

# Board of Governors

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## Implementation of the NPT Safeguards Agreement and Relevant Provisions of Security Council Resolution 1737 (2006) in the Islamic Republic of Iran

*Report by the Director General*

1. On 14 November 2006, the Director General reported on the implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran (Iran) (GOV/2006/64).
2. On 23 December 2006, the United Nations Security Council adopted resolution 1737 (2006), in which the Council, inter alia:
  - affirmed that Iran shall without further delay take the steps required by the Board of Governors in resolution GOV/2006/14, which are essential to build confidence in the exclusively peaceful purpose of its nuclear programme and to resolve outstanding questions (operative para. 1);
  - decided that Iran shall without further delay suspend the following proliferation sensitive nuclear activities:
    - all enrichment related and reprocessing activities, including research and development, to be verified by the Agency; and
    - work on all heavy water related projects, including the construction of a research reactor moderated by heavy water, also to be verified by the Agency (operative para. 2);
  - decided that Iran shall provide such access and cooperation as the Agency requests to be able to verify the suspension outlined above and to resolve all outstanding issues, as identified in Agency reports, and called upon Iran to ratify promptly the Additional Protocol (operative para. 8);
  - requested within 60 days a report from the Director General on whether Iran has established full and sustained suspension of all activities mentioned in the resolution, as well as on the

process of Iranian compliance with all the steps required by the Board of Governors and with the other provisions of the resolution, to the Board and in parallel to the Security Council for its consideration (operative para. 23).

3. This report, which is being submitted to the Board, and in parallel to the Security Council, covers developments since the Director General's report of 14 November 2006.

## **A. Enrichment Related Activities**

4. Since 14 November 2006, Iran has continued to operate single machines, as well as the 10-, 24- and 164-machine cascades, at the Pilot Fuel Enrichment Plant (PFEP), and to feed UF<sub>6</sub> intermittently into these machines. Between 2 November 2006 and 17 February 2007, a total of approximately 66 kg of UF<sub>6</sub> was declared by Iran as having been fed into the process and enriched to levels below 5% U-235. The environmental sample results thus far indicate a maximum enrichment of 4.2% U-235 in the first 164-machine cascade (GOV/2006/64, para. 4).

5. The Agency has completed its evaluation of the physical inventory verification (PIV) of nuclear material at PFEP carried out between 16 and 18 September 2006 (GOV/2006/64, para. 3), and has concluded that the inventory of nuclear material, as declared by Iran, was consistent with the results of the PIV.

6. On 18 December 2006, Iran provided Agency inspectors access to operating records concerning the product and tails assay at PFEP (GOV/2006/64, para. 4). During meetings held in Iran between 15 and 18 January 2007, the Agency sought additional clarification from Iran on the information provided by it, which clarification is still pending.

7. During the meetings in Iran in January 2007, Iran informed the Agency of its plan to start feeding UF<sub>6</sub> into the cascades installed at the Fuel Enrichment Plant (FEP) by the end of February 2007, to continue progressively with the installation of the 18 cascades of the 3000-machine hall and to bring them gradually into operation by May 2007. The Agency recalled the safeguards measures that needed to be implemented at FEP (GOV/2006/53, para. 6), and reiterated that such measures needed to be in place prior to the introduction of nuclear material into the facility. The Agency also again raised with Iran the need for remote monitoring at FEP and PFEP as one of those required measures.

8. In a letter dated 23 January 2007, Iran declined to agree at this stage on the use of remote monitoring, and requested the Agency to provide a detailed legal basis for the implementation of remote monitoring, as well as examples of where such measures were already being implemented in sensitive facilities in other States. The Agency provided clarifications to Iran in a letter dated 9 February 2007 and is awaiting Iran's response. In the meantime, the Agency agreed to interim verification arrangements at FEP, involving frequent inspector access but not remote monitoring, provided that these arrangements were in place before Iran started feeding UF<sub>6</sub> into the cascades. Iran was informed that these arrangements (which are now in place) would be valid only for as long as the number of machines installed at FEP did not exceed 500, and that, once that number was exceeded, all required safeguards measures would need to be implemented.

9. During the design information verification (DIV) carried out at FEP on 17 February 2007, Agency inspectors were informed that two 164-machine cascades had been installed and were operating under vacuum and that another two 164-machine cascades were in the final stages of installation. In light of this, in a letter dated 19 February 2007, the Agency requested that arrangements be made for the relocation of cameras into the cascade hall during the Agency's next visit to FEP, which is scheduled to take place between 3 and 5 March 2007. The issue of remote monitoring remains to be resolved.

10. During January and February 2007, the Agency collected baseline environmental samples, and began the installation of containment and surveillance measures, at FEP. On 31 January 2007, Iran transferred approximately 8.7 t of natural UF<sub>6</sub> in a container from the Uranium Conversion Facility (UCF) to FEP and connected the container to the feed autoclave, which is under Agency seal. As of 17 February 2007, no UF<sub>6</sub> had been fed into the process at FEP.

11. The Agency has no information to report regarding the assembly of centrifuges, or the manufacture of centrifuge components or associated equipment in Iran. However, Iran is pre-treating rotors for FEP at PFEP.

## **B. Reprocessing Activities**

12. The Agency has been monitoring the use of hot cells at the Tehran Research Reactor (TRR) and at the Molybdenum, Iodine and Xenon Radioisotope Production Facility, and the construction of hot cells at the Iran Nuclear Research Reactor (IR-40) at Arak, through inspections, DIV and analysis of satellite imagery. There are no indications of ongoing reprocessing activities at those facilities, or at any other declared facilities in Iran.

## **C. Heavy Water Related Projects**

13. On 29 January 2007, the Agency carried out a DIV at the IR-40 Reactor, where, it was noted, civil construction is ongoing. Satellite imagery indicates that the operation of the Heavy Water Production Plant is also continuing.

## **D. Outstanding Issues**

14. On 15 February 2007, the Agency wrote to Iran inquiring whether it intended to take any action to resolve the outstanding issues, to suspend the activities identified in Security Council resolution 1737 (2006), and to ratify the Additional Protocol. In its reply dated 19 February 2007, Iran reiterated its “full readiness and willingness to negotiate on the modality for the resolution of the outstanding issues with the IAEA, subject to the assurances for dealing with the issues in the framework of the Agency, without the interference of the United Nations Security Council”.

### **D.1. Enrichment Programme**

#### **D.1.1. Contamination**

15. The issue of the source(s) of low enriched uranium (LEU) and high enriched uranium (HEU) particles found at locations where Iran has declared that centrifuge components had been manufactured, used and/or stored remains unresolved (GOV/2006/53, para. 11). Particle contamination similar to that in Iran was also detected in samples taken from centrifuge equipment and components found in the Libyan Arab Jamahiriya which are said to have originated from the same country. The Agency has received additional information from the country from which the components originated. This information, however, does not fully explain the presence of some of the LEU and HEU particles. While this information has been helpful, existing measurement and evaluation methodologies do not permit a clear determination of the origin of the HEU or LEU contamination on the basis of the information currently available to the Agency from Iran and elsewhere. Therefore, verification of the correctness and completeness of Iran's declarations in this regard can progress only with a full understanding of the scope and chronology of Iran's centrifuge enrichment programme, which can only be achieved through the implementation by Iran of the Additional Protocol and required transparency measures.

16. In a letter dated 30 November 2006, Iran agreed to permit the Agency to re-sample equipment at the technical university in Tehran where a small number of natural uranium (NU) and HEU particles were found on samples collected in January 2006 (GOV/2006/53, para. 24). The re-sampling was carried out on 22 December 2006, the results of which showed NU and LEU particle contamination. The Agency is awaiting clarification by Iran with regard to the origin of the uranium particle contamination found in the January and December 2006 samples.

17. Iran has not yet responded to the Agency's long outstanding requests for clarification concerning, and access to carry out further environmental sampling of, other equipment and materials related to the Physics Research Centre (PHRC); nor has Iran agreed to permit the Agency to interview another former Head of the PHRC.

### **D.1.2. Acquisition of P-1 and P-2 Centrifuge Technology**

18. Iran has not made available to the Agency any new information concerning its P-1 or P-2 centrifuge programmes (GOV/2006/53, paras 12–13).

## **D.2. Uranium Metal**

19. Iran has still not provided a copy of the 15-page document describing the procedures for the reduction of UF<sub>6</sub> to uranium metal and the casting and machining of enriched and depleted uranium metal into hemispheres (GOV/2006/53, para. 14). The document remains under Agency seal, however, and is accessible to Agency inspectors.

## **D.3. Plutonium Experiments**

20. The Agency has continued to seek clarification from Iran about its plutonium separation experiments (GOV/2006/53, paras 15–17). During a meeting on 17 January 2007, the Agency reminded Iran of the outstanding inconsistencies relating to the plutonium experiments and indicated that, unless additional information was provided by Iran, this issue could not be resolved satisfactorily. Iran stated that no other relevant information was available. Verification of the completeness and correctness of Iran's declarations in this regard can progress only through the implementation of the Additional Protocol and required transparency measures.

21. During the 17 January 2007 meeting, the Agency also discussed the presence of HEU particles found as a result of the analysis of environmental samples taken from the spent fuel containers at the Karaj Waste Storage Facility (GOV/2006/53, para. 17), as well as the additional analytical results, communicated to Iran in a letter dated 12 January 2007, from environmental samples collected from similar spent fuel containers located at the Tehran Nuclear Research Centre (TNRC). Iran reiterated its position that the HEU contamination found in the containers located at Karaj originated from leaking reactor fuel assemblies taken from TRR. Following receipt from Iran of a letter dated 28 January 2007, in which Iran reconfirmed its position with respect to the source of HEU contamination, the Agency again requested, in a letter dated 9 February 2007, detailed information and supporting documentation with respect to the reactor fuel assemblies.

## **E. Other Implementation Issues**

### **E.1. Uranium Conversion**

22. During the conversion campaign at UCF, which was started in June 2006, a total of 110 t of uranium in the form of uranium ore concentrate was fed into the process. The operator is scheduled to carry out an annual physical inventory in February 2007, which will be verified by the Agency in

March 2007. As of the end of January 2007, approximately 175 t of uranium in the form of UF<sub>6</sub> had been produced since the commissioning of UCF. All UF<sub>6</sub> produced remains under Agency containment and surveillance measures.

## **E.2. Designation of Inspectors**

23. On 17 January 2007, the Agency received from Iran a letter informing the Agency that Iran was not in a position to approve the designation of 10 inspectors proposed as replacements for inspectors who had left the Agency and objecting to the continued designation of an additional 38 inspectors previously designated for Iran. In a Note Verbale dated 23 January 2007, the Agency expressed its regret over Iran's decision and requested Iran to reconsider it. The Agency informed Iran that its decision would lead to diminished operational flexibility and less efficient use of resources. The Agency has received no reply from Iran in this regard.

## **E.3. Other Matters**

24. There are no new developments to report with respect to Iran's uranium mining activities or its experiments involving polonium (GOV/2005/67, paras 26–31 and 34).

## **F. Transparency Measures**

25. Iran has not agreed to any of the required transparency measures, which are essential for the clarification of certain aspects of the scope and nature of its nuclear programme. In addition to the measures mentioned above, these include discussions about information provided to the Agency concerning alleged studies related to the so-called Green Salt Project concerning the conversion of uranium dioxide into UF<sub>4</sub> (known as "green salt"), to high explosives testing and to the design of a missile re-entry vehicle (GOV/2006/64, para. 19).

## **G. Summary**

26. Pursuant to its NPT Safeguards Agreement, Iran has been providing the Agency with access to declared nuclear material and facilities, and has provided the required nuclear material accountancy reports in connection with such material and facilities.

27. The Agency is able to verify the non-diversion of declared nuclear material in Iran. The Agency remains unable, however, to make further progress in its efforts to verify fully the past development of Iran's nuclear programme and certain aspects relevant to its scope and nature. Hence, the Agency is unable to verify the absence of undeclared nuclear material and activities in Iran unless Iran addresses the long outstanding verification issues through the implementation of the Additional Protocol (which it signed on 18 December 2003, but has not yet brought into force) and the required transparency measures.

28. Iran has not suspended its enrichment related activities. Iran has continued with the operation of PFEP. It has also continued with the construction of FEP, including the installation of cascades, and has transferred UF<sub>6</sub> to FEP. Iran has also continued with its heavy water related projects. Construction of the IR-40 Reactor, and operation of the Heavy Water Production Plant, are continuing. In contrast, there has been no indication of reprocessing related activities at any declared sites in Iran.

29. As underscored by the Director General at the meeting of the Board of Governors in November 2006 (GOV/OR. 1174, paras 86–94), given the existence in Iran of activities undeclared to the Agency for 20 years, it is necessary for Iran to enable the Agency, through maximum cooperation and transparency, to fully reconstruct the history of Iran's nuclear programme. Without such

cooperation and transparency, the Agency will not be able to provide assurances about the absence of undeclared nuclear material and activities in Iran or about the exclusively peaceful nature of that programme.

30. The Director General will continue to report as appropriate.