IPPAS); the Integrated Regulatory Review Service (IRRS); the Safety Evaluation for Fuel Cycle Facilities (SEDO); the Integrated Safety Review (ISR); and the Safety Culture Assessment Review Team (SCART).

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<sup>5</sup> Including reliable continuous telephone and Internet communications.

<sup>6</sup> The details of incident and emergency preparedness and response plans and responsibilities shall be agreed in supplemental technical agreements between the IAEA, the Host State and the site operator.

<sup>7</sup> The relevant international instruments related to nuclear safety are listed in the Nuclear Safety Review for the Year 2010 (GOV/2011/4), as submitted to the Board of Governors and to be submitted to the General Conference.

<sup>8</sup> The relevant international instruments related to nuclear security are listed in the Nuclear Security Report 2010: Measures to Protect Against Nuclear Terrorism, as submitted to the Board of Governors and the General Conference (GOV/2010/42-GC(54)/9).

<sup>9</sup> The details of emergency preparedness and response plans and arrangements, including the allocation of responsibilities shall be agreed in supplemental technical agreements between the IAEA, the Host State and the site operator as appropriate.

### **B.1.3. Safeguards**

19. In accordance with GOV/2010/67 (paragraph 15), the IAEA LEU shall be subject to the IAEA safeguards. The IAEA shall through a Host State Agreement ensure that appropriate measures are applied for safeguarding the IAEA LEU.

### **B.1.4. Industrial Safety**

20. It is envisaged by the Secretariat that other industrial operations at or near the proposed IAEA LEU bank site shall meet international norms for industrial safety, and the reporting chains and responsibilities for the management of those operations, and any potential interactions with the proposed IAEA LEU bank site shall be clearly defined.

### **B.1.5. Environment**

21. It is also envisaged that an environmental impact assessment for the proposed site has been conducted by the site operator, or will be conducted in connection with the submission of an Expression of Interest to host the IAEA LEU bank (see below). Such an environmental impact assessment shall also cover the handling and storage of enriched UF<sub>6</sub> stored in the IAEA LEU bank.

### **B.1.6. Minimization of IAEA Costs for Site Construction / Modification, Operation**

22. The cost and timescales of establishing the IAEA LEU bank as a segregated IAEA storage area shall be important considerations for site selection. The Secretariat expects that proposals to host the IAEA LEU bank shall seek to minimize the costs to the IAEA for the construction or upgrading of the LEU storage area, and for operations and audit costs. In this regard, the relevant factors, inter alia, shall be the availability, condition and environmental integrity of existing buildings that meet appropriate seismic and regulatory standards which, if needed, can be upgraded for the IAEA LEU bank; local UF<sub>6</sub> loading and transportation hardware and infrastructure and the availability of UF<sub>6</sub> support facilities such as cylinder decanting and pressure testing capabilities; the capability of the site systems for radiation and chemical monitoring and protection; and the cost of safeguards arrangements.

### **B.1.7. Voluntary Contributions and Cost Sharing**

23. As noted above, GOV/2010/67 (paragraph 14), inter alia, stated that the costs of all requirements associated with the operation of the IAEA LEU bank shall be covered exclusively either by the pledged contributions or by additional voluntary contributions of funds and services accepted by the Director General. In this regard, as part of the Expressions of Interest, Member States are encouraged to consider providing to the IAEA, offers of in-kind and financial contributions towards the cost of setup or operation of the IAEA LEU bank. A Host State may wish to facilitate the establishment and continuing operation of the IAEA LEU bank by voluntarily contributing, inter alia, funds, infrastructure, natural uranium, conversion and/or enrichment services, enriched uranium product (with an enrichment range of 2% – 4.95%) corresponding to the requirements of the latest ASTM C-996 standard specification for UF<sub>6</sub>, handling and transportation services and equipment, nuclear safety and security services, and insurance premiums or other form of financial security for potential liability for nuclear damage. A Host State may wish to offer cost sharing arrangements for items such as, the safety and security review missions, and the IAEA LEU bank management and operations. A Host State could also consider such voluntary contributions in partnership with other Member States.

## C. Legal Arrangements

24. In accordance with GOV/2010/67 (paragraph 16), a Host State Agreement shall be concluded similar to the present IAEA Headquarters Agreement,<sup>10</sup> that shall provide for the safety and security and appropriate liability coverage of the IAEA LEU bank and shall afford those privileges and immunities to the IAEA that are necessary for the independent operation of the IAEA LEU bank, including the right to transport LEU to and from the IAEA LEU bank as determined by the IAEA in accordance with the Statute and the Host State Agreement. The IAEA and the Host State Government may also enter into supplemental or technical agreements and arrangements as may be necessary. A Host State Agreement shall require approval by the Board of Governors prior to signature. The elements of a proposed Host State Agreement are briefly summarized in Annex I of this document.

## D. Expressions of Interest

25. Member States interested in hosting the IAEA LEU bank are invited to submit Expressions of Interest, along with any pledges of voluntary contributions of funds, nuclear material and/or related services as appropriate by the due date and in the manner specified in Annex II below.

26. The information in Annexes I and II provides the official basis for the formulation of Expressions of Interest by interested Member States.

27. The IAEA shall treat all submissions of Expressions of Interest in accordance with its policy on the security of information and other established procedures.

28. The Secretariat shall assess all Expressions of Interest that are submitted by the due date on the basis of a technical valuation involving the participation of Agency staff and relevant expertise drawn from the nuclear industry. Information on the selection of the Host State is expected to be provided to Member States by the Secretariat in fall 2011.

## E. Due Date and Format for Submitting Expressions of Interest

29. Member States interested in offering a site for hosting the IAEA LEU bank are requested to submit their Expressions of Interest (see Annex II) in writing in the English language formulated on the basis of the information and requirements contained in this document, to the Secretariat no later than **29 July 2011**. All such Expressions of Interest should be provided in electronic format (MS Word or Adobe Acrobat PDF). The mailing address to which all documentation should be sent, through the Permanent Missions of Member States to the IAEA, is as follows: Expressions of Interest, Office of the Deputy Director General, Department of Nuclear Energy, International Atomic Energy Agency, Vienna International Centre, Vienna, A-1400, Austria.

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<sup>10</sup> INFCIRC/15/Rev.1.

## **Annex I**

### **Elements of a Proposed Host State Agreement**

#### **IAEA LEU Bank**

1. Description of physical aspects of the IAEA LEU bank including its location and some of the technical features of the IAEA LEU bank.
2. Recognition that the IAEA shall be the owner of the LEU in the IAEA LEU bank and the LEU shall be under its control and in its formal legal possession.
3. Provision that the LEU in the IAEA LEU bank shall not be removed from the storage facility, nor shall the IAEA LEU bank be removed from the territory of the Host State, unless the IAEA should so decide.
4. Provision that the appropriate Host State authorities shall take whatever action may be necessary to ensure that the IAEA shall not be dispossessed of all or any part of the storage facility in which the IAEA LEU is held or of all or any part of the IAEA LEU without the express consent of the IAEA.
5. Provision that the Host State shall not place any limitation or restriction on the import into or the export from the territory of the Host State or, without the express consent of the IAEA, on the movement of the IAEA LEU within the territory of the Host State.

#### **Juridical Personality**

6. Recognition by the Host State of the juridical personality of the IAEA and, in particular, its capacity: (a) to contract; (b) to acquire and dispose of movable and immovable property; and (c) to institute legal proceedings.

#### **Extraterritoriality and Inviolability of the IAEA LEU Bank**

7. Recognition of the principles of extraterritoriality and inviolability of the IAEA LEU bank, which shall be under the control and authority of the IAEA.

#### **Financial Facilities and Freedom from Taxation**

8. Provision that the IAEA may freely purchase currencies, operate accounts, transfer funds, etc.
9. Provision that the IAEA and its property shall be exempt from all forms of taxation, including customs duties and prohibitions and restrictions on imports and exports related to the IAEA LEU bank.

#### **Officials of the IAEA, Transit and Sojourn, and Laissez Passer**

10. Provision that the officials of the IAEA (and other identified categories of persons) shall enjoy within and with respect to the Host State, privileges and immunities including: immunity from legal process of any kind in respect of words spoken or written, and of acts performed by them in their official capacity; immunity from personal arrest or detention; immunity from seizure of their personal and official baggage; and inviolability of all papers, documents and other official materials.
11. Provision that the Host State shall take all necessary measures to facilitate the entry into and sojourn in the Host State territory and shall place no impediment in the way of departure from the Host

State territory of IAEA officials (and other identified categories of persons), and shall ensure that no impediment is placed in the way of their transit to or from the IAEA LEU bank and shall afford any necessary protection in transit.

12. Provision that the Host State shall recognize and accept as a valid travel document the United Nations laissez passer issued to officials of the IAEA, to officials of the United Nations and to officials of other organizations.

### **Protection of the IAEA LEU Bank**

13. Provision that the appropriate Host State authorities shall exercise due diligence to ensure that the tranquillity of the IAEA LEU bank is not disturbed by any person or group of persons attempting unauthorized entry into or creating disturbances in the immediate vicinity of the IAEA LEU bank, and shall provide on the boundaries and in the vicinity of the IAEA LEU bank such physical protection as may be required for this purpose.

### **Nuclear Safety and Nuclear Security (Physical Protection)**

14. Provision that the IAEA's safety standards and physical protection measures shall apply to the IAEA LEU bank and the IAEA LEU. In particular, it should provide that the applicable safety standards and measures to be followed for the transport, handling and storage of the IAEA LEU shall as a minimum be those defined in IAEA document INFCIRC/18/Rev.1, as revised from time to time.

15. Provision that adequate physical protection measures shall be maintained with respect to the IAEA LEU bank and IAEA LEU. These measures shall as a minimum provide protection comparable to that set forth in IAEA document entitled "The Physical Protection of Nuclear Material and Nuclear Facilities" (INFCIRC/225/Rev.4, as revised from time to time).

### **Safeguards**

16. Provision that the IAEA will ensure that appropriate measures are applied for safeguarding the IAEA LEU.

### **Incidents and Liability for Nuclear Damage**

17. Provisions that in case of incidents originating in the IAEA LEU bank, the site operator shall promptly inform and as appropriate request assistance from the competent Host State authorities, which shall be given immediately, and that the IAEA shall be kept fully informed on a timely basis. Also, that the IAEA shall render all necessary assistance to the competent Host State authorities in the exercise of their functions under this paragraph. The details of emergency preparedness and response plans, and arrangements, including the allocation of responsibilities of the IAEA, the Host State and the site operator, shall be agreed in supplemental technical agreements between the IAEA, the Host State and the site operator, as appropriate.

18. Provisions that the Host State shall immediately notify the IAEA of incidents (whether radiation or otherwise) affecting or likely to affect the IAEA LEU bank and whether on-site or off-site which are or could adversely affect the safety and security of the IAEA LEU bank, including all incidents reportable under the International Nuclear and Radiological Event Scale (INES).

19. Provisions concerning liability for nuclear damage.

### **Supplemental Agreements and Settlement of Disputes**

20. Provision that the IAEA and the Host State may enter into such supplemental agreements as may be necessary.



21. Provision for the settlement of disputes.

### **Operation of the Agreement**

22. Provisions for the entry into force of the Agreement, its amendment (modification) and termination. In this respect, the Agreement shall provide that it shall remain in force until terminated by the mutual consent of the IAEA and the Host State Government.<sup>11</sup> Notwithstanding the aforementioned, the Agreement shall cease to be in force if the IAEA LEU bank is removed from the territory of the Host State by the IAEA, except for such provisions as may be applicable in connection with the orderly termination of the functioning of the IAEA LEU bank.

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<sup>11</sup> An initial period of 10 years in force is envisaged for the Host State Agreement.

## **Annex II**

### **Information for Expressions of Interest to Provide a Host Site for the IAEA LEU Bank**

1. The following information is for use by Member States in preparing Expressions of Interest for hosting the IAEA LEU bank.<sup>12</sup>

#### **Site Identification**

2. Identification of the proposed site by location (town/city/region/country) – attach coordinates, map, unaltered digital images and supporting documentation, including a detailed site plan and information on surroundings. Information on the site, including facility ownership and licences, shall be provided.

#### **Technical Requirements (Infrastructure and Site Characteristics)**

3. Information and documentation related to available nuclear infrastructure and technical requirements for nuclear safety, nuclear security and safeguards as outlined in paragraphs 5–22 of this document.

#### **Legal Arrangements**

4. Information and documentation related to the legal instruments in force in the State relating to the nuclear infrastructure and indication of the willingness of the State to accept the legal arrangements as outlined in paragraph 24 and in this Annex.

#### **Voluntary Contributions**

5. Offers of voluntary contributions of funds and/or services as indicated in paragraph 23 of this document.

#### **Additional Information**

6. Any additional relevant information and documentation on the proposed site and Expression of Interest.

#### **Submission Deadline**

7. All Expressions of Interest must be received by the Office of the Deputy Director General, Department of Nuclear Energy, no later than 17:00 hours Vienna time on Friday, **29 July 2011**, in the form described in Section E (paragraph 29) above. Late submissions cannot be accepted.

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<sup>12</sup> As noted in paragraph 4 above, the Secretariat intends to assess the information submitted, inter alia, through reviews and on-site missions, as required, prior to the negotiation of any Host State Agreement.