

Information Circular

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Communication of 13 June 2004 from the Permanent Mission of the Islamic Republic of Iran concerning the Report of the Director General contained in GOV/2004/34

1. The Secretariat has received a Note Verbale dated 13 June 2004 from the Permanent Mission of the Islamic Republic of Iran, transmitting “*Explanatory Comments by the Islamic Republic of Iran on the Report of the IAEA Director General (GOV/2004/34) to the June 2004 Board of Governors*”.
2. As requested in the Note Verbale, the attachment is reproduced herein for the information of Member States.

Explanatory Comments by the Islamic Republic of Iran on the Report of the IAEA Director General (GOV/2004/34) to the June 2004 Board of Governors

The Islamic Republic of Iran is pleased to note that the Director General's Report provides a clear indication that major and decisive steps have been taken by both IAEA & Iran towards the resolution of outstanding questions since the last meeting of the Board of Governors. The present verification activities going beyond the safeguards agreement (INCIRC/153 type) and the Additional Protocol, represents an important achievement for both Iran and the IAEA.

It needs to be borne in mind that lack of identified or known criteria or timelines, on the basis of which Iran could organize itself for robust inspections, has required Iran to provide information or to grant access primarily after requests were made by the Agency. However, in the spirit of cooperation and as confirmed in the report of the Director General, action has been taken to satisfy the requests of the Agency in the fullest and most speedy manner possible.

Over 670 person-days of inspections have been carried out in Iran since February 2003, amounting to one of the most robust and intrusive verifications in the history of the Agency. In spite of the fact that the complementary access envisaged in Article 4 of the Additional Protocol could legally be granted only after the declarations have been submitted to the Agency, Iran has voluntarily granted 12 complementary accesses even prior to the submission of its declarations, most of which with 2 hour notice or even less.

Careful examination of the information and evidence provided in the next few pages will clearly establish that:

- 1. All contaminations have been caused by foreign imported components. Gradual evolution of Agency's findings with regard to 54% HEU contamination has now confirmed Iran's statement that 54% contamination is from imported components. Further sampling coupled with cooperation by third parties will also confirm Iran's account of the only outstanding contamination issue on the origins of the 36% contamination;**
- 2. The information and explanations provided by Iran on the other major outstanding issue, that is the P2 centrifuge program, have been full and consistent and have not in any case involved changing or contradictory information. The delay in taking of environmental samples should not be attributed to Iran.**
- 3. Iran's account of the laser enrichment program has been correct and consistent.**
- 4. Through full transparency and cooperation by Iran since October 2003 coupled with intensive and robust verification by the Agency, there is now sufficient confirmation to enable the Agency to begin a normal process of verification in accordance with the normal implementation of the Additional Protocol in a technical and not political environment.**

A. Contamination Issue

1- General Remarks

As mentioned by the DG in para 46 of the report, the issue of contamination is a complex matter, which deals with the traces of particles and not nuclear material.

As time passes and the number of environmental samplings increases, one would be in a better position to come to a technically well-justified conclusion. The major difference between the latest conclusions benefiting from analysis of more samples and the earlier conclusions of the Agency based on preliminary analysis of few samples, is a proof of this claim.

We are confident that through additional swipe samples and intensive cooperation by third countries with the IAEA, the remaining key question namely the source of the 36% Uranium-235 particles will be identified and the issue resolved. This is acknowledged by the DG in para 46 of the report: "the Agency has received some information from other states that may be helpful in resolving some contamination questions ..."

2- Review of Agency's Report

The first environmental samples taken at Natanz by the Agency as the baseline showed the presence of Natural, Low Enriched Uranium (LEU) and High Enriched Uranium (HEU) particles.

In its response to the Agency's request for explanations, Iran declared that the source of contaminations are solely from imported contaminated parts received from the intermediaries and that Iran has not been able to enrich uranium by gas centrifuge machines beyond %1.2 U-235.

Yet, reporting and drawing preliminary conclusions by the Agency, which may have been caused partially by the pressure to produce premature conclusions, may be indicative of a serious caveat:

- In the course of the last 9 months and on the basis of preliminary results of analyses of few samples, the Agency drew preliminary conclusions in the last several reports regarding the distribution of contamination of HEU and LEU as well as the linkage of this issue to possible undeclared nuclear material and activities.
- The more careful and thorough investigation and analysis of further additional sampling proved that these early conclusions, which raised undue doubts and concerns, had no technical ground.
- **A clear example is the latest report of analysis of samples dated 15 May 2004, in which the Agency informed that "Generally these findings support the State statement that 54% HEU originates from the imported centrifuge parts."**

Iran has no doubt that the origin of the 36% contamination is also from the imported centrifuge parts. Taking more samples from the parts will once again prove the correctness of Iran's contention. This is particularly the case because we have witnessed a gradual evolution of Agency's views on the locations where 36% contamination has been found. It was originally claimed on 27 October 2003 that such contamination was found only in one room, while in the current report it is clear that that contamination has been located in different locations and on imported components. The cooperation of other states will help expedite the resolution of this issue.

B. R&D Work on P-2 Type Centrifuge

1. General Observations

Following several inspections by the Agency and discussions with the inspectors on centrifuge research and development in general and P-1 national project in particular, the issue of R&D on P-2 has been discussed and requested information was given to the inspectors. The following complementary information based on the records of inspections which the Secretariat is already aware of, are submitted for the consideration of Member States:

- In 1996, during a discussion on the P-1 centrifuge deal, the intermediaries provided a set of general engineering drawings on a design called P-2 in hard copies. The Iranian side was encouraged to make a separate deal if interested in such an advanced model of centrifuges. A new deal was not approved and never pursued by the AEOI due to the following reasons:
 - The AEOI was unsatisfied with the results of the first deal, which provided Iran with some components that were either used or rejected.
 - At that time, Iran had several technical problems to solve and had not yet mastered in P-1 design. It therefore found it too ambitious to embark upon such an advanced type.
- Following an assessment of the national technical and scientific capabilities, the AEOI came to the conclusion that it was not feasible to base the national project on the P-2 model at least until a required level of expertise was reached within the country and mastery is gained in engineering and manufacturing capabilities to produce centrifuges. The lack of detailed manufacturing drawings of P-2 was another reason for the decision. The Agency's expert confirmed that the decision was technically well justified. Therefore, the general engineering drawings stayed dormant until 2002.
- An engineer who had previously worked on P-1 design established a private company after leaving the AEOI and proposed to work on P-2 centrifuges with composite rotors. He thoroughly explained to the inspectors the reasons for his choice of the composite rotors of carbon fiber instead of maraging steel. The experiences of industrial countries substantiate his claim. To this end, the AEOI reached an agreement with him and signed a one-year contract in March 2002 in order for him to deliver one complete centrifuge machine after conduct of rotational test with the maximum achievable rotational speed. The contract did not include gas-feeding test. The contract was terminated due to contractual and financial problems in less than a year.
- The workshop of the above-mentioned private company was inspected and the following additional requests of the Agency inspectors were fulfilled with full cooperation of the AEOI and the private company:
 - His contract as well as the report of his research project submitted to the AEOI were reviewed by the Agency's inspectors in April 2004.
 - The logbook/notebook of his experiments, which he considered as his own intellectual property was thoroughly examined by the Agency inspectors at his workshop.
 - The components produced by him were inspected by the Agency inspectors; a complete list of them was recorded by the inspectors; swipe samples & photos

were taken and finally, as a cooperative gesture by Iran, upon request by the Agency, the components were sealed by inspectors.

- The report of R&D on P-2, presented to inspectors, included technical and experimental information such as the problems faced and progress made (e.g. rotational speed achieved) while the researcher had to report on theoretical principles on the basis of which he had conducted his applied research and been able to fulfill his contractual obligations.
- In addition to the report, the thorough review of his logbook/notebook which contained details of his experiments did give clear picture of the project. Immediately after the inspection, the inspectors confirmed that he is very qualified both in theory and practice. The inspectors never raised what is echoed in Para 37 regarding his report to the AEOI.

2. Review of the Report

2.1. Consistency of Iranian Account of P2 R&D Program

The available evidence and records of the meetings and interviews conducted by the Agency, shown below, clearly indicate that the observation by the Agency in para 22 of the Report indicating the emergence of new and contradictory information about the P2 centrifuge, which has led to the Agency's assessment in para 47 that information about P2 "in some cases continues to involve changing or contradictory information" are without justification and may have been caused by insufficient review of the previously conducted interviews.

- At the meeting with the Agency's inspector on 28 January 2004, the above-mentioned engineer declared that during the term of his contract he was able to make all components of one machine in his workshop *with the exception of the magnet which he purchased from abroad, the composite rotor tube made in another workshop (later visited by the Agency inspectors) and the ball and pivot which were brazed at the AEOI workshop.*
- Therefore, the information in Para 22 of GOV/2004/34 that "it had imported some magnets relevant to P-2 centrifuge from Asian suppliers, and that the composite rotors that had been manufactured in Iran had in fact been fabricated in other workshop" is fully consistent with what the engineer had declared in the initial January meeting and does not amount to new discovery or revelation. By the same token however, the contention in that paragraph that "Iran has now acknowledged that, contrary to these earlier statements" is incorrect and contrary to the record of the January 2004 meeting with the inspectors .
- In the same paragraph the phrase "Iranian authorities had previously stated that Iran had not obtained any P-2 centrifuges or components thereof, from abroad, but had manufactured all component, including composite rotors, in a workshop on the premises of a private company in Tehran" is also incorrect since, for example during the meeting with inspectors in January 2004 as well as in the communication INFCIRC/628, Iran reiterated that it has not received any P-2 component *from the intermediary* (with whom the deal on P-1 design was made). The magnets purchased by the said individual (private company) did not originate from the intermediaries but from the Asian company, which the Agency has already acknowledged in its report.
- The 4000 magnets referred to in the report were never purchased from the European company (labeled by the report as "*European intermediary*" in Para 23). The copy of the Performa invoice was submitted to the inspectors. The total number of magnets received by him is about 100 (low quality not used in his project) and about 50, which were presented to inspectors. This information removes the ambiguities raised in Paragraphs 23 & 24.

- The phrase "...the number of centrifuge assembled and tested " in Para 37 is an indication of lack of due attention to the content of his contract and his explanation, where the inspectors were informed that according to his contract with the AEOI, he was expected to assemble and test (without nuclear material) only ONE centrifuge machine.
- **As the result of further intensive discussion with the engineer on 30 May 2004, the Agency's inspectors confirmed their conclusion during the wrap up meeting with Iranian officials on 2 June 2004 that Iranian statements on P2 R&D are consistent with their findings. Therefore, they not only did not have doubts as indicated in para 26, but in fact were convinced about the “feasibility of carrying out centrifuge test based on P-2 design - which required the procurement of parts from abroad and manufacturing of casing and centrifuge components within stated time period”. Therefore, the "doubt" is now removed and the issue is resolved.**

2.2. Delay of Sampling?

There is a widely reported contention in Para 48 of the report that “Iran’s postponement until mid-April of the visits originally scheduled for mid-March — including visits of Agency centrifuge experts to a number of locations involved in Iran’s P-2 centrifuge enrichment program — resulted in a delay in the taking of environmental samples and their analysis.” The facts however do not support this contention:

- **The Agency inspectors arrived in Iran on March 27, 2004 and not in mid April. The requested delay until 10 April pertained solely to the implementation of then newly announced suspension measures.**
- Various inspectors have been present in Iran almost continuously since 27 March.
- There was no impediment for the inspectors to visit or take samples from the P2 components or locations involved in P2 program from the date of their arrival on 27 March 2004 (as indicated in Iran’s Verbal Note No. 350-1-17/2049 of 15 March 2004 to the IAEA).
- The Agency inspectors, by their own choice, inspected P2 components only after mid April 2004. Their request to visit the workshop where composite rotors were made was granted in a timely manner.
- **During their mid April visit, the Agency inspectors only took a list of P2 components and did not even seek to take any environmental samples during that visit.**
- The inspectors, by their own choice, did not take any samples until mid May 2004.
- **Therefore, “the delay in taking of environmental samples and their analysis” should not be attributed to Iran.**

C. Laser Enrichment

1- General Remarks

Following the achievements made in the centrifuge enrichment project and technical difficulties, the laser enrichment projects were terminated and equipment were dismantled. The Agency has

thoroughly reviewed the history of the project, including the contracts with foreign suppliers, locations have been inspected, and swipe samples have been taken.

2-Review of Agency's Report

2.1. Level of Enrichment

A misperception on the consistency of Iranian declarations on the levels of laser enrichment which has been partially caused by the wording of para 33 of the report needs to be corrected.

- **In the letter of 21 October 2003** to the Director General, Iran informed the Agency that “In the course of the operation of the CSL, about 8kg of U-metal was evaporated in the chambers and the enrichment separation envisaged in the contract, **and in some experiments higher enrichments, were achieved in mg.**“
- **During the first interview with the Agency inspectors, held in this regard on 28 October 2003, the Iranian laser specialist stated, "we were able to achieve the goal of the contract and obtained *double digits* enrichment occasionally".**
- The reference in para 33 of the report to “the equipment was able to enrich uranium up to the contracted level of 3% U-235, and even *slightly* beyond (GOV/2003/75, para. 59)” does not correctly reflect previous information provided by Iran shown above.
- The misperception arises from the use of the word “slightly” which was not used in Iran’s letter of 21 October 2003 or the subsequent interview by the specialist (who specifically referred to occasional “double digit” enrichment) and may have been inadvertently added by the Agency in its November report.
- The above misunderstanding was confirmed and corrected by DDG-Safeguards in his briefing of the Board on 10 June 2004.
- It is worth noting, in any case, that experts in laser enrichment technology are well aware of the fact that due to tuning and well running the equipments, one could occasionally obtain particles with higher enrichment factor (such as 15% reflected in para 33 of the report) in some regions of the collection plate which by no means is an indication of capability of the system in continuous and long time running.

2.2. Production Capability

Regarding the Agency's report in para 34, as Iran has clarified in its previous communications with the Agency, it is important to clarify one more time that the laser system with the capacity of 1 gram per hour was never received or installed in its entirety.

- There seems to be a confusion about two different laser enrichment projects with two different countries (A and B) with different capabilities of enrichment.
- The issue referred to in para 34 is related to a contract with supplier B. This contract was terminated before all supplies arrived, and only a few equipment, namely the chamber with its auxiliary system were received and the main parts such as lasers were never delivered.
- The phrase "AVLIS installation" in the first line of para 34 misleads the reader as if the whole system with capability of enrichment of 1 gram per hour had ever been installed. This would only have been the case had the contract been fully implemented; However, the contract was never fully implemented and important components (lasers) were never delivered .

- In fact the operator, using the chamber received from the supplier B along with lasers from supplier A, tried to make some tests on the performance of the chamber.
- Few months later and prior to the Agency's first visit to Laskar-Abad in October 2003, the above testing system was dismantled due to the termination of the contract.
- **The system with 1 gram per hour production capability was never installed or become operational; not that it did or did not operate continuously. Thus, the phrase "*it was not able to operate continuously*" in para 34 is misleading.**