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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 describes the Agency's efforts and interactions with Iran to clarify information relating to the correctness and completeness of Iran's declarations under its Safeguards Agreement, in particular, in relation to three undeclared locations in Iran where the Agency found uranium particles of anthropogenic origin. The report refers to other safeguards implementation issues in Iran: a change in the configuration at the Fordow Fuel Enrichment Plant (FFEP) that was inconsistent with the design information declared by Iran at that time; the detection by the Agency of uranium particles at FFEP that were enriched to a level inconsistent with the level currently declared by Iran; and implementation of modified Code 3.1. The report also refers to an agreed Joint Statement between the Director General and the Vice-President of Iran and Head of the Atomic Energy Organization of Iran (AEOI) of 4 March 2023.

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).

B. Unresolved issues relating to three undeclared locations

B.1. Background

2. The Agency is seeking explanations from Iran for the presence of uranium particles of anthropogenic origin identified by the Agency at three undeclared locations in Iran – Turqzabad (2019), Varamin (2020) and ‘Marivan’ (2020).³ In his report of 17 November 2021 (GOV/2021/52), the Director General expressed his deep concern that nuclear material had been present at these undeclared locations.⁴

3. On 5 March 2022, the Director General and HE Mr Mohammad Eslami, the Vice-President of Iran and Head of the Atomic Energy Organization of Iran (AEOI), agreed on a Joint Statement for the clarification of the issues mentioned in GOV/2021/52.⁵

4. Nevertheless, as indicated in the Director General’s report of 30 May 2022 (GOV/2022/26), despite the Agency providing Iran with numerous opportunities, in different formats through exchanges and meetings in Vienna and Tehran, to clarify these safeguards issues, they remained unresolved.⁶ Iran had still not provided explanations that were technically credible. Nor had Iran informed the Agency of the current location(s) of the nuclear material or equipment contaminated with nuclear material, or both, that were moved from Turqzabad to an unknown location in 2018. A summary of the safeguards issues related to the three locations as set out in GOV/2022/26 is as follows:

Turqzabad: The Agency has information, including information from open sources from late September 2018, that Turqzabad had been involved in the storage of nuclear material and equipment.⁷ From early November 2018 onwards, the Agency observed, through the analysis of commercially available satellite imagery, scraping and landscaping activities at the location. During complementary access conducted at Turqzabad in February 2019, the Agency took location-specific environmental samples, 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 containers that had been 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.

Varamin: The Agency has information concerning the use or storage of nuclear material and/or conduct of nuclear-related activities, including research and development activities related to the nuclear fuel cycle, at Varamin between 1999 and 2003. This location underwent significant changes in 2004, including the demolition of most buildings.⁸ During complementary access conducted in August 2020 at Varamin, the Agency took location-specific environmental samples, the analytical results of which indicated the presence of anthropogenic uranium particles,

³ The Agency regards a safeguards issue relating to another location – Lavisan-Shian – to be no longer outstanding at this stage (GOV/2022/26, para. 7).

⁴ GOV/2021/52, para. 14.

⁵ GOV/2022/26, Annex.

⁶ GOV/2022/26, para. 36; GOV/2022/63, para. 4.

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

⁸ GOV/2020/30, para. 4, second bullet.

consistent with uranium conversion activities, that required explanation by Iran. 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. 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.

‘Marivan’⁹: The Agency has information that Iran had, in 2003, planned to use and store nuclear material at ‘Marivan’ for explosive testing. During the complementary access conducted at ‘Marivan’ in August 2020, the Agency took location-specific environmental samples, the analytical results of which indicated the presence of anthropogenic uranium particles in one area of the ‘Marivan’ location. The analysis of all safeguards-relevant information available to the Agency related to ‘Marivan’ is consistent with Iran having conducted explosive testing with protective shielding in preparation for the use of neutron detectors in another area of the ‘Marivan’ location.¹⁰

5. The Director General reported in June 2022 and again in September 2022 that unless and until Iran provided technically credible explanations for the presence of the aforementioned uranium 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.¹¹ The Director General reiterated that the Agency remained ready to engage with Iran without delay to resolve all of these matters.

6. In its resolution of 8 June 2022, the Board of Governors, inter alia, called on Iran “to act on an urgent basis to fulfil its legal obligations and, without delay, take up the Director General’s offer of further engagement to clarify and resolve all outstanding safeguards issues”, noted that the provision by Iran of “all of the technically credible information, documents and evidence the IAEA requires to make its assessments 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” and requested the Director General to “continue to report to the Board of Governors so long as the... issues remain outstanding”.¹²

7. On 26 and 27 September 2022, the Director General and Vice-President Eslami held discussions in Vienna related to Iran addressing the outstanding safeguards issues. It was only on 7 November 2022 that Iran agreed to resume its engagement with the Agency towards resolving these issues. In this regard, it was agreed that senior Agency officials would conduct a technical visit to Tehran before the end of November 2022. The Agency had reiterated to Iran that at this meeting it expected to start receiving from Iran technically credible explanations on these issues, including access to locations and material, as well as the taking of samples as appropriate.

8. The Director General reported in November 2022 that there had been no progress in clarifying and resolving the outstanding safeguards issues. He reiterated that these issues stemmed from Iran’s

⁹ A location near Abadeh, known as ‘Marivan’.

¹⁰ GOV/2020/30, para. 4, third bullet; GOV/2021/15, para. 9, third bullet.

¹¹ GOV/2022/26, para. 36; GOV/2022/42, para. 9.

¹² GOV/2022/34, operative paras 3–5.

obligations under its Safeguards Agreement and needed to be resolved for the Agency to be in a position to provide assurance that Iran's nuclear programme was exclusively peaceful.¹³

9. In its resolution of 17 November 2022,¹⁴ the Board of Governors, inter alia, expressed its "profound concern that the safeguards issues related to three undeclared locations remain outstanding due to insufficient substantive cooperation by Iran...". The Board of Governors 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;
- (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 of Governors 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" and requested the Director General "to report on the implementation of Iran's NPT Safeguards Agreement and of this resolution for consideration by the March 2023 Board of Governors, or earlier if appropriate".¹⁵

B.2. Developments in the reporting period

10. Iran postponed the aforementioned previously agreed technical visit by senior Agency officials to Tehran before the end of November 2022. Instead, senior Agency officials held meetings with senior Iranian officials in Tehran on 18 December 2022, at which Iran did not start providing technically credible explanations for the presence of uranium particles of anthropogenic origin at the three undeclared locations in Iran, and did not provide access to any locations or nuclear material. Therefore, by the end of February 2023 no progress had been made towards resolving any of the outstanding safeguards issues.

11. On 4 March 2023, the Director General, at the invitation of Iran, visited Tehran for discussions at senior level on matters related to the cooperation between the Agency and Iran, in particular the need for the effective implementation of the Safeguards Agreement in Iran (see Section D below).

C. Other Safeguards implementation issues

C.1. Changes at FFEP inconsistent with DIQ

12. The Director General's recent report on *Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council resolution 2231 (2015)* (GOV/2023/8, section C3.3)

¹³ GOV/2022/63, para. 9.

¹⁴ GOV/2022/70.

¹⁵ GOV/2022/70, operative paras 2–5.

provided information on the Agency's findings following an unannounced inspection at FFEP on 21 January 2023 related to two IR-6 cascades, i.e.: the failure of Iran to declare in advance changes in their configuration; the subsequent submission of an updated design information questionnaire (DIQ); the detection through the analysis of environmental sampling of high enriched uranium (HEU) particles with enrichment levels up to 83.7% U-235 – inconsistent with the enrichment level of HEU produced at FFEP, as declared by Iran; and the implementation of additional safeguards measures at the facility. As these issues are all related to implementation of the Safeguards Agreement in Iran, they are briefly cross-referenced here.

C.2. Modified Code 3.1

13. The Director General once again reminds Iran 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. Since the Director General's previous report, Iran has made no offer to the Agency to address this issue.

D. Visit of Director General to Tehran

14. On 4 March 2023, the Director General, at the invitation of Iran, visited Tehran where he participated in separate discussions with H.E. Ebrahim Raisi, President of the Islamic Republic of Iran, H.E. Mohammad Eslami, Vice-President of Iran and Head of the AEOI and H.E. Hossien 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.

15. During the meetings, 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 need to be taken in order to resolve them. Finally, 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 have been interrupted since 23 February 2021. He reiterated that from the Agency's perspective, positive steps on the above-mentioned issues - and a set of safeguards-related, confidence-building measures - should be agreed in order to pave the way to the restoration of the safeguards-related knowledge in relation to the production and inventory of centrifuges, rotors and bellows, heavy water and uranium ore concentrate. The restoration of this knowledge and the resolution of the outstanding safeguards issues are indispensable for the Agency to be able to provide credible assurances of the peaceful nature of Iran's nuclear programme.

16. 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.

17. 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. He reiterated the importance that Iran attaches to the restoration of the JCPOA and in this context the constructive role that can be played by the Agency.

18. 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 (see Annex).

E. Summary

19. The Director General welcomes Iran's high-level assurances that it is willing to cooperate with the Agency to resolve the outstanding safeguards issues and to engage in follow-up technical discussions with the Agency soon. He also welcomes Iran's agreement to allow the Agency to implement further appropriate verification and monitoring activities.

20. The Director General recalls that Iran implemented a significant change to the declared design information for FFEP without informing the Agency in advance, which is contrary to Iran's obligations under its Safeguards Agreement. The Director General also notes that the Agency found HEU particles with enrichment levels inconsistent with the enrichment level declared by Iran in the DIQ for FFEP. The Agency and Iran have initiated technical discussions in order to fully clarify this issue.

21. The Director General looks forward to the follow up technical discussions and prompt and full implementation of the Joint Statement.

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

Annex

Joint statement by the Atomic Energy Organization of Iran (AEOI) and the International Atomic Energy Agency (IAEA)

4 March, 2023

Tehran

IAEA Director General H. E. Mr. Rafael Mariano Grossi visited the Islamic Republic of Iran on 3 and 4 March 2023. In the context of his visit, he met President of the Islamic Republic of Iran, H. E. Mr. Ebrahim Raisi, as well as with the Minister of Foreign Affairs, H. E. Mr. Hossein Amir-Abdollahian, and the Vice-President of the Islamic Republic of Iran and President of the Atomic Energy Organization of Iran (AEOI), H. E. Mr. Mohammad Eslami.

These high-level meetings addressed the importance of taking steps in order to facilitate enhanced cooperation, to expedite as appropriate the resolution of outstanding safeguards issues.

Both sides recognize 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.
- 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.