

# Board of Governors

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(GOV/2006/50)

## Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran

*Report by the Director General*

1. On 8 June 2006, the Director General reported on the implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran (Iran) (GOV/2006/38). This report covers developments since that date.
2. On 31 July 2006, the United Nations Security Council adopted resolution 1696 (2006), which, inter alia,
  - called upon Iran without further delay to take the steps required by the Board of Governors in its resolution GOV/2006/14, which are essential to build confidence in the exclusively peaceful purpose of its nuclear programme and to resolve outstanding questions;
  - demanded, in this context, that Iran shall suspend all enrichment-related and reprocessing activities, including research and development, to be verified by the Agency;
  - underlined the necessity of the Agency continuing its work to clarify all outstanding issues relating to Iran's nuclear programme;
  - called upon Iran to act in accordance with the provisions of the Additional Protocol and to implement without delay all transparency measures as the Agency may request in support of its ongoing investigations; and
  - requested by 31 August a report from the Director General primarily on whether Iran has established full and sustained suspension of all activities mentioned in this resolution, as well as on the process of Iranian compliance with all the steps required by the Board and with the above provisions of this resolution, to the Board of Governors and in parallel to the Security Council for its consideration.
3. This report is being submitted to the Board and in parallel to the Security Council.

## **A. Suspension of Enrichment Related Activities**

4. Iran has continued the testing of P-1 centrifuges in the Pilot Fuel Enrichment Plant (PFEP). Since 6 June 2006, centrifuges in the single machine test stand and in the 10-machine and 20-machine cascades have been run mostly under vacuum, but with the feeding of UF<sub>6</sub> into single machines of the 20-machine cascade for short periods of time. Between 6 and 8 June 2006, the 164-machine cascade was also tested with UF<sub>6</sub>. Further testing of the 164-machine cascade with UF<sub>6</sub> was carried out between 23 June and 8 July 2006. During these tests, a total of approximately 6 kg of UF<sub>6</sub> was fed into the machines and enriched to various levels of U-235. The feeding of UF<sub>6</sub> into the 164-machine cascade was resumed on 24 August 2006.

5. In June 2006, Iran stated that it had achieved enrichment levels of 5% U-235 in a test run in the 164-machine cascade. Iran provided measurement results from the on-line mass spectrometer to substantiate this statement. The Agency collected environmental samples, the results of which are still pending. Iran has refused the Agency access to operating records concerning product and tail assays which the Agency requires to complete its auditing activities. However, on 30 August 2006, Iran provided the Agency with some information about product assays, which the Agency is currently assessing.

6. The installation of a second 164-machine cascade is proceeding. Iran has informed the Agency that it expects to be able to run the cascade under vacuum in September 2006. In August 2006, the Agency installed additional cameras to monitor this cascade. The Agency has also proposed the implementation of remote monitoring to compensate for the fact that measures normally used for verification at operational enrichment facilities (e.g. limited frequency unannounced access) are not feasible at PFEP. However, Iran continues to decline to discuss the implementation of remote monitoring at PFEP.

7. On 26 July 2006, design information verification (DIV) was carried out at the Fuel Enrichment Plant (FEP) at Natanz, where construction was ongoing. In the course of the inspectors' visit to Iran between 11 and 16 August 2006, Iran declined to provide the Agency with access to carry out DIV at FEP, stating that the frequency of DIV activities was, in its view, too high and that the Agency had performed 3 DIVs there in 2003, 3 DIVs in 2004, 15 DIVs in 2005 and 12 DIVs as of August 2006. Iran also expressed concern about the frequency of DIV at PFEP, the Uranium Conversion Facility (UCF) and the Iran Nuclear Research Reactor (IR-40). The Agency explained that DIV was an ongoing and continuing process, and that it is carried out during all construction, commissioning, operation and subsequent phases of a facility to establish the safeguards measures to be implemented and to ensure that there are no undeclared design features which would permit the diversion of nuclear material. Between December 2003 and February 2006, the Agency, with the consent of Iran, also took advantage of DIV activities to monitor Iran's suspension of enrichment activities. The Agency explained that DIV also enables the Director General to fulfil the reporting requirements set by the Board of Governors and the Security Council. Between 26 and 30 August 2006, Iran allowed the Agency access to carry out DIV at FEP and at the other facilities mentioned above.

## **B. Suspension of Reprocessing Activities**

8. The Agency has been monitoring the use of hot cells at the Tehran Research Reactor and the Molybdenum, Iodine and Xenon Radioisotope Production Facility, and the construction of hot cells at the IR-40, through inspections, DIV and satellite imagery. There are no indications of ongoing reprocessing activities in Iran.

## **C. Heavy Water Research Reactor**

9. On 12 July and 30 August 2006, the Agency carried out DIV at the IR-40 reactor at Arak. Construction of the facility is continuing.

## **D. Outstanding Issues**

10. As indicated in the Director General's report of April 2006 (GOV/2006/27, para. 6), on 27 April 2006, the Agency received from Iran a letter in which it was stated that "Iran is fully prepared to continue granting the Agency's inspection in accordance with the Comprehensive Safeguards provided that the Iran's nuclear dossier will remain, in full, in the framework of the Agency and under its safeguards, the Islamic Republic of Iran is prepared to resolve the remaining outstanding issues reflected in [the Director General's] report GOV/2006/15 of 27 February 2006, in accordance with the international laws and norms. In this regard, Iran will provide a time table within next three weeks." No such timetable has as yet been received.

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

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

11. There has been no further progress on the resolution of the contamination issue (GOV/2006/27, paras 8–9). As mentioned in the Director General's last report (GOV/2006/38, para. 4), given the difficulty of establishing a definitive conclusion in connection with this long outstanding issue, a full understanding of the scope and chronology of Iran's centrifuge enrichment programme, as well as full implementation of the Additional Protocol, are necessary for the Agency to be able to provide credible assurances regarding the absence of undeclared nuclear material and activities in Iran. These are also essential for clarification of the source of the uranium particle contamination found at the technical university, as discussed in paragraph 24 below.

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

12. The Agency has continued its investigation of the outstanding questions related to Iran's P-1 and P-2 centrifuge programmes (GOV/2006/27, paras 10–14). However, Iran has not made any new information available to the Agency.

13. As indicated in the Director General's last report, following public statements made by high level Iranian officials that Iran was conducting research on new types of centrifuges, the Agency wrote to Iran on 24 April 2006 seeking clarification of the scope and content of such research (GOV/2006/38, para. 6). On 16 June 2006, the Agency received from Iran a letter stating, inter alia, that Iran was studying different types of centrifuge machines, and that this was "an ongoing and progressing R&D activity without using nuclear materials."

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

14. The Agency is carrying out investigations on information and documentation which may have been provided to Iran by foreign intermediaries (GOV/2006/27, paras 15–16; GOV/2006/38, para. 7). To understand the full scope of the offers made by the intermediaries to Iran, it is still necessary for the Agency to have 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 (first mentioned in GOV/2005/87, para. 6). Iran continued to decline the Agency's request to have a copy of the document, but had agreed to allow the Agency to review the document, to take notes from it and to keep it under seal in Iran. In the course of a visit to Iran

in mid-August 2006, Agency inspectors continued their examination of the document. However, Iran informed the inspectors that the taking of notes would not be permitted, and the notes which had been taken thus far by the inspectors during that visit had to be destroyed. The document remains under seal in Iran.

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

15. The Agency has continued to seek clarification from Iran about its plutonium separation experiments (GOV/2006/38, paras 8–9). Since the Director General's last report, the Agency has been able to evaluate the explanations provided by Iran in June and examine the copy of the notebook kept by the researcher responsible for the plutonium experiments, and has concluded that they did not provide sufficient clarification of the outstanding issues. In an effort to acquire further information about the irradiation parameters, the Agency also met, on 11 July 2006, with a reactor operator and the researcher, who also did not provide the data necessary to clarify the issues. Iran has stated that no other relevant information is available.

16. In a letter dated 10 August 2006, the Agency informed Iran that, given the information received from Iran to date, the Agency would not be able to resolve the outstanding inconsistencies unless additional information were made available by Iran.

17. The depleted uranium targets which had been irradiated in the course of the plutonium experiments are stored in containers located at the Karaj Waste Storage Facility (GOV/2005/67, para. 24). On 8 August 2005, the Agency took environmental samples from one of those containers. The results from their analysis, recently finalized by the Agency, indicate the presence of high enriched uranium particles. On 15 August 2006, Iran was requested to provide information about the source of the contamination and the past use of the containers.

## **E. Other Implementation Issues**

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

18. Since the Director General's last report to the Board, the Agency has completed its assessment of the results of the physical inventory verification (PIV) of nuclear material at UCF carried out between 20 and 24 May 2006 (GOV/2006/38, para. 11). The Agency concluded that the physical inventory as declared by Iran was consistent with the results of the PIV, within the measurement uncertainties normally associated with similar size conversion plants.

19. In April 2006, the movement of a 48X UF<sub>6</sub> cylinder<sup>1</sup> by the operator into and out of one of the withdrawal stations without prior notification to the Agency resulted in a loss of continuity of knowledge of nuclear material in the process. However, in light of the results of the PIV, the Agency will continue to follow up on this question as a routine part of its verification of the correctness and completeness of Iran's declarations.

20. On 27 June 2006, Iran provided the Agency with the anticipated operational programme for UCF, including details of the new conversion campaign involving approximately 160 tonnes of uranium ore concentrate which was begun on 6 June 2006 and is expected to be completed by January 2007. As of 25 August 2006, approximately 26 tonnes of uranium in the form of UF<sub>6</sub> had been produced during this campaign. All UF<sub>6</sub> produced at UCF remains under Agency containment and surveillance. In a

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<sup>1</sup> A standard 48X cylinder is capable of containing up to 9.5 tonnes of UF<sub>6</sub>.

letter dated 18 July 2006, Iran informed the Agency of its intention to build at UCF a “standby” process line for converting ammonium uranyl carbonate to  $UO_2$ .

## **E.2. Other Matters**

21. On 8 July 2006, DIV was carried out at the Fuel Manufacturing Plant (FMP) at Esfahan. Iran informed the inspectors that full commissioning of the FMP is scheduled for 2007. The civil engineering construction of the facility is approximately 80% completed and equipment is being installed.

22. There are no new developments to report with respect to the other implementation issues referred to in the previous report (GOV/2006/38, para. 14; GOV/2006/27, paras 19 and 20).

23. Between the end of July 2006 and 29 August 2006, Iran declined to provide one-year multiple entry visas to designated Agency inspectors as agreed to by Iran in the Subsidiary Arrangements to its Safeguards Agreement. On 30 August 2006, Iran provided such visas for two inspectors, and on 31 August 2006 informed the Agency that “following the normal administration process the multiple one year visa for remaining designated inspectors will be issued by 10 September 2006”.

## **F. Transparency Measures**

24. Analysis of the environmental samples taken from equipment at a technical university in January 2006, referred to in paragraph 25 of GOV/2006/27, showed a small number of particles of natural and high enriched uranium. This equipment had been shown to the Agency in connection with its investigation into efforts made by the Physics Research Centre (PHRC) to acquire dual use material and equipment (GOV/2006/27, paras 24–25).

25. Iran has not yet responded to the Agency’s requests for clarification concerning, and access to carry out environmental sampling of, other equipment and materials related to the PHRC. Nor has Iran provided the Agency with access to interview the other former Head of the PHRC. As noted in GOV/2006/38, paragraph 17, the clarification and access sought by the Agency have taken on added importance in light of the results of the environmental sampling referred to in the previous paragraph.

26. The Agency has continued to follow up on information concerning studies related to the so-called Green Salt Project, to high explosives testing and to the design of a missile re-entry vehicle (GOV/2006/27, paras 27–29). However, Iran has not expressed any readiness to discuss these topics since the issuance of the Director General’s report in February 2006 (GOV/2006/15, paras 38–39).

## **G. Summary**

27. Iran has been providing the Agency with access to nuclear material and facilities, and has provided the required reports. Although Iran has provided the Agency with some information concerning product assays at PFEP, Iran continues to decline Agency access to certain operating records at PFEP.

28. Iran has not addressed the long outstanding verification issues or provided the necessary transparency to remove uncertainties associated with some of its activities. Iran has not suspended its enrichment related activities; nor has Iran acted in accordance with the provisions of the Additional Protocol.

29. The Agency will continue to pursue its investigation of all remaining outstanding issues relevant to Iran’s nuclear activities. However, the Agency remains unable to make further progress in its efforts to verify the correctness and completeness of Iran’s declarations with a view to confirming the

peaceful nature of Iran's nuclear programme. The Director General will continue to report as appropriate.