

IMPLEMENTATION DAY: FULL DESCRIPTION FROM JCPOA TEXT

It is now just over six months to the day since the historic P5+1 agreement with Iran was reached, dramatically decreasing Iran's pathways to a nuclear weapon in return for dropping economic sanctions. Although some small amounts of cash have been freed up for Iran in this intervening period, this period has consisted almost exclusively of actions by Iran while the P5+1 group of nations awaits IAEA certification that Iran has met its obligations under the agreement. Only once this certification is in place will the sanctions against Iran be dropped. Removal of many of the existing sanctions (some that don't relate to nuclear technology will remain in place and hawks in Congress are doing their best to keep or replace the ones due to be dropped) will be a huge development for Iran, as the sanctions have devastated Iran's economy. We are hearing that Implementation Day will arrive any moment now, perhaps later today or tomorrow (maybe even before I finish writing this overdue post).

We are now over two years into the P5+1 process, and so it should come as no surprise that an agreement this long in the making is very long and quite detailed. This post will be quite long and dry, as what it will do is to set out the language from the agreement that describes just what has taken place to get us to Implementation Day and what will take place as a result. Many steps have been taken to get us to this pivotal moment, and it is important that we see them laid out in orderly fashion.

Implementation Day

From the White House document (pdf) providing us excerpts of the Joint Comprehensive Plan of Action (JCPOA), we have this:

Implementation Day is the date on which, simultaneously with the IAEA report verifying implementation by Iran of the nuclear-related measures described in Sections 15.1 to 15.11 of Annex V, the EU and the United States takes the actions described in Sections 16 and 17 of Annex V.

Links to the various documents that make up the text of the agreement itself can be found [here](#).

Iran's Actions Under JCOPA

As mentioned above, sections 15.1 to 15.11 describe the actions by Iran that the IAEA will certify to have been completed. I have put the topic for each of these entries into bold text and then provide the referenced material from the other parts of the agreement:

Section 15 begins with:

Iran will implement the nuclear-related measures as specified in Annex I:

It then moves to the details:

15.1. Paragraphs 3 and 10 from Section B on "Arak Heavy Water Research Reactor";

Which reads:

3. Iran will not pursue construction at the existing unfinished reactor based on its original design and will remove the existing calandria and retain it in Iran. The calandria will be made inoperable by filling any openings in the calandria with concrete such that the IAEA can verify that it will not be usable for a future nuclear application. In redesigning and reconstructing of the modernized Arak heavy water research reactor, Iran will maximise the use of existing infrastructure already installed at the current Arak research

reactor.

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10. Iran will not produce or test natural uranium pellets, fuel pins or fuel assemblies, which are specifically designed for the support of the originally designed Arak reactor, designated by the IAEA as IR-40. Iran will store under IAEA continuous monitoring all existing natural uranium pellets and IR-40 fuel assemblies until the modernised Arak reactor becomes operational, at which point these natural uranium pellets and IR-40 fuel assemblies will be converted to UNH, or exchanged with an equivalent quantity of natural uranium. Iran will make the necessary technical modifications to the natural uranium fuel production process line that was intended to supply fuel for the IR-40 reactor design, such that it can be used for the fabrication of the fuel reloads for the modernised Arak reactor.

15.2. Paragraphs 14 and 15 from Section C on "Heavy Water Production Plant";

Which reads:

14. All excess heavy water which is beyond Iran's needs for the modernised Arak research reactor, the Zero power heavy water reactor, quantities needed for medical research and production of deuterate solutions and chemical compounds including, where appropriate, contingency stocks, will be made available for export to the international market based on international prices and delivered to the international buyer for 15 years. Iran's needs, consistent with the parameters above, are estimated to be

130 metric tonnes of nuclear grade heavy water or its equivalent in different enrichments prior to commissioning of the modernised Arak research reactor, and 90 metric tonnes after the commissioning, including the amount contained in the reactor.

15. Iran will inform the IAEA about the inventory and the production of the HWPP and will allow the IAEA to monitor the quantities of the heavy water stocks and the amount of heavy water produced, including through IAEA visits, as requested, to the HWPP.

15.3. Paragraphs 27, 28, 29, 29.1 and 29.2 from Section F on “Enrichment Capacity”;

Which reads:

27. Iran will keep its enrichment capacity at no more than 5060 IR-1 centrifuge machines in no more than 30 cascades in their current configurations in currently operating units at the Natanz Fuel Enrichment Plant (FEP) for 10 years.

28. Iran will keep its level of uranium enrichment at up to 3.67 percent for 15 years.

29. Iran will remove the following excess centrifuges and infrastructure not associated with 5060 IR-1 centrifuges in FEP, which will be stored at Natanz in Hall B of FEP under IAEA continuous monitoring:

29.1. All excess centrifuge machines, including IR-2m centrifuges. Excess IR-1 centrifuges will be used for the replacement of failed or damaged centrifuges of the same type on a one-for-one basis.

29.2. UF6 pipework including sub headers, valves and pressure transducers at cascade level, and frequency inverters, and UF6 withdrawal equipment from one of the withdrawal stations, which is currently not in service, including its vacuum pumps and chemical traps.

15.4. Paragraphs 32, 33, 34, 35, 36, 37, 38, 39, 40, 41 and 42 from Section G on "Centrifuges Research and Development";

Which reads:

32. Iran will continue to conduct enrichment R&D in a manner that does not accumulate enriched uranium. For 10 years and consistent with its enrichment R&D plan, Iran's enrichment R&D with uranium will only include IR-4, IR-5, IR-6 and IR-8 centrifuges. Mechanical testing on up to two single centrifuges for each type will be carried out only on the IR-2m, IR-4, IR-5, IR-6, IR-6s, IR-7 and IR-8. Iran will build or test, with or without uranium, only those gas centrifuges specified in this JCPOA.

33. Consistent with its plan, Iran will continue working with the 164-machine IR-2m cascade at PFEP in order to complete the necessary tests until 30 November 2015 or the day of implementation of this JCPOA, whichever comes later, and after that it will take these machines out of the PFEP and store them under IAEA continuous monitoring at Natanz in Hall B of FEP.

34. Consistent with its plan, Iran will continue working with the 164-machine IR-4 cascade at PFEP in order to complete the necessary tests until 30 November 2015 or the day of implementation of this JCPOA, whichever

comes later, and after that it will take these machines out of the PFEP and store them under IAEA continuous monitoring at Natanz in Hall B of FEP.

35. Iran will continue the testing of a single IR-4 centrifuge machine and IR-4 centrifuge cascade of up to 10 centrifuge machines for 10 years.

36. Iran will test a single IR-5 centrifuge machine for 10 years.

37. Iran will continue testing of the IR-6 on single centrifuge machines and its intermediate cascades and will commence testing of up to 30 centrifuge machines from one and a half years before the end of year 10. Iran will proceed from single centrifuge machines and small cascades to intermediate cascades in a logical sequence.

38. Iran will commence, upon start of implementation of the JCPOA, testing of the IR-8 on single centrifuge machines and its intermediate cascades and will commence the testing of up to 30 centrifuges machines from one and a half years before the end of year 10. Iran will proceed from single centrifuges to small cascades to intermediate cascades in a logical sequence.

39. For 10 years, Iran, consistent with the established practice, will recombine the enriched and depleted streams from the IR-6 and IR-8 cascades through the use of welded pipework on withdrawal main headers in a manner that precludes the withdrawal of enriched and depleted uranium materials and verified by the IAEA.

40. For 15 years, Iran will conduct all testing of centrifuges with uranium only at the PFEP. Iran will conduct all mechanical testing of centrifuges only at the PFEP and the Tehran Research

Centre.

41. For the purpose of adapting PFEP to the R&D activities in the enrichment and enrichment R&D plan, Iran will remove all centrifuges except those needed for testing as described in the relevant paragraphs above, except for the IR-1 cascade (No. 1) as described below. For the full IR-1 cascade (No. 6), Iran will modify associated infrastructure by removing UF6 pipework, including sub-headers, valves and pressure transducers at cascade level, and frequency inverters. The IR-1 cascade (No. 1) centrifuges will be kept but made inoperable, as verified by the IAEA, through the removal of centrifuge rotors and the injection of epoxy resin into the sub headers, feeding, product, and tails pipework, and the removal of controls and electrical systems for vacuum, power and cooling. Excess centrifuges and infrastructure will be stored at Natanz in Hall B of FEP under IAEA continuous monitoring. The R&D space in line No. 6 will be left empty until Iran needs to use it for its R&D programme.

42. Consistent with the activities in the enrichment and enrichment R&D plan, Iran will maintain the cascade infrastructure for testing of single centrifuges and small and intermediate cascades in two R&D lines (No. 2 and No. 3) and will adapt two other lines (No. 4 and No. 5) with infrastructure similar to that for lines No. 2 and No. 3 in order to enable future R&D activities as specified in this JCPoA. Adaptation will include modification of all UF6 pipework (including removal of all sub headers except as agreed as needed for the R&D programme) and associated instrumentation to be compatible with single centrifuges and small and

intermediate cascade testing instead of full scale testing.

15.5. Paragraphs 45, 46, 46.1, 46.2, 47.1, 48.1 from Section H on "Fordow Fuel Enrichment Plant";

Which reads:

45. Iran will not conduct any uranium enrichment or any uranium enrichment related R&D and will have no nuclear material at the Fordow Fuel Enrichment Plant (FFEP) for 15 years.

46. For 15 years, Iran will maintain no more than 1044 IR-1 centrifuge machines at one wing of the FFEP of which:

46.1. Two cascades that have not experienced UF₆ before will be modified for the production of stable isotopes. The transition to stable isotope production of these cascades at FFEP will be conducted in joint partnership between the Russian Federation and Iran on the basis of arrangements to be mutually agreed upon. To prepare these two cascades for installation of a new cascade architecture appropriate for stable isotope production by the joint partnership, Iran will remove the connection to the UF₆ feed main header, and move cascade UF₆ pipework (except for the dump line in order to maintain vacuum) to storage in Fordow under IAEA continuous monitoring. The Joint Commission will be informed about the conceptual framework of stable isotope production at FFEP.

46.2. For four cascades with all associated infrastructure remaining except for pipework that enables crossover tandem connections, two will be placed in an idle state, not spinning. The other two cascades will

continue to spin until the transition to stable isotope production described in the previous subparagraph has been completed. Upon completion of = the transition to stable isotope production described in the previous subparagraph, these two spinning cascades will be placed in an idle state, not spinning.

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47.1. remove the other 2 cascades of IR-1 centrifuges from this wing, by removing all centrifuges and cascade UF6 pipework, including sub headers, valves and pressure transducers at cascade level, and frequency inverters.

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48.1. remove all excess centrifuges and uranium enrichment related infrastructure from the other wing of the FFEP. This will include removal of all centrifuges and UF6 pipework, including sub headers, valves and pressure gauges and transducers, and frequency inverters and converters, and UF6 feed and withdrawal stations.

15.6. Paragraphs 52, 54 and 55 from Section I on "Other Aspects of Enrichment";

Which reads:

52. Iran will abide by its voluntary commitments as expressed in its own long term enrichment and enrichment R&D plan to be submitted as part of the initial declaration described in Article 2 of the Additional Protocol.¹ The IAEA will confirm on an annual basis, for the duration of the plan that the nature and scope and scale of Iran's enrichment and enrichment R&D activities are in line with this plan.

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54. An agreed template for describing different centrifuge types (IR-1, IR-2m, IR-4, IR-5, IR-6, IR-6s, IR-7, IR-8) and the associated definitions need to be accomplished by implementation day.

55. An agreed procedure for measuring IR-1, IR-2m and IR-4 centrifuge performance data needs to be accomplished by implementation day.

15.7. Paragraphs 57 and 58 from Section J on "Uranium Stocks and Fuels";

Which reads:

57. All enriched uranium hexafluoride in excess of 300 kg of up to 3.67% enriched UF₆ (or the equivalent in different chemical forms) will be down blended to natural uranium level or be sold on the international market and delivered to the international buyer in return for natural uranium delivered to Iran. Iran will enter into a commercial contract with an entity outside Iran for the purchase and transfer of its enriched uranium stockpile in excess of 300 kg UF₆ in return for natural uranium delivered to Iran. The E3/EU+3 will facilitate, where applicable, the conclusion and implementation of this contract. Iran may choose to seek to sell excess enriched uranium to the IAEA fuel bank in Kazakhstan when the fuel bank becomes operational.

58. All uranium oxide enriched to between 5% and 20% will be fabricated into fuel plates for the Tehran Research Reactor or transferred, based on a commercial transaction, outside of Iran or diluted to an enrichment level of 3.67% or less. Scrap oxide and other forms not in plates that cannot be

fabricated into TRR fuel plates will be transferred, based on a commercial transaction, outside of Iran or diluted to an enrichment level of 3.67% or less. In case of future supply of 19.75% enriched uranium oxide (U3O8) for TRR fuel plates fabrication, all scrap oxide and other forms not in plates that cannot be fabricated into TRR fuel plates, containing uranium enriched to between 5% and 20%, will be transferred, based on a commercial transaction, outside of Iran or diluted to an enrichment level of 3.67% or less within 6 months of its production. Scrap plates will be transferred, based on a commercial transaction, outside Iran. The commercial transactions should be structured to return an equivalent amount of natural uranium to Iran. For 15 years, Iran will not build or operate facilities for converting fuel plates or scrap back to UF6.

15.8. Paragraph 62 from Section K on "Centrifuge Manufacturing";

Which reads:

62. Consistent with its plan, Iran will use the stock of IR-1 centrifuge machines in storage, which are in excess of the remaining 5060 IR-1 centrifuges in Natanz and the IR-1 centrifuges installed at Fordow, for the replacement of failed or damaged machines. Whenever during the 10 year period from the start of the implementation of the JCPOA, the level of stock of IR-1 machines falls to 500 or below, Iran may maintain this level of stock by resuming production of IR-1 machines at a rate up to the average monthly crash rate without exceeding the stock of 500.

15.9. Complete the modalities and facilities-specific arrangements to allow the IAEA to implement all transparency measures provided for in Annex I;

Which seems to entail 15.10 and 15.11 below.

15.10. Paragraphs 64 and 65 from Section L on “Additional Protocol and Modified Code 3.1”;

Which reads:

64. Iran will notify the IAEA of provisional application of the Additional Protocol to its Safeguards Agreement in accordance with Article 17(b) of the Additional Protocol pending its entry into force, and subsequently seek ratification and entry into force, consistent with the respective roles of the President and the Majlis (Parliament).

65. Iran will notify the IAEA that it will fully implement the Modified Code 3.1 of the Subsidiary Arrangement to Iran’s Safeguards Agreement as long as the Safeguards Agreement remains in force.

15.11. Paragraphs 80.1 and 80.2 from Section R on “Centrifuge Component Manufacturing Transparency”; and

Which reads:

80.1. Iran will provide the IAEA with an initial inventory of all existing centrifuge rotor tubes and bellows and subsequent reports on changes in such inventory and will permit the IAEA to verify the inventory by item counting and numbering, and through containment

and surveillance, of all rotor tubes and bellows, including in all existing and newly produced centrifuges.

80.2. Iran will declare all locations and equipment, namely flow-forming machines, filament-winding machines and mandrels that are used for production of centrifuge rotor tubes or bellows, and will permit the IAEA to implement continuous monitoring, including through containment and surveillance on this equipment, to verify that this equipment is being used to manufacture centrifuges only for the activities specified in this JCPOA.

European Union Actions

16. The European Union will:

16.1. Terminate the provisions of Council Regulation (EU) No 267/2012 and suspend the corresponding provisions of Council Decision 2010/413/CFSP specified in Sections 1.1.1- 1.1.3; 1.1.5 – 1.1.8; 1.2.1 – 1.2.5; 1.3.1, 1.3.2 (in so far as it concerns Articles 16 and 17 of Council Decision 2010/413/CFSP) and 1.3.3; 1.4.1 and 1.4.2; 1.10.1.2 (in so far as it concerns Articles 39, 43, 43a of Council Regulation (EU)No 267/2012) of Annex II. EU Member States will terminate or amend national implementing legislation as required.

It appears that the text of Council Regulation (EU) No 267/2012 can be found [here](#) and the text of Council Decision 2010/413/CFSP is [here](#).

16.2. Amend the provisions of Council Regulation (EU) No 267/2012 and the corresponding provisions of Council Decision 2010/413/CFSP specified in Sections 1.6.1 – 1.7.2 of Annex II, in connection with activities consistent

with this JCPOA.

16.3. Remove individuals and entities set forth in Attachment 1 to Annex II of this JCPOA from Annexes VIII and IX to Council Regulation (EU) 267/2012. Suspend the provisions of Council Decision 2010/413/CFSP specified in Section 1.9.1 of Annex II in relation to individuals and entities set forth in Attachment 1 to Annex II.

The list of of those being dropped from the EU sanctions in question can be found here (pdf).

16.4. Amend the provisions of Council Regulation (EU) No 267/2012 and Council Decision 2010/413/CFSP specified in Sections 1.5.1 and 1.5.2 of Annex II to implement the relevant provisions of the UN Security Council resolution referred to above.

United States Actions

17. The United States will:

A footnote attached here states:

The sanctions that the United States will cease to apply are those directed towards non-U.S. persons, as described in Section 4 of Annex II.

Section 4 of Annex II is quite long and has many footnotes. It can be found by scrolling down from here (pdf).

17.1. Cease the application of the sanctions set forth in Sections 4.1 – 4.5 and 4.7 of Annex II, with the exception of Section 211(a) of the Iran Threat Reduction and Syria Human Rights Act of 2012 (TRA);

17.2. Cease the application of the sanctions set forth in Section 4.6 of Annex II, in connection with activities consistent with this JCPOA, including trade with individuals and entities set forth in Attachment 3 to Annex II;

For Attachment 3 to Annex II, look here (pdf) and scroll down.

17.3. Remove individuals and entities set forth in Attachment 3 to Annex II from the Specially Designated Nationals and Blocked Persons List (SDN List), the Foreign Sanctions Evaders List (FSE List), and/or the Non-SDN Iran Sanctions Act List as set forth in Section 4.8.1 of Annex II;

17.4. Terminate Executive Orders 13574, 13590, 13622, 13645 and Sections 5-7 and 15 of Executive Order 13628 as set forth in Section 4 of Annex II; and

Links to those Executive Orders: 13574, 13590, 13622, 13645 (pdf), and 13628 (pdf).

17.5. License activities as set forth in Section 5 of Annex II.

Which reads:

5.1. The United States commits to:

5.1.1. Allow for the sale of commercial passenger aircraft and related parts and services to Iran by licensing the (i) export, re-export, sale, lease or transfer to Iran of commercial passenger aircraft for exclusively civil aviation end-use, (ii) export, re-export, sale, lease or transfer to Iran of spare parts and components for commercial passenger aircraft, and (iii) provision of associated serviced, including warranty, maintenance, and repair services and

safety related inspections, for all the foregoing, provided that licensed items and services are used exclusively for commercial passenger aviation;

5.1.2. License non-U.S. entities that are owned or controlled by a U.S. person to engage in activities with Iran that are consistent with this JCPOA; and

5.1.3. License the importation into the United States of Iranian-origin carpets and foodstuffs, including pistachios and caviar.

There are additional footnotes to this section which can be read at the link specified previously.

Anyone who has managed to read through all the way to this point is certainly entitled to celebrate by eating Iranian pistachios and caviar while sitting on a new Iranian carpet.

Conclusion

As can be seen from the incredibly long and detailed list of actions Iran has taken to dismantle much of its nuclear technology, Implementation Day represents a remarkable movement away from any capability to produce a nuclear weapon. A devastating array of economic sanctions has been put into place by the West, and many of these are dropped on this historic occasion.

Diplomacy has won.

Postscript

Normally, my final edit of a post consists of going back to test each link. Due to the huge number of them in this post, I won't be checking all of them, so please point out any errors in comments and I will correct them.

Update

It seems appropriate to add this illustration the White House prepared, showing us how

Netanyahu's cartoon bomb has changed as of
Implementation Day:

Worth sharing: Here's how the #IranDeal
would shut down Iran's pathway to a
nuclear weapon → <http://t.co/BWuabs0TNz>
pic.twitter.com/8aYQi2KEgq

– The White House (@WhiteHouse) April 8,
2015

Update 2 (Saturday afternoon)

And here we go, it looks like IAEA has signed
off on Iran's actions:

#IAEA Director General confirms #Iran
took all steps to start the
implementation of #JCPOA
<https://t.co/02H1NTqiQ8>
pic.twitter.com/iDV2hwnWax

– IAEA (@iaeaorg) January 16, 2016