



# Board of Governors

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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 report.<sup>1</sup>

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 €10.4 million per annum, of which €4.6 million is funded by extrabudgetary contributions.<sup>2</sup> As of 11 November 2024, extrabudgetary funding had been pledged sufficient to meet the cost of JCPOA-related activities until the end of April 2025.<sup>3</sup>

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<sup>1</sup> GOV/2024/41.

<sup>2</sup> These figures have been adjusted to reflect current costs and the latest 2025 budget update.

<sup>3</sup> 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,<sup>4</sup> 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.<sup>5</sup>

## 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,<sup>6</sup> consistent with the Agency’s standard safeguards practices.<sup>7,8</sup>

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<sup>9</sup>).
- 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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<sup>4</sup> On 8 May 2018, the 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/>.

<sup>5</sup> 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).

<sup>6</sup> Including the clarifications referred to in para. 3 of GOV/2021/39.

<sup>7</sup> GOV/2016/8, para. 6.

<sup>8</sup> Note by the Secretariat, 2016/Note 5.

<sup>9</sup> 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.<sup>10</sup>
- 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 of not having been able to perform JCPOA-related verification and monitoring activities for more than three and a half years, the Agency has lost continuity of knowledge in relation to the production and current inventory of centrifuges, rotors and bellows, heavy water and UOC, which it will not be possible to restore.

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<sup>10</sup> 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	23 October 2024
C	Heavy Water Production Plant (HWPP)	February 2021 <sup>11*</sup>
D	Other Reactors	Unavailable since February 2021
E	Spent Fuel Reprocessing Activities	TRR: 19 October 2024 MIX Facility: 20 October 2024 JHL: 16 October 2024 Shielded cells: February 2021*
F	Enrichment Capacity	FFEP: 5 November 2024 FEP: 29 October 2024 PFEP: 6 November 2024
G	Centrifuge Research and Development	6 November 2024
H	Fordow Fuel Enrichment Plant (FFEP)	5 November 2024
I	Other Aspects of Enrichment	See Sections F, G and H above
J	Uranium Stocks and Fuels	30 October 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 116 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 23 October 2024, minor civil construction work was ongoing at the Khondab Heavy Water Research Reactor (KHRR). Although the commissioning of KHRR had been expected in 2023 using the IR-20 dummy fuel assemblies,<sup>12</sup> during a design information verification (DIV) on 10 August 2024, Iran informed the Agency that commissioning was now expected to take place in 2025 and operation to start in 2026. On 23 October 2024, the Agency did not observe any significant changes compared to the

<sup>11</sup> Based on its analysis of commercially available satellite imagery, the Agency assessed that the HWPP resumed operating after being shut down for maintenance during the previous reporting period.

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

Director General’s previous quarterly report. On the same day, Iran acknowledged receipt of the Agency’s request for an update of the design information questionnaire (DIQ).

### C.3. Activities Related to Enrichment

#### C.3.1. Summary of Iran’s Enrichment Capacity

Facility	Centrifuge Type	Total Planned Cascades <sup>13</sup>	Installed Cascades	Total Operating Cascades <sup>14</sup>
Fordow Fuel Enrichment Plant (FFEP)	IR-1		6	6
	IR-6	16 <sup>15</sup>	10	2
Fuel Enrichment Plant (FEP)	IR-1	36	36	36
	IR-2m	39	37 (+6)*	15
	IR-4	12	12	12
	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
	Various (Hall A1000, Lines A, B, C and E)			

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

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

##### FFEP

9. On 5 November 2024, the Agency verified: that feeding of the eight IR-6 cascades installed in Unit 1 had yet to begin;<sup>16</sup> 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 begin.<sup>17</sup> Iran has not specified to

<sup>13</sup> 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.

<sup>14</sup> Cascades are considered to be operating if they have been fed with UF<sub>6</sub> for enrichment of collected product.

<sup>15</sup> Iran has declared that it will replace the six cascades of IR-1 centrifuges in Unit 2 with IR-6 centrifuges.

<sup>16</sup> GOV/INF/2024/9, para 2; GOV/2024/41, para.10.

<sup>17</sup> GOV/2024/41, para. 11.

the Agency when it would start feeding any of the cascades in Unit 1 with UF<sub>6</sub> or the planned enrichment level of the product of these cascades.<sup>18</sup>

#### **FEP**

10. On 29 October 2024, the Agency verified that, of the 18 planned IR-2m cascades in one enrichment unit in Hall A1000,<sup>19</sup> installation of 16 had been completed and installation of another one was ongoing. The Agency also verified that the installation of sub-headers in another enrichment unit in Hall A1000 had been completed<sup>20</sup> and that the planned installation of additional enrichment units in Hall B1000 had yet to begin.

#### **PFEP**

11. As previously reported, on 23 July 2024 Iran completed the actions at PFEP it had announced in its letter of 13 June 2024.<sup>21</sup>

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

#### **FFEP**

12. On 5 November 2024, the Agency verified at FFEP in Unit 2 that Iran was continuing to feed UF<sub>6</sub> enriched up to 5% U-235: into up to 1044 IR-1 centrifuges in three sets of two interconnected cascades to enrich UF<sub>6</sub> up to 20% U-235; and into 335 IR-6 centrifuges in one set of two interconnected cascades to enrich UF<sub>6</sub> up to 60% U-235.

#### **FEP**

13. On 29 October 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<sub>6</sub> to produce UF<sub>6</sub> enriched up to 5% U-235.

#### **PFEP**

14. On 6 November 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<sub>6</sub> into small and intermediate cascades comprising up to: 12 IR-1 centrifuges; 93 IR-2m centrifuges and ten IR-2m centrifuges; ten IR-4 centrifuges; nine IR-5 centrifuges and 19 IR-5 centrifuges; 20 IR-6 centrifuges, 19 IR-6 centrifuges, 19 IR-6 centrifuges and four IR-6 centrifuges. The following single centrifuges were being tested with natural UF<sub>6</sub> but not accumulating enriched uranium: three IR-2m centrifuges; four IR-4 centrifuges; two IR-5 centrifuges; five 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<sub>6</sub> 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<sub>6</sub> enriched up to 60%

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<sup>18</sup> Iran's current DIQ for FFEP specifies an enrichment level of up to 20% U-235 for cascades installed in Unit 1.

<sup>19</sup> GOV/INF/2024/9, para. 4; GOV/2024/41, para. 14.

<sup>20</sup> 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.

<sup>21</sup> GOV/2024/41, para. 9.

U-235 and the tails produced from R&D production line 6 were being fed into a cascade of up-to 168 IR-4 and four IR-6 centrifuges in R&D production line 5.

- PFEP area in Hall A1000: Iran has continued to accumulate uranium enriched up to 5% U-235 through feeding depleted UF<sub>6</sub> into small and intermediate cascades of up to 20 IR-4 centrifuges, 20 IR-6 centrifuges, 17 IR-6 centrifuges and 20 IR-6s centrifuges in R&D lines A, B and C and into a full cascade of up to 174 IR-6 centrifuges in R&D production line D. An intermediate cascade of 50 IR-2m centrifuges was installed in line E.

### C.3.4. Stockpile of Uranium Enriched up to 60% U-235

15. During high level meetings between the Agency and Iran in Tehran on 14 November 2024, the possibility of Iran not further expanding its stockpile of uranium enriched up to 60% U-235 was discussed, including technical verification measures necessary for the Agency to confirm this, if implemented. On 16 November 2024, the Agency verified at FFEP and FEP that Iran had begun implementation of preparatory measures aimed at stopping the increase of its stockpile of uranium enriched up to 60% U-235. Exchanges between the Agency and Iran on this matter are expected to continue.

## C.4. Activities Related to Fuel

16. **Fuel Plate Fabrication Plant (FPFP):** On 2 November 2024, the Agency verified that no progress had been made regarding the remaining two stages of the process<sup>22</sup> for the production of UF<sub>4</sub> from UF<sub>6</sub>. 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. Upon request from Iran, the Agency immobilised one cylinder containing UF<sub>6</sub> enriched up to 20% U-235 at the feed station at FPFP for conversion into U<sub>3</sub>O<sub>8</sub>.

17. **UCF:** As of 4 November 2024, the Agency verified that no nuclear material had been introduced into the production area of UCF at Esfahan, where installation of equipment for the production of uranium metal had been completed and which was ready to operate.<sup>23</sup>

18. **Tehran Research Reactor (TRR):** As of 19 October 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.<sup>24</sup> On the same day, the Agency verified that 11 fresh TRR standard fuel assemblies and one control fuel assembly, previously received from FPFP, had yet to be irradiated.

19. **Uranium conversion campaign:** As previously reported, in August 2024, Iran informed the Agency that the purpose of a campaign to convert 650 kg of UF<sub>6</sub> enriched up to 5% U-235 into UO<sub>2</sub>, which had begun on 21 May 2024 at the facilities at Esfahan, was for the production of low enriched uranium (LEU) fuel assemblies for KHRR.<sup>25</sup> This LEU conversion campaign involves individual conversion and fuel assembly lines at the Enriched UO<sub>2</sub> Powder Plant (EUPP), FPFP, UCF and the Fuel Manufacturing Plant (FMP). As of 5 November 2024, 10.5 kg of UO<sub>2</sub> enriched up to 3.3% U-235 had been produced.

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<sup>22</sup> GOV/INF/2021/3, para. 5.

<sup>23</sup> GOV/2023/24, para. 49.

<sup>24</sup> The amount of uranium in the irradiated control fuel assembly has been included in the enriched uranium stockpile.

<sup>25</sup> GOV/2024/41, para. 23.

## C.5. Enriched Uranium Stockpile

20. Iran has estimated<sup>26</sup> that at FFEP from 17 August 2024 to 25 October 2024:

- 15.7 kg of UF<sub>6</sub> enriched up to 60% U-235 were produced;<sup>27</sup>
- 37.4 kg of UF<sub>6</sub> enriched up to 20% U-235 were produced;<sup>28</sup>
- 566.9 kg of UF<sub>6</sub> enriched up to 5% U-235 were fed into cascades;<sup>29</sup> and
- 513.8 kg of UF<sub>6</sub> enriched up to 2% U-235 were accumulated as tails.

21. Iran has estimated<sup>30</sup> that at FEP from 17 August 2024 to 25 October 2024, 1174.3 kg of UF<sub>6</sub> enriched up to 5% U-235 were produced from natural UF<sub>6</sub>.

22. Iran has estimated<sup>31</sup> that at PFEP from 17 August 2024 to 25 October 2024:

- 10.3 kg of UF<sub>6</sub> enriched up to 60% U-235 were produced in R&D production lines 4 and 6;<sup>32</sup>
- 301.7 kg of UF<sub>6</sub> enriched up to 5% U-235 were fed into cascades installed in R&D production lines 4, 5 and 6;
- 78.8 kg of UF<sub>6</sub> enriched up to 5% U-235 were produced in R&D production line 5;
- 19.5 kg of UF<sub>6</sub> enriched up to 5% U-235 were produced in Hall A1000, R&D lines A, B and C and R&D production line D;
- 73.6 kg of UF<sub>6</sub> enriched up to 2% U-235 were produced in R&D lines 1, 2 and 3; and
- 212.5 kg of UF<sub>6</sub> enriched up to 2% U-235 were accumulated as tails from R&D production line 5.

23. Since 16 February 2021, the Agency has not been able to verify Iran's total enriched uranium stockpile<sup>33</sup> 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 26 October 2024, Iran's total enriched uranium stockpile was 6604.4 kg. This figure represents an increase of 852.6 kg since the previous quarterly report. The estimated stockpile comprised: 5807.2 kg of uranium in the form of UF<sub>6</sub>; 615.8 kg of uranium in the form of uranium oxide and other intermediate products; 44.3 kg of uranium

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<sup>26</sup> The amount of UF<sub>6</sub> 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.

<sup>27</sup> The Agency has verified all 147.8 kg of UF<sub>6</sub> enriched up to 60% U-235 that has been produced since 21 November 2022.

<sup>28</sup> Out of the overall production of UF<sub>6</sub> enriched up to 20% U-235 at FFEP since 16 February 2021, the Agency has verified 1021.4 kg of UF<sub>6</sub> enriched up to 20% U-235.

<sup>29</sup> Iran estimated that 0.9 kg of UF<sub>6</sub> up to 5% U-235 were "dumped" (i.e., not used for the enrichment of UF<sub>6</sub> but remaining in the process). This amount is included in the inventory of LEU enriched up to 5% U-235 at FFEP pending its removal from the process and verification by the Agency.

<sup>30</sup> Since 23 February 2021, as the Agency has only been able to verify Iran's production of enriched UF<sub>6</sub> 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<sub>6</sub> enriched up to 5% U-235 at FEP since 16 February 2021, the Agency has verified 16 068 kg of UF<sub>6</sub> enriched up to 5% U-235.

<sup>31</sup> The amount of UF<sub>6</sub> 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.

<sup>32</sup> The Agency has verified all 199 kg of UF<sub>6</sub> enriched up to 60% U-235 that has been produced at PFEP since 14 April 2021.

<sup>33</sup> Comprising enriched uranium produced at FEP, PFEP and FFEP and used as feed material at PFEP and FFEP.



in fuel assemblies, plates and rods; 4.4 kg of uranium in targets; and 132.7 kg of uranium in liquid and solid scrap.

24. As of 26 October 2024, the Agency has estimated that the total enriched uranium stockpile in the form of UF<sub>6</sub> of 5807.2 kg comprised:

- 2190.9 kg of uranium enriched up to 2% U-235 (+539.9 kg since the previous quarterly report);
- 2594.8 kg of uranium enriched up to 5% U-235 (+273.3 kg);
- 839.2 kg of uranium enriched up to 20% U-235 (+25.3 kg); and
- 182.3 kg of uranium enriched up to 60% U-235 (+17.6 kg).<sup>34</sup>

25. As of 26 October 2024, the Agency verified that the inventory of uranium enriched up to 20% U-235 in forms other than UF<sub>6</sub> was 27.2 kg, consisting of 18.8 kg of uranium in fuel assemblies,<sup>35</sup> 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.

26. As of 26 October 2024, the inventory of uranium enriched up to 60% U-235 in forms other than UF<sub>6</sub> remains 2.0 kg of uranium as previously reported, consisting of 1.6 kg of uranium in irradiated targets,<sup>36</sup> verified at TRR on 18 October 2024, and 0.4 kg of uranium in liquid and solid scrap, verified at PFP on 26 October 2024.

## D. Other Relevant Information

27. As previously reported,<sup>37</sup> 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 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.

28. During high level meetings between the Agency and Iran in Tehran on 14 November 2024, Iran agreed to respond to the Agency's concerns related to Iran's withdrawal of the designation of several experienced Agency inspectors by considering the acceptance of the designation of four additional experienced inspectors

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<sup>34</sup> A small amount of UF<sub>6</sub> with an enrichment level between 20% and 60% U-235 is generated from the mixing, at PFP, of UF<sub>6</sub> with an enrichment level close to 20% U-235 and UF<sub>6</sub> with an enrichment level close to 60% U-235 during homogenization and sampling. This amount is not included in the stockpile.

<sup>35</sup> 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.

<sup>36</sup> Irradiated at TRR and stored in the reactor pool.

<sup>37</sup> GOV/INF/2023/14, para. 1.

## **E. Summary**

29. 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.

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

31. 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.

32. 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.

33. The production and accumulation of high enriched uranium by Iran, the only non-nuclear weapon State to do so, adds to the Agency's concerns. Continuity of consultations on the possibility of Iran not further expanding its stockpile of uranium enriched up to 60% U-235, as discussed during the Director General's recent visit to Tehran, would be important, including on technical verification measures necessary for the Agency to confirm this, if implemented.

34. The Director General welcomes Iran's decision to consider the acceptance of the designation of four additional experienced inspectors.

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

## Annex I

### Enriched UF<sub>6</sub> Feed, Production and Inventory since the Director General's previous Quarterly Report

Facility	Centrifuge Type	Feed Enrichment Level (% U-235)	Quantity Fed (kgUF <sub>6</sub> )	Product Enrichment Level (% U-235)	Quantity Produced (kgUF <sub>6</sub> )
FFEP	IR-1	<5%	566.9	<60%	15.7
	IR-6			<20%	37.4
				<2%	513.8
FEP	IR-1	Natural	–	<5%	1174.3
	IR-2m				
	IR-4				
	IR-6				
PFEP	IR-4 (Line 4) and IR-6 (Line 6)	<5%	301.7	<60%	10.3
	IR-4 and IR-6 (Line 5)	Tails from Line 6	N/A	<5%	78.8
				<2%	212.5
	Various (Lines 1, 2 and 3)	Natural	–	<2%	73.6
IR-6 (Hall A1000, Line D), Various (Lines A, B and C)	Depleted	–	<5%	19.5	

Enrichment level (% U-235)	Inventory as at 17 August 2024 (kgU)	Quantity Fed (kgU)	Quantity Produced (kgU)	Inventory as at 26 October 2024 (kgU)
<2%	1651.0		539.9	2190.9
<5%	2321.5	586.3	859.0	2594.8 <sup>38</sup>
<20%	813.9		25.2	839.2
<60%	164.7		17.6	182.3

<sup>38</sup> See footnote 29.

## 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