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NPT Safeguards Agreement with the Islamic Republic of Iran

Report by the Director General

A. Introduction

1. This report of the Director General is on the implementation of the NPT Safeguards Agreement^{1,2} in the Islamic Republic of Iran (Iran). It also addresses the implementation of the Joint Statement³ agreed between the Director General and HE Mr Mohammad Eslami, the Vice-President of Iran and Head of the Atomic Energy Organization of Iran (AEOI) on 4 March 2023 covering the implementation of Iran's Safeguards Agreement, the outstanding safeguards issues and further verification and monitoring activities.

B. Background

2. The comprehensive evaluation of all safeguards-relevant information available to the Agency is essential in ascertaining that there are no indications of the diversion of declared nuclear material from peaceful nuclear activities, no indications of undeclared production or processing of nuclear material at

¹ The Agreement between Iran and the Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (INFCIRC/214), which entered into force on 15 May 1974.

² Iran's Additional Protocol (INFCIRC/214/Add.1) was approved by the Board of Governors on 21 November 2003 and signed by Iran on 18 December 2003. Iran implemented voluntarily the Additional Protocol between December 2003 and February 2006. On 16 January 2016, Iran began provisionally applying the Additional Protocol in accordance with Article 17(b) of the Additional Protocol. As of 23 February 2021, Iran stopped the implementation of its nuclear-related commitments under the JCPOA, including the Additional Protocol (see GOV/INF/2021/13).

³ GOV/2023/9, Annex.

declared facilities and locations outside facilities (LOFs), and no indications of undeclared nuclear material and activities in a State with a comprehensive safeguards agreement.⁴

3. As a result of its evaluations, the Agency identified in 2019 a number of questions related to possible undeclared nuclear material and nuclear-related activities at three locations in Iran that had not been declared to the Agency and requested responses to these questions from Iran, pursuant to Article 69 of the Safeguards Agreement and Article 4.d. of the Additional Protocol. The Agency also provided Iran with detailed information upon which the Agency had made its requests for clarification.⁵

4. In 2019 and 2020, the Agency found indications that nuclear material had been present at three undeclared locations in Iran – Turqzabad (2019), Varamin (2020) and ‘Marivan’ (2020) – for which it sought explanations from Iran. The Director General expressed his deep concern that nuclear material had been present at these undeclared locations.^{6,7}

5. By the Board of Governors (Board) meeting in June 2022, the Agency was still seeking explanations from Iran.⁸ The Director General informed the Board that unless and until Iran provided technically credible explanations for the presence of nuclear material particles at the three undeclared locations in Iran and informed the Agency of the current location(s) of the nuclear material and/or of the contaminated equipment, the Agency would not be able to confirm the correctness and completeness of Iran’s declarations under its Safeguards Agreement.⁹

6. In its resolution of 8 June 2022, the Board, inter alia, expressed its “profound concern that the safeguards issues related to these three undeclared locations remain outstanding due to insufficient substantive cooperation by Iran, despite numerous interactions with the Agency”.¹⁰

7. In November 2022, the Director General reported that there had been no progress in clarifying and resolving the outstanding safeguards issues.¹¹

8. In its resolution of 17 November 2022,¹² the Board, inter alia, decided that it was “essential and urgent in order to ensure verification of the non-diversion of nuclear material that Iran act to fulfil its legal obligations and, with a view to clarifying all outstanding safeguards issues, take the following actions without delay:

- (i) Provide technically credible explanations for the presence of uranium particles of anthropogenic origin at three undeclared locations in Iran;
- (ii) Inform the Agency of the current location(s) of the nuclear material and/or of the contaminated equipment;
- (iii) Provide all information, documentation, and answers the Agency requires for that purpose;

⁴ GOV/2020/15, para. 2, GOV/2023/25, para.17.

⁵ GOV/2020/15, paras 3 and 4; GOV/2020/30, paras 3 and 4.

⁶ GOV/2021/52, paras 2 and 14.

⁷ In May 2022, the Agency informed Iran that it regarded a safeguards issue relating to another location – Lavisian-Shian (GOV/2022/26, para. 7) – to be no longer outstanding at that stage.

⁸ Agency evaluations related to each of these three locations were provided in GOV/2022/26, Section D.

⁹ GOV/2022/26, para. 36; GOV/2022/42, para. 9.

¹⁰ GOV/2022/34, operative paragraph 2.

¹¹ GOV/2022/63, para. 9.

¹² GOV/2022/70.

- (iv) Provide access to locations and material the Agency requires for that purpose, as well as for the taking of samples as deemed appropriate by the Agency.”

The Board also noted that that “the provision by Iran of this information and access and the subsequent verification by the IAEA pursuant to Iran’s NPT Safeguards Agreement is essential for the Secretariat to be in position to report the issues as no longer outstanding and thereby remove the need for the Board’s consideration and action on these issues”.

9. As previously reported, on 4 March 2023, the Director General participated in separate discussions with HE Ebrahim Raisi, President of the Islamic Republic of Iran, HE Mohammad Eslami, Vice-President of Iran and Head of the AEOI and HE Hossein Amir-Abdollahian, Foreign Minister of Iran, on matters related to the cooperation between Iran and the Agency, in particular the need for the effective implementation of the NPT Safeguards Agreement in Iran.¹³

10. During the discussions, the Director General stressed the need to ensure that effective cooperation and interactions between the Agency and Iran on safeguards implementation are fully in line with Iran’s Safeguards Agreement. The Director General also stressed that, regarding the outstanding safeguards issues related to the three undeclared locations in Iran, a point has been reached where concrete steps needed to be taken in order to resolve them. The Director General referred to the importance of the Joint Comprehensive Plan of Action (JCPOA) and the positive impact of the Agency’s verification and monitoring activities related to its full implementation, which had been interrupted since 23 February 2021. He reiterated that from the Agency’s perspective, an agreed set of safeguards-related, confidence- building measures that would increase the Agency’s safeguards-related knowledge in relation to the production and inventory of centrifuges, rotors and bellows, heavy water and uranium ore concentrate (UOC) was needed. This increase of knowledge of Iran’s nuclear-related activities and the resolution of the outstanding safeguards issues is indispensable for the Agency to be able to provide credible assurances of the peaceful nature of Iran’s nuclear programme.

11. President Raisi reiterated the disposition of the Islamic Republic of Iran to work with the Agency in this direction. Iran agreed on the need to maintain a constant dialogue with the Agency in order to ensure a steady process leading to a favourable outcome for all. Foreign Minister Amir-Abdollahian also expressed his readiness to work with the Agency in the implementation of Iran’s safeguards commitments and towards the prompt resolution of the outstanding safeguards issues. Following discussions between the Director General and Vice-President Eslami, a Joint Statement was agreed covering the implementation of Iran’s Safeguards Agreement, the outstanding safeguards issues and further verification measures.

12. The Joint Statement¹⁴ acknowledged that the high-level meetings had addressed the importance of taking steps to facilitate enhanced cooperation in order to expedite as appropriate the resolution of outstanding safeguards issues. Both sides also recognized that such positive engagements can pave the way for wider agreements among state parties. The AEOI and the IAEA agreed on the following:

- Interactions between the IAEA and Iran will be carried out in a spirit of collaboration, and in full conformity with the competences of the IAEA and the rights and obligations of the Islamic Republic of Iran, based on the comprehensive safeguards agreement.
- Regarding the outstanding safeguards issues related to the three locations, Iran expressed its readiness to continue its cooperation and provide further information and access to address the outstanding safeguards issues.

¹³ GOV/2023/9, Section D.

¹⁴ GOV/2023/9, Annex.

- Iran, on a voluntary basis will allow the IAEA to implement further appropriate verification and monitoring activities. Modalities will be agreed between the two sides in the course of a technical meeting which will take place soon in Tehran.

13. While limited progress was made in implementing the activities set out in the Joint Statement during the previous reporting period, as described in paras 14–17 below, no progress was made in the current reporting period.¹⁵

14. In March 2023, Iran provided to the Agency explanations and additional data in relation to the presence of particles containing up to 83.7% U-235 that the Agency had detected at the Fordow Fuel Enrichment Plant (FFEP) in January 2023.¹⁶ The Agency subsequently informed Iran that, following its evaluation of the data, the Agency had assessed that the information provided was not inconsistent with Iran's explanation for the origin of particles containing up to 83.7% U-235 and that the Agency had no further questions on this matter at this stage.

15. Iran provided a possible explanation for the presence of depleted uranium particles at 'Marivan' and, therefore, the Agency at this time has no additional questions on these particles or on the location, and the matter is no longer outstanding at this stage.¹⁷ The Agency's assessment of the activities that were undertaken by Iran at 'Marivan' remains as set out most recently in GOV/2022/26, para.20.

16. In late April and early May 2023, in order to monitor the enrichment level of the high enriched uranium (HEU) being produced by Iran at declared facilities, the Agency installed an enrichment monitoring device (EMD) at FFEP, and another EMD at the Pilot Fuel Enrichment Plant (PFEP) in Natanz.¹⁸ The evaluation of the data collected confirmed the general good functioning of the systems. Technical adjustments and changes to operational procedures required to enable their commissioning have been identified and are being discussed with Iran.

17. In early May 2023, the Agency installed surveillance cameras at workshops in Esfahan where centrifuge rotor tubes and bellows are manufactured.¹⁹ However, Iran did not provide the Agency with access to the data recorded by these cameras. The Agency reiterated that it is indispensable that Iran provide the Agency with access to the data recorded by the cameras. Without the data, the Agency will not be able to re-establish a satisfactory understanding of Iran's inventory of centrifuge rotor tubes and bellows, including those in assembled centrifuges.

C. Implementation of the Joint Statement in this reporting period

C.1. Interactions between the Agency and Iran

18. No exchanges between the Agency and Iran took place in relation to the implementation of the Joint Statement until 9 August 2023 when meetings took place in Vienna and then on 28 August 2023 a technical meeting took place in Tehran. At that technical meeting, the Agency and Iran discussed

¹⁵ GOV/2023/26, para. 26.

¹⁶ GOV/2023/8, para. 34.

¹⁷ GOV/2023/26, Section C.2.

¹⁸ GOV/2023/26, para. 22.

¹⁹ GOV/2023/26, para. 21.

matters related to the implementation of the Joint Statement and other safeguards implementation issues (see section D below). Despite lengthy discussions, no progress was made in relation either to the implementation of the Joint Statement or on other safeguards implementation issues.

19. The Agency stressed that the de-designation of experienced Agency inspectors and denials of visas for Agency officials dealing with Iran run counter to the co-operative relationship that should prevail between the Agency and Iran, and, more specifically, for the renewed positive approach expressed in the first paragraph of the Joint Statement of 4 March 2023.

C.2. Outstanding safeguards issues related to the two locations

C.2.1. Varamin

20. The Agency assesses that Varamin was an undeclared pilot-scale plant used between 1999 and 2003 for the processing and milling of uranium ore and conversion into uranium oxide and, at laboratory scale, into UF₄ and UF₆.²⁰ This location underwent significant changes in 2004, including the demolition of most buildings.²¹ The analytical results of environmental samples taken by the Agency at Varamin in August 2020 indicated the presence of anthropogenic uranium particles, consistent with uranium conversion activities, that required explanation by Iran. The Agency also assesses that there are indications, supported by the results of the environmental samples analysis, that containers removed from Varamin were eventually transferred to Turqzabad. However, the nuclear activities assessed by the Agency to have been carried out at Varamin do not explain the presence of the multiple types of isotopically altered particles found at Turqzabad.

C.2.2. Turqzabad

21. The Agency assesses that Turqzabad was involved in the storage of nuclear material and equipment.²² From early November 2018 onwards, the Agency observed, through the analysis of commercially available satellite imagery, scraping and landscaping activities at the location. In February 2019, the Agency took environmental samples at Turqzabad, the analytical results of which indicated the presence of multiple natural uranium particles of anthropogenic origin, and isotopically altered particles, including low enriched uranium particles with a detectable presence of U-236, and particles of slightly depleted uranium that required explanation by Iran. The Agency concluded that the containers that were stored at Turqzabad had either contained nuclear material or equipment that had been heavily contaminated with nuclear material, or both. The Agency assesses that while some of the containers stored at Turqzabad were dismantled at the location, others were removed from the location intact in 2018 and moved to an unknown location.²³

22. With reference to the nuclear material particles identified at Varamin and Turqzabad, Iran stated on 7 June 2023 that it had “exhausted all its efforts so as to discover the origin of such particles”.²⁴ According to Iran, it had “explained its assumptions about the probable causes of the presence of uranium particles” and, given that it “could not yet find any technical reasons for the presence of uranium particles, it would reasonably imply that possibly external elements, such as sabotage and malicious acts, have been involved in the contamination”. Iran also stated that “based on our intensive

²⁰ GOV/2022/26, para. 25.

²¹ GOV/2020/30, para. 4, second bullet.

²² Statement by the Deputy Director General for Safeguards to the Board of Governors, 7 November 2019, GOV/OR.1532, para. 11.

²³ GOV/2022/26, para. 34.

²⁴ INFCIRC/1094, paras 3 and 4.

investigations into the background of activities carried out in two remaining locations has not yet been found. There has not been any nuclear activity or storage in these locations”.

23. During the technical meeting in Tehran on 28 August 2023, Iran informed the Agency that it has no additional information on Varamin but stated that it would continue to investigate the matter. Regarding Turqzabad, Iran stated that it had collected additional information regarding containers that were present at this location. According to Iran, none of the containers were transferred intact from Turqzabad; they were all dismantled at the location. Iran informed the Agency that it would provide this information to the Agency for its review, together with other information related to the whereabouts of the dismantled containers. The Agency requested Iran to provide this additional information to the Agency as soon as possible for its review and assessment at Agency Headquarters.

24. The Agency stresses, however, that at the technical meeting Iran did not address the presence of uranium particles of anthropogenic origin found by the Agency at these two locations.

25. Unless and until Iran provides technically credible explanations and informs the Agency of the current location(s) of the nuclear material and/or of the contaminated equipment, the Agency will not be able to confirm the correctness and completeness of Iran’s declarations under its Safeguards Agreement and therefore these issues remain outstanding.

C.3. Further verification and monitoring activities

26. The Agency has had no access to any of the data recorded by its cameras monitoring the production of centrifuges, rotors and bellows, heavy water and UOC since February 2021. Since June^o2022, the only recorded data that exists is that collected by cameras installed at workshops in Esfahan in May 2023. It is indispensable that Iran provide the Agency with access to all existing recorded data and agrees with the Agency on specific arrangements aimed at trying to fill the gaps in the Agency’s knowledge for the periods when no recorded data exists.

27. Iran stated on 7 June 2023 that “all transparency measures under the JCPOA have been ceased by a law passed by the Parliament” and that the Agency’s request to access the “data recorded by the cameras during period between February 2021 and June 2022 as well as those data recorded since 2-3^oMay 2023 currently are not subjected to the Joint Statement”.²⁵

28. According to standard Agency safeguards practice, the aforementioned cameras installed at workshops in Esfahan in early May 2023 should not be left for more than three months without being serviced by the Agency. Therefore, in a letter to Iran dated 25 July 2023, the Agency requested access to these workshops on 12-14 August 2023 in order to service the surveillance cameras and replace the storage media. Iran did not reply and, consequently, the Agency was not able to proceed with the requested access.

29. During the technical meeting on 28 August 2023, Iran stated that the Agency could service the cameras installed at Esfahan on 2 September 2023 – four months after they had been installed – although Iran also stated that it would not provide the Agency with access to the data. On 2 September 2023, the Agency successfully serviced the cameras installed at workshops in Esfahan and the data they had collected was placed under Agency and Iranian seals at the location.

30. At the technical meeting on 28 August 2023 Iran did not agree to the Agency’s request to install cameras at another location in Iran where centrifuge rotor tubes and bellows are manufactured.

²⁵ INFCIRC/1094, para. 9.

D. Other Safeguards Issues

D.1. Discrepancy in nuclear material balance evaluation

31. As previously reported,²⁶ in March 2022, the Agency verified at the Uranium Conversion Facility (UCF) the dissolution of 302.7 kg of natural uranium, as declared by Iran, in the form of solid waste and items of uranium metal transferred from the Jaber Ibn Hayan Multipurpose Laboratory (JHL). The Agency identified a discrepancy that needed to be resolved in the amount of nuclear material it had verified compared to the amount declared by Iran. Iran confirmed the existence of a discrepancy (shortfall) and agreed to work with the Agency to address it.

32. As also previously reported,²⁷ in April 2023, Iran provided to the Agency revised nuclear material accountancy reports for UCF. In May 2023, the Agency informed Iran that it had assessed that these revised reports neither addressed the discrepancy nor satisfied the requirements stipulated under Article 55 of Iran's Safeguards Agreement for measurement of nuclear material on which the records used for the preparation of accounting reports are based. Hence, the Agency considered the corrections made by Iran to the declared amount of uranium contained in the solid waste not to be based on scientific grounds and, therefore, not acceptable. In the same letter, the Agency requested Iran to correct the nuclear material accounting records and reports based on valid and technically sound measurement results.

33. In a letter to the Agency dated 5 July 2023, Iran stated that "there is no need for any correction on the nuclear material accounting records and reports" and that Iran expected the Agency to "correct this inaccurate assessment on baseless discrepancy".

34. In a letter dated 25 July 2023, the Agency, in accordance with Article 90(a) of the Safeguards Agreement, reiterated its request to Iran to resolve the discrepancy identified at UCF. In its reply dated 9 August 2023, Iran said that the discrepancy had "emerged due to the irregular process of recovering uranium from the waste material", that "such differences in this recovery process is predictable, and it is logically expected that the matter is considered as resolved".

35. In a letter to Iran dated 24 August 2023, the Agency informed Iran that it did not agree with Iran's statement regarding how the discrepancy emerged or that "such differences in this recovery process is predictable". Therefore, the Agency regards the discrepancy as still requiring resolution.

36. During the technical meeting on 28 August 2023, both the Agency and Iran reiterated their positions. Iran stated that it would continue working with the Agency to address this safeguards issue.

D.2. Modified Code 3.1

37. The modified Code 3.1 of the Subsidiary Arrangements General Part to Iran's Safeguards Agreement provides for the submission to the Agency of design information for new nuclear facilities as soon as the decision to construct, or to authorize construction of, a new facility has been taken, whichever is the earlier. The modified Code 3.1 also provides for the submission of fuller design information as the design is developed early in the project definition, preliminary design, construction, and commissioning phases. Iran remains the only State with significant nuclear activities in which the Agency is implementing a comprehensive safeguards agreement but which is not implementing the provisions of the modified Code 3.1.

²⁶ GOV/2023/8, paras 47 and 48.

²⁷ GOV/2023/26, para. 14.

38. Iran stated on 7 June 2023 that its acceptance of implementing modified Code 3.1 was “among the transparency and confidence building measures, reflected in paragraph 65 of the JCPOA” and that, following the United States’ withdrawal from the JCPOA, Iran had “ceased all transparency measures beyond its Comprehensive Safeguards Agreement”. On this basis it had suspended implementation of modified Code 3.1 and “[t]herefore, the Agency’s reference to Article 39 of the CSA has no legal basis”.²⁸

39. The Director General has reminded Iran on many occasions that implementation of modified Code 3.1 is a legal obligation for Iran under the Subsidiary Arrangements to its Safeguards Agreement which, in accordance with Article 39 of Iran’s Safeguards Agreement, cannot be modified unilaterally and that there is no mechanism in the Safeguards Agreement for the suspension of implementation of provisions agreed to in the Subsidiary Arrangements.

40. In this reporting period, Iran has made reference to having decided the locations for new nuclear facilities, for which the Agency requested Iran to provide preliminary design information.²⁹ Iran has yet to provide the required information. During the technical meeting on 28 August 2023 Iran reiterated its readiness to work with the Agency to find a mutually acceptable solution to address the issue of new nuclear facilities. The Agency again reminded Iran that implementation of modified Code 3.1 is a legal obligation for Iran under the Subsidiary Arrangements to its Safeguards Agreement.

E. Summary

41. The Director General regrets that there has been no progress in resolving the outstanding safeguards issues in this reporting period. Iran still needs to:

- provide the Agency with technically credible explanations for the presence of uranium particles of anthropogenic origin at Varamin and Turqzabad and inform the Agency of the current location(s) of related nuclear material and/or of contaminated equipment;
- resolve the discrepancy in the nuclear material balance evaluation relating to UCF; and
- implement modified Code 3.1.

42. The Director General also regrets that no further progress has been made in implementing the activities set out in the Joint Statement, including Iran’s refusal to agree to the Agency’s request to install additional cameras at another location. The Director General reiterates that for Agency cameras to be effective, including those installed at Esfahan, the Agency needs access to the data they record.

43. The Director General also reiterates that unless and until Iran provides technically credible explanations for the presence of the aforementioned uranium particles at undeclared locations in Iran and informs the Agency of the current location(s) of the nuclear material and/or of the contaminated equipment, the Agency will not be able to confirm the correctness and completeness of Iran’s declarations under its Safeguards Agreement.

44. The Director General further reiterates that the outstanding safeguards issues stem from Iran’s obligations under its Comprehensive Safeguards Agreement and need to be resolved for the Agency to

²⁸ INFCIRC/1094, para. 10.

²⁹ Information published on the AEOI website in June 2023 indicated that Iran has decided the locations for new power reactors and a new research reactor in Iran.

be in a position to provide assurance that Iran's nuclear programme is exclusively peaceful. The Director General calls on Iran to implement effectively its obligations under its Comprehensive Safeguards Agreement and the Subsidiary Arrangements (General Part).

45. The Director General notes with regret that no progress has been made towards implementing the Joint Statement of 4 March 2023 for several months, and requests Iran to work with the Agency in earnest and in a sustained way towards the fulfilment of the commitments contained in the Joint Statement.

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