

V. Implementation of the Joint Comprehensive Plan of Action in Iran

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After years of international concern about the purpose, extent and apparent furtiveness of its nuclear programme, Iran agreed to a Joint Comprehensive Plan of Action (JCPOA) in July 2015.¹ Iran's main commitments under the JCPOA are designed to prevent the production of highly enriched uranium and plutonium—the two 'pathways' to a nuclear weapon. Together with more intrusive inspections, these measures seek to build international confidence in Iran's intentions, to allow its nuclear programme to be 'treated in the same manner as that of any other non-nuclear weapon state party to the [1968 Non-Proliferation Treaty]'.² Iran's compliance with the JCPOA has been verified by the International Atomic Energy Agency (IAEA) in nine consecutive reports.

Despite its successful implementation, the future of the JCPOA began to look increasingly uncertain in 2017 largely due to political tensions between Iran and the United States. This section first reviews Iran's compliance during 2017 with the various aspects of the JCPOA. It then describes the political context, focusing on the responses by the other JCPOA participants to the controversial decision of US President Donald J. Trump in October 2017 to 'decertify' the JCPOA, based on his assessment that the continued lifting of US sanctions was not proportional to Iran's actions under the deal.

Iran's compliance with its JCPOA commitments

Under the JCPOA, Iran is required to limit its uranium enrichment activities, to cut its stockpiles of enriched uranium, and to redesign and rebuild the heavy water reactor in Arak with international support. In addition to the long-standing obligations under its comprehensive safeguards agreement (CSA) with the IAEA, Iran also agreed to provisionally apply the stricter provisions of a standard Additional Protocol to its CSA.

Iran's counterparts in the JCPOA are three member states of the European Union (EU)—France, Germany and the United Kingdom, known as the E3—and three other permanent members of the United Nations Security Council—China, Russia and the USA. The EU itself plays a facilitating role.

¹ Joint Comprehensive Plan of Action (JCPOA), 14 July 2015, Vienna, reproduced as Annex A of UN Security Council Resolution 2231, 20 July 2015. For background see Rauf, T., 'Resolving concerns about Iran's nuclear programme', *SIPRI Yearbook 2016*, pp. 673–88; and Rauf, T., 'Implementation of the Joint Comprehensive Plan of Action in Iran', *SIPRI Yearbook 2017*, pp. 505–10.

² JCPOA (note 1), Preamble.

Collectively they are known as the E3/EU+3. Their main commitment under the JCPOA is to gradually lift their nuclear-related sanctions.

In 2017 the IAEA issued four reports verifying Iran's continued compliance with its commitments.³

Activities related to heavy water and reprocessing

The previous design of Iran's heavy water reactor near Arak raised proliferation concerns because it would have produced spent nuclear fuel containing weapon-grade plutonium. The new design to which Iran agreed in the JCPOA minimizes the amount of plutonium produced. To address concerns over reprocessing of the spent nuclear fuel, which would involve the separation of plutonium, Iran agreed to ship abroad all the spent fuel produced by the new reactor throughout its lifetime.

Iran also agreed not to accumulate heavy water exceeding its immediate needs (estimated to be 130 tonnes before and 90 tonnes after the commissioning of the new reactor). Any heavy water produced by the Arak plant that exceeds these amounts is to be sold abroad, reportedly to Russia and the USA.⁴ This practice will continue until 2030.⁵

The 2017 IAEA reports confirmed that Iran complied with all of the above commitments—including the cap on heavy water, which had been temporarily exceeded in 2016.⁶ Iran had not pursued the construction of the Arak reactor based on its original design, and the natural uranium pellets, fuel pins and assemblies meant for that design remained in storage.⁷ On 12 April 2017 the Atomic Energy Organization of Iran signed a contract with the China National Nuclear Corporation for the design concept of the new reactor.⁸

Activities related to enrichment and fuel

Under the JCPOA, Iran also agreed not to enrich uranium above 3.67 per cent, to keep its stockpile of enriched uranium below 300 kilogrammes and to limit its enrichment activities to a single location, in Natanz. These restrictions apply for 15 years (until 2030). In addition, Iran agreed to reduce the number of its operating centrifuges to 5060—about a quarter of pre-JCPOA

³ IAEA, Board of Governors, 'Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council Resolution 2231 (2015)', Report by the Director General, 24 Feb. 2017, GOV/2017/10; 2 June 2017, GOV/2017/24; 31 Aug. 2017, GOV/2017/35; and 13 Nov. 2017, GOV/2017/48.

⁴ Katzman, K. and Kerr, P. K., *Iran Nuclear Agreement*, US Congressional Research Service (CRS) Report for Congress R43333 (US Congress, CRS: Washington, DC, 15 Sep. 2017), p. 12.

⁵ JCPOA (note 1), Annex I.

⁶ Iran's stock of heavy water was between 111 and 128.2 tonnes. IAEA, GOV/2017/10, GOV/2017/24, GOV/2017/35 and GOV/2017/48 (note 3).

⁷ IAEA, GOV/2017/10, GOV/2017/24, GOV/2017/35 and GOV/2017/48 (note 3).

⁸ 'China, Iran sign first contract for Arak redesign', World Nuclear News, 24 Apr. 2017.

levels—and to place all excess centrifuges in storage for 10 years (until 2025), to be removed only to replace failed or damaged ones.

The 2017 IAEA reports reconfirmed that Iran was continuing to abide by the above limitations, with an enriched uranium stockpile of 79.8–101.7 kg.⁹ The IAEA monitored the substitution of 245 failed or damaged centrifuges with those held in storage.¹⁰ In February 2017 Iran provided a revised estimate of the quantity of enriched uranium recovered from the enriched UO₂ powder plant (EUPP) in Esfahan. This material had been held in the process lines at the EUPP. The reported quantity (99.9 kg) was consistent with the IAEA's previous assessment. By June 2017 Iran had down-blended 35.7 kg of this material to the level of natural uranium.¹¹

Centrifuge research and development, manufacturing and inventory

The JCPOA allows Iran to conduct limited research on new centrifuges.¹² According to the 2017 IAEA reports, Iran's research and development activities continued to be consistent with the JCPOA. In January 2017 the IAEA monitored the process of feeding natural UF₆ into an advanced IR-8 centrifuge for the first time.¹³

Transparency, Additional Protocol and other issues

In 2017 the IAEA reconfirmed that Iran continued to apply the Additional Protocol and that it was evaluating Iran's declarations under the Additional Protocol. The IAEA also noted that Iran had permitted it to use online and electronic monitoring techniques and had granted long-term visas for nuclear inspectors.¹⁴

The IAEA continued to verify that declared nuclear material at declared nuclear facilities in Iran had not been diverted to prohibited uses, but was not yet able to verify the absence of undeclared materials and activities, noting that evaluations in this regard remained ongoing.¹⁵ To verify that all nuclear material in Iran is in peaceful use, the IAEA would need to reach a 'broader conclusion', based on enhanced authorities provided by the Additional Protocol. Completing this process usually takes several years.¹⁶

⁹ IAEA, GOV/2017/10, GOV/2017/24, GOV/2017/35 and GOV/2017/48 (note 3).

¹⁰ In Feb., the Agency reported that Iran had replaced 124 centrifuges in the reporting period. In June that number was 48, in Aug. it was 57 and in Nov. it was 16.

¹¹ IAEA, GOV/2017/24 (note 3).

¹² JCPOA (note 1), Annex I.

¹³ IAEA, GOV/2017/10 (note 3).

¹⁴ IAEA, GOV/2017/10, GOV/2017/24, GOV/2017/35 and GOV/2017/48 (note 3).

¹⁵ IAEA, GOV/2017/10, GOV/2017/24, GOV/2017/35 and GOV/2017/48 (note 3).

¹⁶ See e.g. Joyner, D., 'The JCPOA and the broader conclusion', Arms Control Law: Analysis and Discussion of Legal Issues Relevant to Arms Control, 8 Dec. 2015.

In 2017 the IAEA reported that verification and monitoring of Iran's other commitments were continuing.¹⁷ These included section T ('Activities which could contribute to the design and development of a nuclear explosive device') of Annex I of the JCPOA. Although the IAEA has not questioned Iran's compliance with Section T, the issue caught the attention of JCPOA critics when the IAEA Director General, Yukiya Amano, asked the JCPOA Joint Commission—which brings the parties together to discuss implementation of the agreement—for clearer guidance on how to verify these commitments.¹⁸

The IAEA also verified that all the uranium ore concentrate (yellowcake) in Iran had been taken to the uranium conversion facility at Esfahan—including the 125.4 tonnes that Iran received in February 2017, reportedly from Kazakhstan.¹⁹ Iran also began feeding depleted uranium through the process lines at the EUPP under IAEA monitoring, with the aim of increasing uranium-235 content close to the level of natural uranium.²⁰

In October 2017 Iran informed the IAEA of its plans to build a light water critical reactor 'for research purposes in the near future'.²¹ The plans are in line with the JCPOA, which encourages Iran to rely on light (instead of heavy) water reactors in the future.²²

Political tensions threatening the JCPOA

The future of the JCPOA began to look increasingly uncertain after the 2016 US presidential election, during which the current president, Donald J. Trump, expressed reservations about the agreement. A US law, the 2015 Iran Nuclear Agreement Review Act (INARA), requires the US president to publicly certify every 90 days that Iran is in technical compliance with the deal and, more broadly, that 'suspension of sanctions [is] appropriate and proportionate to the specific and verifiable measures taken by Iran with respect to terminating its illicit nuclear program' as well as 'vital to the national security interests of the United States'.²³ While President Trump

¹⁷ IAEA, GOV/2017/24, GOV/2017/35 and GOV/2017/48 (note 3).

¹⁸ Murphy, F., 'IAEA chief calls for clarity on disputed section of Iran nuclear deal', Reuters, 26 Sep. 2017.

¹⁹ IAEA, GOV/2017/10 (note 3); and 'Iran to import 950 tons of yellow cake, England getting in way', *Tehran Times*, 25 Feb. 2017.

²⁰ IAEA, GOV/2017/24 (note 3). Depleted uranium is a by-product of enrichment that contains less U-235 than natural uranium.

²¹ IAEA, GOV/2017/48 (note 3).

²² Iran's commitment to 'keep pace with the trend of international technological advancement in relying only on light water for its future nuclear power and research reactors' in JCPOA (note 1), Annex I, is matched by a commitment by the E3/EU+3 to 'facilitate Iran's acquisition of light-water research and power reactors, for research, development and testing, and for the supply of electricity and desalination' in JCPOA (note 1), Annex III.

²³ Iran Nuclear Agreement Review Act, US Public Law 114-17, signed into law 22 May 2015. It is unclear whether this law also applies after certification has been refused.

did reluctantly certify the deal in April and July, on 13 October 2017 he chose not to do so.²⁴ While a US president ‘decertifying’ the nuclear deal with Iran under US law is not the same as leaving the deal, it does set in motion special legislative rules that temporarily increase the powers of the US Congress to make such a decision. The other members of the E3/EU+3 reacted to the US decertification decision by restating their commitment to the agreement, but the resulting uncertainty led many Iranians to question the merits of the JCPOA.

The decertification decision and debate in the US Congress

The Trump administration has criticized the JCPOA because of the temporary nature of the limits to Iran’s nuclear programme. It has also called for the IAEA to use its inspection authority more widely, by demanding access to Iran’s military sites.²⁵ While Iran has stated that such sites are out of bounds to inspectors, the IAEA has not indicated any need for additional inspection powers. In November 2017 Amano reiterated that: ‘As of today, we have had access to all the locations that we needed to visit. However, for reasons of confidentiality, we do not disclose details, including which locations were visited by our inspectors, or whether these were civilian or military . . . Whether or not a particular location is civilian or military is not relevant for the Agency’.²⁶

For the most part, however, the US administration’s misgivings are not related to the implementation of the JCPOA itself. While acknowledging Iran’s ‘technical’ compliance with the nuclear deal, the USA argues that Iran’s missile tests, satellite launches and activities in the region violate the spirit of the JCPOA and the letter of UN Security Council Resolution 2231, which calls on Iran ‘not to undertake any activity related to ballistic missiles designed to be capable of delivering nuclear weapons’.²⁷ A launch by Iran of a satellite on 27 July 2017 prompted the US Congress to impose the first new US sanctions on Iran since the negotiation of the JCPOA.²⁸

President Trump’s decertification decision opened a two-month window for the US Congress to consider reimposing nuclear-related sanctions against

²⁴ White House, Office of the Press Secretary, ‘Remarks by President Trump on Iran strategy’, 13 Oct. 2017.

²⁵ ‘Nuclear inspectors should have access to Iran military bases: Haley’, Reuters, 25 Aug. 2017.

²⁶ Amano, Y., IAEA Director General, Speech on Iran, the JCPOA and the IAEA, Belfer Center for Science and International Affairs, John F. Kennedy School of Government, Cambridge, MA, 14 Nov. 2017.

²⁷ UN Security Council Resolution 2231 (JCPOA) (note 1), Annex B. See also e.g. Labott, E., Koran, L. and Diamond, J., ‘US to extend sanctions waivers on Iran as Trump signals frustration with nuclear deal’, CNN, 14 Sep. 2017; and ‘Ambassador Haley on Iran’s threats to quit the JCPOA’, US Mission to the United Nations, 15 Aug. 2017.

²⁸ Harris, B., ‘Congress closes in on first new Iran sanctions since nuclear deal’, Al-Monitor, 25 July 2017; and Countering America’s Adversaries Through Sanctions Act, US Public Law 115-44, signed into law 2 Aug. 2017.

Iran through an expedited process. The president urged Congress to address the JCPOA's 'many serious flaws' with legislation making all restrictions on Iran's nuclear activity permanent under US law and preventing Iran from developing an intercontinental ballistic missile. Trump also warned that he might unilaterally terminate US participation in the JCPOA.²⁹ Congress could not agree on any new legislation that would have compromised the JCPOA. A bill proposed by US senators Bob Corker and Tom Cotton would have made the deal's restrictions permanent and added limits to Iran's centrifuge programme, among other things. However, it failed to get enough support among US lawmakers and was never formally introduced.³⁰

Reaction from the rest of the E3/EU+3

Throughout 2017, EU leaders actively defended the JCPOA. In January Federica Mogherini, High Representative of the EU for Foreign Affairs and Security Policy, wrote 'despite criticism that deceitfully stresses the deal's perceived shortcomings . . . it is important to state very clearly: the nuclear agreement with Iran is working' and 'the EU stands firmly by the deal'.³¹ Both the E3 and the EU itself issued statements of support for the JCPOA in response to the US decertification.³² As concrete signs of the EU's commitment to the JCPOA, shortly before President Trump's certification deadline in October the European Commission proposed that the European Investment Bank be allowed to operate in Iran and European credit agencies provided guarantees for exports to Iran.³³ While most EU leaders stressed that the JCPOA covers only Iran's nuclear activities and opposed renegotiating it, the E3 joined the USA in condemning Iran's missile tests and satellite launches.³⁴ President of France Emmanuel Macron also called for a new agreement to address Iran's ballistic missile programme.³⁵

²⁹ White House (note 24).

³⁰ Corker, B. and Cotton, T., US Senate, 'Fixing the Iran deal: Background and key details', [13 Oct. 2017]; and Manson, K., 'Fate of Iran deal to land back in Trump's hands', *Financial Times*, 12 Dec. 2017.

³¹ Mogherini, F., 'The Iran nuclear deal is a success, and the whole world is safer for it', *The Guardian*, 17 Jan. 2017.

³² Joint statement from Prime Minister Theresa May, Chancellor Angela Merkel and President Emmanuel Macron following President Trump's statement on the US' Iran Strategy, 'Declaration by the Heads of State and Government of France, Germany and the United Kingdom', 13 Oct. 2017; and Council of the European Union, 'Iran nuclear deal: EU statement on the Joint Comprehensive Plan of Action', Press Release 590/17, 16 Oct. 2017.

³³ Schmid, H., Secretary General of the European External Action Service, 'European commitment to the JCPOA', Keynote speech, Zurich, 4 Oct. 2017; Kamali Dehghan, S., 'Europe's business heads aim to keep Iran nuclear deal despite US threat', *The Guardian*, 6 Oct. 2017; and Nasserli, L., 'Trump's Iran policy is a headache for EU business', Bloomberg, 17 Oct. 2017.

³⁴ E.g. Joint Statement (note 32). See also Erästö, T., 'Time for Europe to put Iran's missile programme in context', Commentary, SIPRI, 30 Oct. 2017.

³⁵ 'Emmanuel Macron's exclusive interview with CNN', CNN, 19 Sep. 2017.

The Russian Ministry of Foreign Affairs described the US decertification decision as ‘counter to the spirit and the letter of the JCPOA’ but hoped that it would ‘have no adverse impacts on the implementation of the deal’.³⁶ Russia’s Foreign Minister, Sergey Lavrov, also criticized the new US sanctions against Iran, arguing that they ‘threaten the realization’ of the JCPOA, which he described as ‘one of the key factors of international and regional stability’.³⁷ Russia is opposed to renegotiating the JCPOA.³⁸

China’s Foreign Minister, Wang Yi, said in September that ‘all parties should look at the positive side of the JCPOA as no agreement is perfect. Should the agreement be discarded, the international non-proliferation regime would be severely impacted and the situation in the Middle East might worsen’.³⁹

Discussion in Iran

From Iran’s perspective, the USA has breached articles 26, 27 and 28 of the JCPOA by creating a negative atmosphere that undermines sanctions relief.⁴⁰ Iran has raised these concerns at meetings of the Joint Commission.⁴¹ Iran distinguishes between the above breaches and the potential reimposition of nuclear-related sanctions, which it terms a ‘gross violation’ of the JCPOA.⁴² Iran’s Supreme Leader, Ali Khamenei, has warned that Iran would ‘set fire’ to the deal if the USA violates the JCPOA, and the Iranian Parliament has called for reciprocity regarding US actions.⁴³ However, the President of Iran, Hassan Rouhani, and the Foreign Minister, Javad Zarif, have suggested that Iran might stick to the deal even if the USA does not.⁴⁴

Public support in Iran for the JCPOA has fallen as a result of the slow pace of economic recovery and the renewed confrontation with the USA. According to an opinion poll in June 2017, while two-thirds of respondents

³⁶ ‘Russia hopes US refusal to recertify Iran nuclear deal will not impact JCPOA realization’, TASS, 13 Oct. 2017.

³⁷ Lavrov, S. V., Russian Minister of Foreign Affairs, Statement at the UN General Assembly, 21 Sep. 2017.

³⁸ Comments by Russian Deputy Foreign Minister Sergey Riabkov at the Moscow Nonproliferation Conference, 21 Oct. 2017.

³⁹ Xinhua, ‘China calls for support for Iran nuclear deal’, *China Daily*, 21 Sep. 2017.

⁴⁰ Comments by Iran’s Deputy Foreign Minister, Abbas Araghchi, at the Moscow Nonproliferation Conference, 21 Oct. 2017, YouTube; and ‘Iran Foreign Ministry submits 7th report on JCPOA to parliament’, Press TV, 24 Oct. 2017.

⁴¹ See e.g. Press release on behalf of the Joint Commission of the JCPOA (10 Jan. 2017), Brussels, 10 Jan. 2017; ‘Chair’s statement following the 21 July 2017 meeting of the JCPOA Joint Commission’, Brussels, 21 July 2017; and ‘Iran reserves right to respond to US violation of JCPOA: Araqchi’, Press TV, 21 July 2017.

⁴² ‘Iran Foreign Ministry submits 7th report on JCPOA to parliament’ (note 40).

⁴³ ‘Iran’s Khamenei threatens to “set fire” to nuclear deal if West violates’, Reuters, 14 June 2017; and ‘Iran Majlis committee passes motion to counter US hostilities’, Press TV, 29 July 2017.

⁴⁴ See e.g. ‘President in a live televised speech’, Official Website of the President of the Islamic Republic of Iran, 13 Oct. 2017; and ‘Iran: We will stick to nuclear deal if Europe does’, Deutsche Welle, 15 Oct. 2017.

still supported the JCPOA, the majority felt that it had not led to economic improvement and that Iran should respond to a US violation by restarting parts of its nuclear programme.⁴⁵ The street protests that began in various Iranian cities in late December 2017 also reflected widespread discontent with the poor state of the economy and with living standards in the country.⁴⁶

Calls for Iran to limit its missile programme have found little understanding among Iranians. In response to the US decertification, President Rouhani said ‘Our . . . missiles are for our defence. We have always been determined to defend our country and we became more determined today’.⁴⁷ The June 2017 poll also found that 63 per cent of Iranians viewed the demand that Iran reduce its missile testing as unacceptable.⁴⁸

Conclusions

Iran continued to live up to its commitments under the JCPOA throughout 2017. However, the future of the deal looks bleak because the USA is reconsidering the value of the continued implementation of its reciprocal commitments. Although the US Congress chose not to undermine the JCPOA following the October decertification decision, in May 2018 President Trump might decide not to waive the sanctions that were suspended as part of the JCPOA, thus unilaterally violating the deal. In that case, Iran might also withdraw from the deal. However, it might instead decide to stick to the deal’s provisions if the reciprocity of the collective commitments is preserved by other means—notably by a European refusal to comply with reimposed extraterritorial US sanctions.

Even if the rest of the E3/EU+3 manage to convince President Trump to waive sanctions in May, he could keep referring the matter back to Congress every 90 days through decertification.⁴⁹ The resulting atmosphere of uncertainty would make business and financial institutions increasingly wary of entering the Iranian market, thereby undermining the benefits of the JCPOA that Iran was supposed to enjoy through sanctions relief. This could lead to a slow-motion erosion of the deal through decreasing domestic support in Iran. Given the precariousness of the situation, the JCPOA will also be more vulnerable to political shifts, notably to increasing animosity between the

⁴⁵ Gallagher, N., ‘Three ways Trump’s nuclear strategy misunderstands the mood in Iran’, *The Conversation*, 14 Oct. 2017.

⁴⁶ Kottasová, I., ‘The economic forces driving protests in Iran’, *CNN Money*, 2 Jan. 2018.

⁴⁷ ‘President in a live televised speech’ (note 44).

⁴⁸ Gallagher (note 45).

⁴⁹ Aleem, Z., ‘Trump punted the Iran deal to Congress: Congress just punted it back’, *Vox*, 12 Dec. 2017.

USA and Iran over the latter's missile tests, regional issues or the Iranian Government's responses to possible domestic unrest in the country.

To preserve the JCPOA, the E3/EU, Russia and China will need to work particularly hard not only to prevent outright violations of the deal, but also to address the less apparent dangers related to obstacles to sanctions relief and the escalation of tensions on issues not directly related to the JCPOA.