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Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council resolution 2231 (2015)

Report by the Director General

A. Introduction

1. This report of the Director General to the Board of Governors and, in parallel, to the United Nations Security Council (Security Council), is on the Islamic Republic of Iran's (Iran's) implementation of its nuclear-related commitments under the Joint Comprehensive Plan of Action (JCPOA) and on matters related to verification and monitoring in Iran in light of Security Council resolution 2231 (2015). It covers the period since the issuance of the Director General's previous reports.[1]

2. The estimated cost to the Agency for the implementation of Iran's Additional Protocol and for verifying and monitoring Iran's nuclear-related commitments as set out in the JCPOA is €9.8 million per annum, of which €4.5 million is funded by extrabudgetary contributions.[2] As of 20 August 2024, extrabudgetary funding had been pledged sufficient to meet the cost of JCPOA-related activities until early December 2024.[3]

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[1] GOV/2024/26, GOV/INF/2024/8 and GOV/INF/2024/9.

[2] These figures have been adjusted to reflect current costs and the latest 2024 budget update.

[3] The additional costs that the Agency has been incurring since 23 February 2021, while Iran has not been implementing its nuclear-related commitments under the JCPOA, will be communicated in due course once they have been assessed.

B. Background

3. On 14 July 2015, China, France, Germany, the Russian Federation, the United Kingdom, the United States of America,[4] with the High Representative of the European Union for Foreign Affairs and Security Policy (E3/EU+3) and Iran agreed on the JCPOA. On 20 July 2015, the Security Council adopted resolution 2231 (2015), in which, inter alia, it requested the Director General to "undertake the necessary verification and monitoring of Iran's nuclear-related commitments for the full duration of those commitments under the JCPOA" and "[r]eport to the Board of Governors and in parallel to the Security Council, at any time if the Director General has reasonable grounds to believe there is an issue of concern directly affecting fulfilment of Iran's nuclear-related commitments as set out in the JCPOA" (GOV/2015/53 and Corr.1, para. 8). In August 2015, the Board of Governors authorized the Director General to implement the necessary verification and monitoring of Iran's nuclear-related commitments as set out in the JCPOA, and report accordingly, for the full duration of those commitments in light of Security Council resolution 2231 (2015), subject to the availability of funds and consistent with the Agency's standard safeguards practices.[5]

C. JCPOA Verification and Monitoring Activities

4. Between 16 January 2016 (JCPOA Implementation Day) and 8 May 2019, the Agency verified and monitored Iran's implementation of its nuclear-related commitments in accordance with the modalities set out in the JCPOA,[6] consistent with the Agency's standard safeguards practices.[7,8]

5. From 8 May 2019 onwards, however, Iran stopped implementing its nuclear-related commitments under the JCPOA on a step-by-step basis until, on 23 February 2021, it stopped implementing them altogether, including the Additional Protocol. As a result, Iran no longer allows the Agency to conduct the following verification and monitoring activities in relation to the JCPOA:

- Monitor or verify Iranian production and stocks of heavy water (paras 14 and 15[9]).
- Verify that the use of shielded cells at two locations, referred to in the decision of the Joint Commission of 14 January 2016 (INFCIRC/907), are being operated as approved by the Joint Commission (para. 21).
- Implement continuous monitoring to verify that all centrifuges and associated infrastructure in storage remain in storage or have been used to replace failed or damaged centrifuges (para. 70).

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[4] On 8 May 2018, the then President of the United States of America, Donald Trump, announced that the "United States will withdraw from the Iran nuclear deal", 'Remarks by President Trump on the Joint Comprehensive Plan of Action', at: https://trumpwhitehouse.archives.gov/briefings-statements/remarks-president-trump-joint-comprehensive-plan-action/.

[5] More background information to the matters outlined in this report can be found in previous quarterly reports of the Director General (most recently in GOV/2021/39).

[6] Including the clarifications referred to in para. 3 of GOV/2021/39.

[7] GOV/2016/8, para. 6.

[8] Note by the Secretariat, 2016/Note 5.

[9] The paragraph references in these bullet points correspond to the paragraphs of 'Annex I – Nuclear-related measures' of the JCPOA.

- Perform daily access upon request to the enrichment facilities at Natanz and Fordow, including to monitor Iran's production of stable isotopes (paras 71 and 51).

- Verify in-process low enriched nuclear material at enrichment facilities as part of the total enriched uranium stockpile (para. 56).

- Verify whether or not Iran has conducted mechanical testing of centrifuges as specified in the JCPOA (paras 32 and 40).

- Monitor or verify Iranian production and inventory of centrifuge rotor tubes, bellows or assembled rotors; verify whether produced rotor tubes and bellows are consistent with the centrifuge designs described in the JCPOA; verify whether produced rotor tubes and bellows have been used to manufacture centrifuges for the activities specified in the JCPOA (paras 80.1 and 80.2); verify whether rotor tubes and bellows have been manufactured using carbon fibre which meets the specifications agreed under the JCPOA.[10]

- Monitor or verify the uranium ore concentrate (UOC) produced in Iran or obtained from any other source; and whether such UOC has been transferred to the Uranium Conversion Facility (UCF) (paras 68 and 69).

- Verify Iran's other JCPOA nuclear-related commitments, including those set out in Sections D, E, S and T of Annex I of the JCPOA.

6. This has seriously affected the Agency's JCPOA-related verification and monitoring activities. The situation was exacerbated in June 2022 by Iran's decision to remove all of the Agency's JCPOA-related surveillance and monitoring equipment. As a result, the Agency has lost continuity of knowledge in relation to the production and inventory of centrifuges, rotors and bellows, heavy water and UOC.

[10] Decision of the Joint Commission of 14 January 2016 (INFCIRC/907).

C.1. Verification and monitoring of Iran's nuclear-related commitments

7. The status of the Agency's verification and monitoring of Iran's nuclear-related commitments under the JCPOA is as follows:

JCPOA Section	Commitment	Most recently verified
B	Arak Heavy Water Research Reactor	10 August 2024
C	Heavy Water Production Plant (HWPP)	February 2021[11]*
D	Other Reactors	Unavailable since February 2021
E	Spent Fuel Reprocessing Activities	TRR: 18 August 2024 MIX Facility: 19 August 2024 JHL: 20 August 2024 Shielded cells: February 2021*
F	Enrichment Capacity	FFEP: 26 August 2024 FEP: 24 August 2024 PFEP: 21 August 2024
G	Centrifuge Research and Development	21 August 2024
H	Fordow Fuel Enrichment Plant (FFEP)	26 August 2024
I	Other Aspects of Enrichment	See Sections F, G and H above
J	Uranium Stocks and Fuels	16 August 2024
K	Centrifuge Manufacturing	February 2021*
L	Additional Protocol (AP) & Modified Code 3.1	February 2021*
N	Modern Technologies and Long-term Presence of IAEA	OLEM: June 2022 119 inspectors currently designated
O	Transparency related to UOC	February 2021*
P	Transparency related to enrichment	February 2021*
Q	Access	Unavailable since February 2021
R	Centrifuge Component Manufacturing Transparency	February 2021*
S	Other Uranium Isotope Separation Activities	February 2021*
T	Activities Which Could Contribute to the Design and Development of a Nuclear Explosive Device	February 2021*

* *Verification and monitoring no longer allowed by Iran.*

C.2. Activities Related to Heavy Water and Reprocessing

8. As of 10 August 2024, minor civil construction work was ongoing at the Khondab Heavy Water Research Reactor (KHRR). Iran had previously informed the Agency that the commissioning of KHRR was expected in 2023 using the IR-20 dummy fuel assemblies.[12] Although, to date, no update to this commissioning schedule has been officially communicated to the Agency, during design information verification (DIV) activities conducted by the Agency on 10 August 2024, Iran informed the Agency

[11] Based on its analysis of commercially available satellite imagery, the Agency assessed that parts of the HWPP have been shut down for maintenance during the reporting period, leading to reduced operation of the plant.

[12] The IR-20 dummy fuel assemblies have already been manufactured, based on an Iranian design (GOV/2023/57, para. 8).

that commissioning was now expected to take place in 2026 and that this information will be formally communicated to the Agency in an upcoming update of the design information questionnaire (DIQ). The Agency did not observe any significant changes compared to the Director General's previous quarterly report.

C.3. Activities Related to Enrichment

C.3.1. Summary of Iran's Enrichment Capacity

Facility	Centrifuge Type	Total Planned Cascades[13]	Installed Cascades	Total Operating Cascades[14]
Fordow Fuel Enrichment Plant (FFEP)	IR-1		6[15]	6
	IR-6	16[15]	10 **(+8)***	2
Fuel Enrichment Plant (FEP)	IR-1	36	36	36
	IR-2m	39 **(+18)**	31 **(+10)**	15 **(+6)**
	IR-4	12	12	12 **(+9)**
	IR-6	3	3	3
Pilot Fuel Enrichment Plant (PFEP)	IR-4 (Line 4)	1	1	1
	IR-6 (Line 6)	1	1	1
	IR-4 and IR-6 (Line 5)	1	1	1
	Various (Lines 1, 2 and 3)			
	IR-6 (Hall A1000, Line D)	1 **(+1)**	1 **(+1)**	1 **(+1)**
	Various (Hall A1000, Lines A, B and C)			

* *The figures in parentheses indicate the changes since the Director General's previous quarterly report.*

[13] The figures for FEP do not include the planned installation of centrifuges in Hall B1000 or in one additional enrichment unit in Hall A1000, for which no details of centrifuge types or numbers of cascades have yet been provided by Iran.

[14] Cascades are considered to be operating if they have been fed with UF_6 for enrichment of collected product.

[15] Iran has declared that it will replace the six cascades of IR-1 centrifuges in Unit 2 with IR-6 centrifuges.

C.3.2. Developments since the Director General's Previous Quarterly Report

9. As previously reported, in a letter dated 13 June 2024, Iran informed the Agency that it intended to start to:

- install, operate and feed eight IR-6 cascades in Unit 1 at FFEP;[16]
- feed UF_6 into 15 more of the already installed IR-2m and IR-4 cascades at FEP in Hall A1000 in Natanz,[17] and to install another 18 IR-2m cascades in one enrichment unit in Hall A1000;[18] and
- feed UF_6 into the cascades already installed, and to install and operate one new IR-6 cascade at PFEP. [19]

FFEP

10. As previously reported, on 23 June 2024, the Agency verified that Iran had installed four of the planned eight IR-6 cascades in Unit 1 at FFEP, and that installation of the other four IR-6 cascades in Unit 1 had yet to start.[20]

11. Iran, in a letter dated 26 June 2024, informed the Agency that, in addition to natural and low enriched uranium, it intended to start using depleted uranium as feed material and to re-install the feed and withdrawal station for Unit 1 that had previously been dismantled.

12. On 26 August 2024, the Agency verified: that installation of the eight aforementioned IR-6 cascades in Unit 1 had been completed; no IR-1 centrifuges had yet been replaced with IR-6 centrifuges in Unit 2; and re-installation of the feed and withdrawal station for Unit 1 had yet to start. Iran has not specified to the Agency when it would start feeding any of the cascades in Unit 1 with UF_6 or the planned enrichment level of the product of this cascade.[21]

FEP

13. On 14 July 2024, the Agency verified in Hall A1000 at FEP that Iran was feeding natural UF_6 into 15 of the already installed cascades (six IR-2m and nine IR-4 cascades) for the production of UF_6 enriched up to 5% U-235 for the first time. Iran had also started installing centrifuges in one of the planned 18 IR-2m cascades in another enrichment unit in Hall A1000.

14. On 24 August 2024, the Agency verified that, of the aforementioned 18 planned IR-2m cascades in one enrichment unit in Hall A1000, installation of ten had been completed and installation of another two was ongoing. The Agency also verified that the installation of sub-headers in another enrichment unit in Hall A1000 remained ongoing[22] and that the planned installation of additional enrichment units in Hall B1000 had yet to start.

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[16] GOV/INF/2024/9, para 2.

[17] GOV/2023/39, para. 16.

[18] GOV/INF/2024/9, para. 4.

[19] GOV/INF/2024/9, para. 6.

[20] GOV/INF/2024/9, para. 3.

[21] Iran's current design information questionnaire (DIQ) for FFEP specifies an enrichment level of up to 20% U-235 for cascades installed in Unit 1.

[22] On 24 December 2023, Iran informed the Agency that it intended to "install some infrastructure" in one additional enrichment unit of FEP in Hall A1000. The installation of cascade sub-headers in this enrichment unit was first observed by the Agency in April 2024.

PFEP

15. As previously reported, on 10 June 2024, the Agency verified in Hall A1000 at PFEP that Iran was feeding depleted UF_6 into a cascade of 20 IR-4 centrifuges,[23] a cascade of 20 IR-6s centrifuges and a cascade of 20 IR-6 centrifuges installed in research and development (R&D) Lines A, B and C, respectively, in order to produce UF_6 enriched up to 2% U-235.[24]

16. As previously reported, on 22 June 2024, the Agency verified in Hall A1000 at PFEP that Iran had installed a full cascade of 174 IR-6 centrifuges in R&D Production Line D. On 23 July 2024, the Agency verified that Iran had started feeding this cascade with depleted uranium to produce UF_6 enriched up to 5% U-235.[25]

C.3.3. Current status of Iran's Enrichment Facilities

FFEP

17. On 26 August 2024, the Agency verified at FFEP in Unit 2 that Iran was continuing to feed UF_6 enriched up to 5% U-235: into up to 1044 IR-1 centrifuges in three sets of two interconnected cascades to enrich UF_6 up to 20% U-235; and into 332 IR-6 centrifuges in one set of two interconnected cascades to enrich UF_6 up to 60% U-235.

FEP

18. On 21 August 2024, the Agency verified at FEP that 36 IR-1 cascades, 15 IR-2m cascades, 12 IR-4 cascades and 3 IR-6 cascades were being fed with natural UF_6 to produce UF_6 enriched up to 5% U-235.

PFEP

19. On 21 August 2024, the Agency verified that the activities at PFEP were as follows:

- R&D lines 1, 2 and 3 in the original area of PFEP: Iran has continued to accumulate uranium enriched up to 2% U-235 through feeding natural UF_6 into small and intermediate cascades comprising up to: 12 IR-1 centrifuges; 94 IR-2m centrifuges and nine IR-2m centrifuges; 20 IR-4 centrifuges and ten IR-4 centrifuges; six IR-5 centrifuges and 19 IR-5 centrifuges; nine IR-6 centrifuges, 20 IR-6 centrifuges, 19 IR-6 centrifuges and four IR-6 centrifuges. The following single centrifuges were being tested with natural UF_6 but not accumulating enriched uranium: two IR-2m centrifuges; five IR-4 centrifuges; three IR-5 centrifuges; six IR-6 centrifuges; one IR-6s centrifuge; one IR-7 centrifuge; one IR-8 centrifuge; one IR-8B centrifuge; and one IR-9 centrifuge.

- R&D production lines 4, 5 and 6 in the original area of PFEP: Iran was feeding UF_6 enriched up to 5% U-235 into two interconnected cascades in R&D production lines 4 and 6, comprising up to 164 IR-4 and up to 164 IR-6 centrifuges, respectively, to produce UF_6 enriched up to 60% U-235, and the tails produced from R&D production line 6 were being fed into a cascade of 168 IR-4 and four IR-6 centrifuges in R&D production line 5 to produce UF_6 enriched up to 5% U-235.

- PFEP area in Hall A1000: Iran was feeding depleted UF_6 into small cascades of 20 IR-6s centrifuges and 20 IR-6 centrifuges, in R&D lines B and C respectively,[26] and into a full cascade

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[23] The centrifuges in this cascade were subsequently removed by Iran.

[24] GOV/INF/2024/8, para. 4.

[25] GOV/INF/2024/9, para. 8.

[26] The 20 IR-4 centrifuges in R&D line A had been removed (see footnote 23).

of 174 IR-6 centrifuges in R&D production line D, in order to produce UF_6 enriched up to 5% U-235.[27]

C.4. Activities Related to Fuel

20. **Fuel Plate Fabrication Plant (FPFP):** On 21 August 2024, the Agency verified that no progress had been made regarding the remaining two stages of the process[28] for the production of UF_4 from UF_6. Installation of the equipment for the first stage of the process had been completed but had yet to undergo testing using nuclear material. Iran has not produced any uranium metal during this reporting period.

21. **UCF:** As of 12 August 2024, the Agency verified that no nuclear material had been introduced into the production area of the UCF at Esfahan, where installation of equipment for the production of uranium metal had been completed and which was ready to operate.[29]

22. **Tehran Research Reactor (TRR):** As of 18 August 2024, the Agency verified that all previously irradiated TRR fuel elements in Iran had a measured dose rate of no less than 1 rem/hour (at one metre in air), except one control fuel assembly.[30] On the same day, the Agency verified that 12 fresh TRR standard fuel assemblies and one control fuel assembly, previously received from FPFP, had yet to be irradiated.

23. **Uranium conversion campaign:** On 10 August 2024, during a DIV conducted by the Agency at KHRR, Iran informed the Agency that the purpose of a campaign to convert 650 kg of UF_6 enriched up to 5% U-235 to UO_2, which had begun on 21 May 2024 at the facilities at Esfahan, was for the production of fuel assemblies for KHRR. The campaign will involve individual conversion and fuel assembly lines at the Enriched UO_2 Powder Plant (EUPP), FPFP, UCF and the Fuel Manufacturing Plant (FMP).

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[27] Iran's current DIQ for PFEP specifies feeding depleted or natural UF_6 to produce UF_6 enriched up to 5% U-235 in the cascades of PFEP in Hall A1000.

[28] GOV/INF/2021/3, para. 5.

[29] GOV/2023/24, para. 49.

[30] The amount of uranium in the irradiated control fuel assembly has been included in the enriched uranium stockpile.

C.5. Enriched Uranium Stockpile

24. Iran has estimated[31] that at FFEP from 11 May 2024 to 16 August 2024:

- 27.4 kg of UF_6 enriched up to 60% U-235 were produced;[32]
- 65.4 kg of UF_6 enriched up to 20% U-235 were produced;[33]
- 951.2 kg of UF_6 enriched up to 5% U-235 were fed into cascades;[34] and
- 859.7 kg of UF_6 enriched up to 2% U-235 were accumulated as tails.

25. Iran has estimated[35] that at FEP from 11 May 2024 to 16 August 2024, 1725.1 kg of UF_6 enriched up to 5% U-235 were produced, either from 2483.7 kg of UF_6 enriched up to 2% U-235 or from natural UF_6.[36]

26. Iran has estimated[37] that at PFEP from 11 May 2024 to 16 August 2024:[38]

- 14.9 kg of UF_6 enriched up to 60% U-235 were produced in R&D production lines 4 and 6;
- 320.6 kg of UF_6 enriched up to 5% U-235 were fed into cascades installed in R&D production lines 4, 5 and 6;
- 104.6 kg of UF_6 enriched up to 5% U-235 were produced in R&D production line 5;
- 14.0 kg of UF_6 enriched up to 5% U-235 were produced in Hall A1000, R&D lines A, B and C and R&D production line D;
- 64.7 kg of UF_6 enriched up to 2% U-235 were produced in R&D lines 1, 2 and 3;
- 201.8 kg of UF_6 enriched up to 2% U-235 were accumulated as tails from R&D production line 5; and
- 7.4 kg of UF_6 enriched up to 2% U-235 were produced in Hall A1000, R&D lines A, B and C and collected separately before the product from these lines was combined with the product from R&D production line D.

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[31] The amount of UF_6 enriched up to 60% U-235 produced at FFEP is based on the amount verified by the Agency when collecting cylinders are detached from the process. For other material categories at FFEP, Iran's estimates are reported.

[32] The Agency has verified all 132.1 kg of UF_6 enriched up to 60% U-235 that has been produced since 21 November 2022.

[33] Out of the overall production of UF_6 enriched up to 20% U-235 at FFEP since 16 February 2021, the Agency has verified 991.2 kg of UF_6 enriched up to 20% U-235.

[34] Iran estimated that 1.2 kg of UF_6 up to 5% U-235 were "dumped" (i.e., not used for the enrichment of UF_6 but remaining in the process). This amount is included in the inventory of low enriched uranium (LEU) enriched up to 5% U-235 at FFEP pending its removal from the process and verification by the Agency.

[35] Since 23 February 2021, as the Agency has only been able to verify Iran's production of enriched UF_6 at FEP once the enriched uranium product has been removed from the process, the quantity of nuclear material that remains in the process can only be estimated. Out of the overall production of UF_6 enriched up to 5% U-235 at FEP since 16 February 2021, the Agency has verified 14 584.2 kg of UF_6 enriched up to 5% U-235.

[36] Iran estimated that 5.6 kg of UF_6 enriched up to 2% U-235 were "dumped". This amount is included in the inventory of LEU enriched up to 2% U-235 at FEP pending its removal from the process and verification by the Agency.

[37] The amount of UF_6 enriched up to 60% U-235 produced at PFEP is based on the amount verified by the Agency when collecting cylinders are detached from process. For other material categories at PFEP, Iran's estimates are reported.

[38] Out of the overall production at PFEP using R&D production lines 4, 5 and 6, since 14 April 2021, the Agency has verified that the following amounts of UF_6 had been produced: 2248.9 kg of UF_6 enriched up to 5% U-235, 25.1 kg of UF_6 enriched up to 20% U-235 and all 188.7 kg of UF_6 enriched up to 60% U-235.

27. Since 16 February 2021, the Agency has not been able to verify Iran's total enriched uranium stockpile[39] precisely on any given day, needing to rely instead on a small proportion of the total being based on Iran's estimates. Based on the information provided by Iran as described in the previous paragraphs and summarised in Annex I, the Agency has estimated that, as of 17 August 2024, Iran's total enriched uranium stockpile was 5751.8 kg. This figure represents a decrease of 449.5 kg since the previous quarterly report. The estimated stockpile comprised: 4951.1 kg of uranium in the form of UF_6; 645.2 kg of uranium in the form of uranium oxide and other intermediate products;[40] 45.7 kg of uranium in fuel assemblies, plates and rods; 4.4 kg of uranium in targets; and 105.4 kg of uranium in liquid and solid scrap.

28. As of 17 August 2024, the Agency has estimated that the total enriched uranium stockpile in the form of UF_6 of 4951.1 kg comprised:[41]

- 1651.0 kg of uranium enriched up to 2% U-235 (–920.0 kg since the previous quarterly report);
- 2321.5 kg of uranium enriched up to 5% U-235 (–55.4 kg);[42]
- 813.9 kg of uranium enriched up to 20% U-235 (+62.6 kg); and
- 164.7 kg of uranium enriched up to 60% U-235 (+22.6 kg).

29. As of 17 August 2024, the Agency verified that the inventory of uranium enriched up to 20% U-235 in forms other than UF_6 was 28.6 kg, consisting of 20.2 kg of uranium in fuel assemblies,[43] plates and rods, 2.8 kg of uranium in targets, 5.0 kg of uranium in other intermediate products, and 0.6 kg of uranium in liquid and solid scrap.

30. As of 17 August 2024, the inventory of uranium enriched up to 60% U-235 in forms other than UF_6 remains 2.0 kg of uranium as previously reported, consisting of 1.6 kg of uranium in irradiated targets,[44] verified at TRR on 17 August 2024, and 0.4 kg of uranium in liquid and solid scrap, verified at FPFP on 18 August 2024.

D. Other Relevant Information

31. As previously reported,[45] in September 2023, Iran informed the Agency of its decision to withdraw the designation of several experienced Agency inspectors designated for Iran. This followed a previous recent withdrawal of the designation of another experienced Agency inspector designated for Iran. This measure, while formally permitted by the NPT Safeguards Agreement, was exercised by Iran in a

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[39] Comprising enriched uranium produced at FEP, PFEP and FFEP and used as feed material at PFEP and FFEP.

[40] This includes 442.2 kg of uranium enriched up to 5% U-235 in the form of UF_6 which has been converted to other forms of uranium for fuel fabrication at the facilities at Esfahan during this reporting period (see para. 23).

[41] Taking into account the verified mixing of a total of 5.9 kg of uranium enriched up to 60% U-235 with 12.5 kg of uranium enriched up 2% U-235 to produce an additional 18.4 kg of uranium enriched up to 20% U-235 previously reported (GOV/2024/26, para.19, footnote 32).

[42] This takes into account the 442.2 kg of uranium enriched up to 5% U-235 in the form of UF_6 which has been converted to other forms of uranium.

[43] During the reporting period, one fresh fuel assembly containing 1.5 kg of uranium enriched up to 20% U-235 was loaded into the reactor core at TRR and this amount of nuclear material was thus removed from the stockpile.

[44] Irradiated at TRR and stored in the reactor pool.

[45] GOV/INF/2023/14, para. 1.

manner that directly and seriously affects the Agency's ability to conduct effectively its verification activities in Iran, in particular at the enrichment facilities. The Director General requested Iran to reverse its decision to withdraw the designations.

32. In a letter dated 6 June 2024, Vice-President Eslami informed the Director General that "pursuant to careful and in depth consideration of request to reverse the withdrawal of designation of certain inspectors", Iran's position "with regard to the de-designation of those inspectors is unchanged and this position will remain as it is".

E. Summary

33. The Agency's JCPOA-related verification and monitoring has been seriously affected by the cessation of Iran's implementation of its nuclear-related commitments under the JCPOA. The situation has been exacerbated by Iran's subsequent decision to have all of the Agency's JCPOA-related surveillance and monitoring equipment removed.

34. The Agency has lost continuity of knowledge in relation to the production and inventory of centrifuges, rotors and bellows, heavy water and UOC as a result of not having been able to perform related JCPOA verification and monitoring activities for more than three and a half years.

35. Iran's decision to remove all of the Agency's equipment previously installed in Iran for JCPOA-related surveillance and monitoring activities has also had detrimental implications for the Agency's ability to provide assurance of the peaceful nature of Iran's nuclear programme.

36. It has also been more than three and a half years since Iran stopped provisionally applying its Additional Protocol. Therefore, throughout this period, Iran has not provided updated declarations and the Agency has not been able to conduct complementary access to any sites and other locations in Iran.

37. The continued production and accumulation of high enriched uranium by Iran, the only non-nuclear weapon State to do so, adds to the Agency's concerns.

38. The Director General deeply regrets that Iran has not reversed its decision to withdraw the designations for several experienced Agency inspectors. This is essential to fully allow the Agency to conduct its verification activities in Iran effectively.

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

Annex I

Enriched UF_6 Feed, Production and Inventory since the Director General's previous Quarterly Report

Facility	Centrifuge Type	Feed Enrichment Level (% U-235)	Quantity Fed ($kgUF_6$)	Product Enrichment Level (% U-235)	Quantity Produced ($kgUF_6$)
FFEP	IR-1	<5%	951.2	<60%	27.4
	IR-6			<20%	65.4
				<2%	859.7
FEP	IR-1	Natural	–	<5%	1725.1
	IR-2m				
	IR-4	<2%	2483.7		
	IR-6				
PFEP	IR-4 (Line 4) and IR-6 (Line 6)	<5%	320.6	<60%	14.9
	IR-4 and IR-6 (Line 5)	Tails from Line 6	N/A	<5%	104.6
				<2%	201.8
	Various (Lines 1, 2 and 3)	Natural	–	<2%	64.7
	IR-6 (Hall A1000, Line D), Various (Lines A, B and C)	Depleted	–	<5%	14.0
				<2%	7.4

Enrichment level (% U-235)	Inventory as at 11 May 2024 (kgU)	Quantity Fed (kgU)	Quantity Produced (kgU)	Inventory as at 17 August 2024 (kgU)
<2%	2571.0	1676.5	765.8	1651.0[46]
<5%	2376.9	858.5	1244.5	2321.5[47]
<20%	751.3		44.1	813.9[48]
<60%	142.1		28.6	164.7[49]

[46] See footnotes 41 and 36.

[47] See footnotes 34 and 42.

[48] See footnote 41.

[49] See footnote 41.

Annex II

List of acronyms

AEOI	Atomic Energy Organization of Iran
DIQ	Design Information Questionnaire
DIV	Design Information Verification
EUPP	Enriched Uranium Powder Plant
FEP	Fuel Enrichment Plant
FLUM	Flow-rate Unattended Monitoring
FMP	Fuel Manufacturing Plant
FPFP	Fuel Plate Fabrication Plant
FFEP	Fordow Fuel Enrichment Plant
HWPP	Heavy Water Production Plant
JCPOA	Joint Comprehensive Plan of Action
JHL	Jaber Ibn Hayan Multipurpose Laboratory
KHRR	Khondab Heavy Water Research Reactor
MIX facility	Molybdenum, Iodine and Xenon Radioisotope Production facility
OLEM	On-Line Enrichment Monitor
PFEP	Pilot Fuel Enrichment Plant
PIV	Physical Inventory Verification
TRR	Tehran Research Reactor
UCF	Uranium Conversion Facility
UOC	Uranium Ore Concentrate