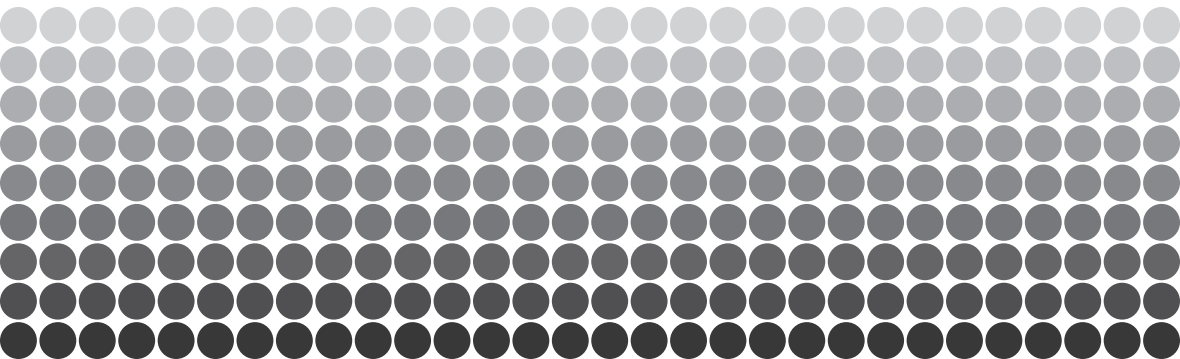


SIPRI YEARBOOK 2014

Armaments, Disarmament and International Security

Iran and nuclear proliferation concerns

SHANNON N. KILE



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I. Iran and nuclear proliferation concerns

SHANNON N. KILE

In 2013 there was a breakthrough in diplomatic efforts aimed at resolving the controversy over the scope and nature of Iran's nuclear programme. The controversy had arisen in 2002 when evidence of undeclared Iranian nuclear facilities was first made public and raised international concern about Iran's compliance with its commitments under the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty, NPT).¹ The United Nations Security Council subsequently adopted five resolutions demanding that Iran suspend its uranium-enrichment programme, halt its construction of a heavy-water nuclear reactor and related projects, and ratify and bring into force an additional protocol to its comprehensive safeguards agreement with the International Atomic Energy Agency (IAEA).² In November 2013 negotiations between Iran and the P5+1 states (the five permanent members of the UN Security Council—China, France, Russia, the United Kingdom and the United States—plus Germany), which had been held sporadically since 2006, produced an interim agreement that set out an approach for reaching a long-term comprehensive solution to the long-running dispute over Iran's nuclear programme.

On a separate but parallel track, in 2013 Iran and the IAEA reached a framework agreement for future cooperation on resolving the IAEA's questions about present and past Iranian nuclear activities. The agreement contained, among other provisions, practical transparency and verification measures intended to give the IAEA additional information about Iran's nuclear facilities and activities.

Renewed international negotiations on Iran's nuclear programme

In 2013 Iran and the P5+1 states resumed negotiations on a long-term agreement to address concerns about Iran's nuclear programme. On 26–27 February, following an eight-month hiatus in the talks, the parties met in Almaty, Kazakhstan.³ The P5+1 states put forward a revised version of their proposal, made in 2012, that set out interim measures to curtail Iran's uranium-enrichment programme in order to allow time for negoti-

¹ On developments in earlier years see Kile, S. N., 'Iran and nuclear proliferation concerns', *SIPRI Yearbook 2013*; and other relevant editions of the SIPRI Yearbook. For a summary and other details of the NPT see annex A, section I, in this volume.

² UN Security Council resolutions 1737, 23 Dec. 2006; 1747, 24 Mar. 2007; 1803, 3 Mar. 2008; 1835, 27 Sep. 2008; and 1929, 9 June 2010.

³ 'Iran nuclear crisis: Jalili says talks "positive step"', BBC News, 27 Feb. 2013, <<http://www.bbc.co.uk/news/world-middle-east-21598792>>.

ations on a long-term deal.⁴ On 18 March the parties held expert-level talks in Istanbul, Turkey, to discuss the technical aspects of the confidence-building measures contained in the proposal by the P5+1 states.⁵ On 5–6 April the parties met again in Almaty for a new round of talks. The meeting ended inconclusively, with little progress made towards bridging significant gaps between the two sides' expectations and priorities for a nuclear deal.⁶

The political climate for renewed negotiations subsequently improved. The Iranian presidential election held in June 2013 was won decisively by Hassan Rouhani, a former chairman of Iran's Supreme National Security Council and chief nuclear negotiator. The new president pledged to take a more pragmatic approach to addressing international concerns about Iran's nuclear programme while protecting the rights of the Iranian people.⁷ Rouhani's victory also reportedly led to an intensified series of secret bilateral meetings between high-level Iranian and US officials that helped to lay the groundwork for subsequent progress in the talks between Iran and the P5+1 states.⁸

The negotiations resumed on 15–16 October 2013 in Geneva, Switzerland. Iran reportedly put forward a detailed proposal outlining a framework for a comprehensive agreement to resolve the diplomatic impasse over its nuclear programme.⁹ The meeting was followed on 30–31 October by expert-level technical discussions of the confidence-building and transparency measures contained in the Iranian proposal.¹⁰ The parties resumed negotiations in Geneva on 7–10 November amid growing media speculation about an imminent deal.¹¹

One of the main goals of the P5+1 states that remained was to put in place a set of agreed technical measures and restrictions designed to lengthen the

⁴ Rozen, L., 'The P5+1 nuclear proposal to Iran in Almaty: document', The Back Channel, Al-Monitor.com, 9 June 2013, <<http://backchannel.al-monitor.com/index.php/2013/06/5444/p51-almaty-confidence-building-proposal-to-iran/#more-5444>>.

⁵ Statement by the Spokesperson of High Representative Catherine Ashton following the meeting of E3/EU+3 experts and Iran, Istanbul, 18 March 2013, European Union Press Release A 144/13, 19 Mar. 2013, <<http://www.consilium.europa.eu/press/press-releases/latest-press-releases/news-roomrelated?grp=22862>>.

⁶ Pawlak, J. and Torbati, Y., 'Powers and Iran fail to end nuclear deadlock in Almaty', Reuters, 6 Apr. 2013.

⁷ 'Iran's president-elect calls his election victory a mandate for change', *The Guardian*, 29 June 2013; and 'Iran seeks win-win game in nuclear talks: Rohani', Press TV, 6 Aug. 2013, <<http://www.presstv.com/detail/2013/08/06/317502/iran-seeks-winwin-game-in-nissue/>>.

⁸ Lee, M., Klapper, B. and Pace, J., 'Secret US-Iran talks set stage for nuke deal', Associated Press, 24 Nov. 2013; and 'Iran nuclear: Obama and Rouhani speak by phone', BBC News, 28 Sep. 2013, <<http://www.bbc.co.uk/news/world-middle-east-24304088>>.

⁹ Gordon, M. R. and Erdbrink, T., 'Iran presents nuclear plan to big powers', *New York Times*, 15 Oct. 2013; and Reynolds, J., 'Iran nuclear checks most detailed ever—Ashton', BBC News, 16 Oct. 2013, <<http://www.bbc.co.uk/news/world-middle-east-24542216>>.

¹⁰ Dahl, F., 'Iran nuclear diplomacy intensifies, Tehran denies enrichment halt', Reuters, 30 Oct. 2013.

¹¹ Dyer, G. et al., 'Iran nears interim nuclear deal with US', *Financial Times*, 8 Nov. 2013.

time needed by Iran to ‘break out’ of the NPT—that is, to be able to rush to produce, or divert, enough weapon-grade fissile material to build one bomb so quickly that the IAEA or national intelligence services would be unable to detect, or respond to, the move before it was completed. However, going into the Geneva talks, the USA and the ‘EU-3’ states (France, Germany and the UK) concluded that recent technical advances in Iran’s nuclear programme—especially the installation of additional first-generation centrifuges, the introduction of more advanced centrifuges and the continuing work on a heavy-water reactor project—required updating and expanding the P5+1’s Almaty proposal.¹² That proposal had focused on shutting down the underground enrichment plant located at Fordow, Qom province, and stopping Iran’s production and stockpiling of uranium enriched to nearly 20 per cent in the isotope uranium-235 (U-235), which Iran stated was for use in the production of medical isotopes.¹³ In the new talks in Geneva, the P5+1 states pushed for a broader package of measures aimed at temporarily halting all of Iran’s enrichment activities and its heavy-water reactor project, as demanded in the UN Security Council’s resolutions.

The officials on Iran’s new nuclear negotiating team publicly affirmed that they did not rule out in principle accepting limits on the country’s uranium-enrichment programme. However, Iranian commentators stressed that the P5+1 states would have to give Iran meaningful sanctions relief, commensurate with the technical and transparency measures to be implemented by Iran, as a condition for any deal.¹⁴ In addition, President Rouhani and other senior officials continued to insist that all parties must recognize Iran’s ‘legal right’ under Article IV of the NPT to develop the entire nuclear fuel cycle, including uranium enrichment, for peaceful purposes.¹⁵ The USA had consistently rejected Iran’s claim that the NPT gives it, or any other state party, a legal right to pursue enrichment technology. Speaking on the eve of the Geneva talks, a senior US administration official reiterated that since Article IV was ‘silent on the issue’, the US Government

¹² Einhorn, R., ‘The upcoming Geneva P5+1 round: an opportunity to explore’, Saban Centre for Middle East Policy, Brookings Institution, 11 Oct. 2013, <<http://www.brookings.edu/blogs/iran-at-saban/posts/2013/10/11-geneva-nuclear-talks-iran-einhorn>>.

¹³ Enrichment from natural uranium to 20% U-235 is significantly more time-consuming and resource-intensive than subsequent enrichment to weapon-grade uranium (typically enriched above 90%). It would take c. 240–250 kg of 20% U-235, if further enriched, to produce enough weapon-grade uranium to build 1 nuclear weapon.

¹⁴ Mousavian, S. H., ‘Success is in sight, if sanctions can be lifted’, *Asharq Al-Awsat* (London), 6 Nov. 2013.

¹⁵ ‘Iran’s right to enrich non-negotiable: Rouhani’, *Tehran Times*, 2 Oct. 2013. Iran maintains that it has the right to enrichment technology under Article IV of the NPT, which guarantees states parties access to nuclear technology for peaceful purposes as long as they adhere to their treaty obligations.

believed that the NPT neither conferred nor denied an ‘inalienable’ right to enrichment.¹⁶

The Iran–P5+1 joint plan of action

On 24 November 2013 Iran’s new Foreign Minister, Mohammad Javad Zarif, and the High Representative for Foreign Affairs and Security Policy of the European Union (EU), Catherine Ashton, who was speaking on behalf of the P5+1 states, announced in Geneva that the parties had reached agreement on a ‘joint plan of action which sets out an approach towards reaching a long-term comprehensive solution’ to the dispute over Iran’s nuclear programme.¹⁷ The announcement followed several days of negotiations that began on 20 November and included the foreign ministers and political directors of the P5+1 states.

The politically binding joint plan of action outlined a two-step process through which Iran and the P5+1 states would ‘reach a mutually-agreed long-term comprehensive solution that would ensure Iran’s nuclear programme will be exclusively peaceful’ while enabling ‘Iran to fully enjoy its right to nuclear energy for peaceful purposes under the relevant articles of the NPT in conformity with its obligations therein’.¹⁸ The operational goal was to implement a ‘mutually defined’ Iranian enrichment programme, with ‘practical limits and transparency measures’ to provide assurance about its peaceful nature, in exchange for the phased lifting of all nuclear-related sanctions imposed on Iran by individual countries, the EU and the UN Security Council. In addition, the parties pledged to address the relevant Security Council resolutions, with the aim of bringing the Security Council’s consideration of the Iranian nuclear file ‘to a satisfactory conclusion’.¹⁹

The joint plan of action set out a series of voluntary reciprocal measures to be implemented as a first step towards a comprehensive agreement. This initial phase would last for six months and be ‘renewable by mutual consent’. The parties agreed to establish a joint commission—the composition of which was not specified—to ‘monitor the implementation of the near-term measures and address issues that may arise’.²⁰

¹⁶ Dahl, F., ‘Q&A: Is there a “right” to enrich uranium? Iran says yes, U.S. no’, Reuters, 22 Nov. 2013; and Heller, K. J., ‘Why is the new agreement between P5+1 and Iran not void?’, *Opinio Juris*, 24 Nov. 2013, <<http://opiniojuris.org/2013/11/24/npt/>>.

¹⁷ Joint Statement by EU High Representative Catherine Ashton and Iran Foreign Minister Zarif, Geneva, 24 Nov. 2013, <http://www.eas.europa.eu/statements/docs/2013/131124_02_en.pdf>.

¹⁸ Joint plan of action, Geneva, 24 Nov. 2013, <http://eeas.europa.eu/statements/docs/2013/131124_03_en.pdf>, p. 1. For a discussion of the legal status of the agreement see Hollis, D., ‘The new Iran deal doesn’t look legally binding. Does it matter?’, *Opinio Juris*, 24 Nov. 2013, <<http://opinionjuris.org/2013/11/24/new-us-iran-deal-doesnt-look-legally-binding-matter/>>.

¹⁹ Joint plan of action (note 18), p. 1.

²⁰ Joint plan of action (note 18), p. 1.

Iran's undertakings

In the initial phase of the joint plan Iran pledged to refrain from making further advances in its sensitive nuclear fuel cycle activities. This involved, among other undertakings, Iran's commitment to temporarily suspend or cap its production and stockpiling of enriched uranium.

Limit on centrifuges. Iran agreed to freeze its uranium-enrichment capacity by halting the installation and operation of additional centrifuges at its three enrichment plants. It pledged to replace existing centrifuges only with centrifuges of the same type and to produce new centrifuges for the sole purpose of replacing damaged centrifuges. It also pledged not to feed uranium hexafluoride (UF₆) gas into installed centrifuges that were not already enriching uranium.²¹ Iranian officials subsequently emphasized that under the deal Iran would continue research and development work on a new generation of more efficient centrifuges and would not dismantle existing centrifuges.²²

Limit on enrichment levels. Iran agreed to halt the production of uranium hexafluoride enriched to near 20 per cent uranium-235 and to reduce its current stockpile of the material. One-half of the stockpile would be converted to the uranium oxide (U₃O₈) powder used in the fuel assemblies for the Tehran Research Reactor; the remainder would be diluted to UF₆ containing no more than 5 per cent U-235. Iran pledged not to build a new line for reconverting the U₃O₈ to UF₆.²³

Limit on low-enriched uranium stockpile. Iran agreed to cap its total stockpile of UF₆ gas enriched up to 5 per cent U-235. It would do this by converting to uranium dioxide (UO₂) a portion of its existing stockpile equivalent to the amount of any newly produced material. A new plant for converting the enriched UF₆ gas to UO₂ was scheduled to be completed in 2014.²⁴

The joint plan of action's interim measures to constrain Iran's uranium-enrichment programme were presented at the same time as the release of the latest in a series of reports by the IAEA Director General to the agency's Board of Governors on safeguards implementation in Iran.²⁵ It stated that

²¹ Joint plan of action (note 18), pp. 1–2. Uranium hexafluoride is the gaseous feedstock used in the uranium-enrichment process that produces fuel for nuclear reactors and weapons.

²² Iran has not brought new centrifuges into operation: Salehi', *Tehran Times*, 29 Dec. 2103; and 'Zarif raps US bid to distort Iran's Geneva pledges', Press TV (Iran), 23 Jan. 2014, <<http://www.presstv.ir/detail/2014/01/23/347243/iran-not-dismantling-nequipment-zarif/>>.

²³ Joint plan of action (note 18), p. 2.

²⁴ Dahl, F., 'Iran's nuclear stockpile may rise for now despite deal with powers', Reuters, 22 Jan. 2014.

²⁵ International Atomic Energy Agency, Board of Governors, 'Implementation of the NPT Safeguards Agreement and relevant provisions of the Security Council resolutions in the Islamic Republic of Iran', Report by the Director General, GOV/2013/56, 14 Nov. 2013.

Table 7.1. Overview of developments in Iran's uranium-enrichment programme, 2012–13

Programme element	Nov. 2012	Feb. 2013	May 2013	Aug. 2013	Nov. 2013
<i>Number of enrichment centrifuges^a</i>					
Installed IR-1 centrifuges	13 198	15 376	16 593	18 454	18 458
Operational IR-1 centrifuges	9 852	9 688	9 688	9 860	9 860
Installed IR-2m centrifuges ^b	–	180	689	1 008	1 008
<i>Current stocks of enriched uranium (kg)^c</i>					
Less than 5% enriched	5 303	5 974	6 357	6 774	7 153
19.75% enriched	134.9	167	182	185.8	196
<i>Total amount of enriched uranium produced (kg)</i>					
Less than 5% enriched	7 611	8 271	8 960	9 704	10 357
19.75% enriched	232	280	324	372	410

^a Figures are for centrifuges at the Pilot Fuel Enrichment Plant (PFEP) and the Fuel Enrichment Plant (FEP), located at Natanz, and the underground Fordow Fuel Enrichment Plant (FFEP).

^b Figures are for centrifuges installed at the FEP; none was operational as of Nov. 2013. Iran has assembled more advanced centrifuges for research and development work at the PFEP.

^c Stocks are held in the form of uranium hexafluoride gas.

Sources: International Atomic Energy Agency, Board of Governors, 'Implementation of the NPT Safeguards Agreement and relevant provisions of the Security Council resolutions in the Islamic Republic of Iran', Reports by the Director General, 26 Nov. 2012, 21 Feb. 2013, 22 May 2013, 28 Aug. 2013 and 14 Nov. 2013.

Iran had not expanded its uranium-enrichment capacity since the previous report in August 2013 and that its stocks of enriched uranium remained largely unchanged (see table 7.1).

Cessation of work at the Arak heavy-water reactor site. Iran pledged to refrain from commissioning the IR-40 heavy-water reactor that was under construction near Arak, Markazi province. It also promised not to transfer nuclear fuel or heavy water to the reactor site, not to produce or test additional fuel, and not to install the remaining reactor components.²⁶ In addition, Iran reiterated that it had no plans to construct a facility for separating plutonium from spent reactor fuel.²⁷

The Arak project had been a source of international concern because the heavy-water reactor produces spent fuel laden with plutonium that could give Iran an alternative pathway to building a nuclear weapon.²⁸ Similar reactors ostensibly built for research have been used to produce plutonium

²⁶ Critics of the joint plan of action noted that it did not prohibit Iran from producing reactor components off-site that could be installed later at Arak. Borger, J. and Dehghan, S. K., 'Iran nuclear negotiations at crucial juncture over Arak reactor', *The Guardian*, 9 Nov. 2013.

²⁷ Joint plan of action (note 18), p. 2.

²⁸ Ravid, B., 'Israel asks P5+1 to address military dimension of Iran nuclear program', *Haaretz*, 23 Nov. 2013.

for nuclear weapons in India, Israel, North Korea and Pakistan. Sceptics of Iran's nuclear intentions expressed particular concern that once the reactor at Arak became operational, it could not be disabled by a military strike without risking the dispersal of hazardous radioactive material.²⁹

The reactor project at Arak became the focus of controversy in early November 2013. A widely anticipated deal between Iran and the P5+1 states was reportedly blocked by French objections that the agreement did not go far enough in addressing the proliferation risks posed by the reactor.³⁰ However, some expert commentators played down these concerns, arguing that the reactor did not present a near-term proliferation threat and the issue could be addressed in the final phase of a comprehensive deal.³¹

Enhanced IAEA inspection and monitoring arrangements. Iran pledged to provide the IAEA with additional information about, and enhanced monitoring of, its nuclear facilities. Specifically, Iran undertook to give IAEA inspectors daily, rather than weekly, access to surveillance and system monitoring records at the fuel-enrichment plants at Natanz, Esfahan province, and Fordow, thereby enhancing the agency's ability to promptly detect undeclared activities there. Iran also agreed to provide the IAEA inspectors with 'managed access' to its centrifuge production and assembly workshops, centrifuge storage facilities, and its uranium mines and mills.³² In addition, Iran agreed to give the IAEA updated design information on the Arak reactor and to allow more frequent inspections at the site.

P5+1 states' undertakings

The P5+1 states agreed to a set of temporary measures giving Iran relief from some international sanctions imposed because of its nuclear programme. Sanctions had cost Iran an estimated \$120 billion in lost revenue since the EU and the USA tightened restrictions on energy, insurance, shipping, banking and other transactions involving Iran in 2010.³³ Critics of the deal asserted that by providing Iran with an estimated \$7 billion in sanctions relief the West would be easing the pressure on Iran to make major concessions.³⁴ However, the US administration defended the deal by emphasizing that it gave Iran only 'limited, temporary, targeted, and

²⁹ Landler, M. and Gordon, M. R., 'Talks with Iran fail to produce a nuclear agreement', *New York Times*, 10 Nov. 2013.

³⁰ Landler and Gordon (note 29).

³¹ Borger and Dehghan (note 26); and Petersen, S., 'Iran's Arak nuclear reactor: real deal breaker or red herring?', *Christian Science Monitor*, 18 Nov. 2013.

³² Joint plan of action (note 18), p. 2. IAEA inspectors lost access to these sites when Iran stopped adhering to the additional protocol to its comprehensive safeguards agreement in 2006.

³³ Lakshmanan, I. A. R., 'Iran to reap \$7 billion in sanctions relief under accord', *Bloomberg News*, 24 Nov. 2013.

³⁴ Cohen, T., '5 reasons diverse critics oppose Iran nuclear deal', *CNN News*, 26 Nov. 2013, <<http://edition.cnn.com/2013/11/25/politics/iran-deal-opponents-5-things/>>.

reversible' relief and left in place most of the commercial, financial and oil sanctions of greatest concern to it. This meant that the EU and the USA retained substantial leverage during negotiations on a long-term agreement.³⁵

In terms of specific steps, the P5+1 states agreed to suspend efforts to further reduce Iran's crude oil sales, enabling customers to purchase their current average amounts of crude oil. Iran would be permitted to repatriate approximately \$4.2 billion held in foreign accounts from sales of its oil, while the EU and the USA would waive sanctions on insurance and transport services associated with such sales.³⁶

The EU and the USA also promised to suspend sanctions so as to permit Iran to resume sales of petrochemicals and trading in gold and other precious metals, as well as to resume transactions with foreign firms involved in Iran's automobile sector. The US administration estimated that these waivers would potentially provide Iran with approximately \$1.5 billion in revenue during the six months of the interim arrangement.³⁷

The joint plan of action stipulated that as long as Iran abided by its commitments, the EU and the UN Security Council would refrain from imposing new nuclear-related sanctions on Iran for the six-month interim period. The US administration, 'acting consistent with the respective roles of the President and the Congress', would refrain from doing so as well.³⁸

The wording of the US pledge reflected the prevailing bipartisan scepticism about the deal in the US Congress. Draft legislation introduced in the Senate in December 2013 would impose new sanctions targeting Iran's oil exports if the president were not to regularly certify to the Congress that Iran was fully implementing the Geneva interim agreement and not sponsoring acts of anti-US terrorism. It also set out rigorous conditions for a final agreement.³⁹ In response to reports about the new legislation, Zarif, the Iranian Foreign Minister, warned that if the USA imposed new sanctions on Iran during the interim period 'the entire deal is dead'.⁴⁰

Reactions to the interim agreement

The announcement of the joint plan of action elicited a mix of supportive and sceptical international reactions. Many commentators in Europe and the USA praised the agreement as a necessary first step that, if fully imple-

³⁵ White House, 'First step understandings regarding the Islamic Republic of Iran's nuclear program', Fact sheet, 23 Nov. 2013, <<http://www.whitehouse.gov/the-press-office/2013/11/23/fact-sheet-first-step-understandings-regarding-islamic-republic-iran-s-n>>.

³⁶ White House (note 35).

³⁷ White House (note 35).

³⁸ Joint plan of action (note 18), p. 3.

³⁹ Landler, M., 'Senate bill to impose new sanctions on Iran spurs veto threat from White House', *New York Times*, 19 Dec. 2013.

⁴⁰ Wright, R., 'Iran's Foreign Minister says sanctions would kill nuclear deal', *Time*, 9 Dec. 2013.

mented, would delay Iran's technical capability to build a nuclear weapon and improve the international community's ability to monitor Iranian nuclear activities of proliferation concern. However, others criticized the agreement as failing to adequately constrain Iran's current nuclear programme and as potentially setting off a process by which foreign countries and firms might begin to ignore international sanctions.⁴¹

In Iran, the deal was welcomed by the public for providing some relief from increasingly onerous sanctions and for setting a course to end Iran's international isolation.⁴² The Iranian leadership portrayed the agreement as a victory for Iran in that the other parties had clearly acknowledged Iran's right to continue its enrichment programme as part of any final agreement.⁴³ The remarks were made against the background of criticism from some conservative members of the Majlis (the Iranian Parliament) that the deal had placed overly sweeping restrictions on Iran's nuclear activities and might eventually halt its enrichment programme.⁴⁴

US allies in the Middle East did not react positively to news of the interim agreement. Israel's Prime Minister, Benjamin Netanyahu, denounced the deal as a 'historic mistake' because it left intact Iran's sensitive nuclear fuel cycle infrastructure.⁴⁵ Saudi Arabian Government analysts expressed concern about the implications of a potential rapprochement between Iran and the USA for political and security dynamics in the Middle East.⁴⁶

Implementation of the interim agreement

The joint plan of action did not specify a start date for the deal. This was to be determined in expert-level technical talks to work out practical modalities for implementing its provisions. On 12 December these talks were briefly halted by Iran, 'for consultations', following the USA's announcement that it had blacklisted 19 additional Iranian companies and individuals under existing nuclear-related sanctions.⁴⁷

⁴¹ Hafezi, P. and Pawlak, J., 'Breakthrough deal curbs Iran's nuclear activity', Reuters, 24 Nov. 2013; Petersen, M. E., 'First reactions to Iran nuclear deal', European Parliamentary Research Service, 9 Dec. 2013, <<http://epthinktank.eu/2013/12/09/first-reactions-to-the-iran-nuclear-deal/>>; and Katzman, K. and Kerr, P. K., *Interim Agreement on Iran's Nuclear Program*, Congressional Research Service (CRS) Report for Congress R43333 (US Congress, CRS: Washington, DC, 11 Dec. 2013).

⁴² Baker, A., 'Iranians celebrate nuclear deal', *Time*, 24 Nov. 2013; and Dehghan, S. K., 'Iran's leaders and public celebrate Geneva nuclear deal', *The Guardian*, 24 Nov. 2013.

⁴³ Ziabari, K., 'Historic nuclear deal: the art of delicate Iranian diplomacy', *Tehran Times*, 26 Nov. 2013; and United States Institute of Peace, 'Geneva deal III: Iranian reaction', *Iran Primer*, 24 Nov. 2013, <<http://iranprimer.usip.org/blog/2013/nov/24/geneva-deal-iii-iranian-reaction>>.

⁴⁴ Dareini, A. A., 'Iran hard-liners criticize Geneva deal', Associated Press, 27 Nov. 2013.

⁴⁵ Hafezi and Pawlak (note 41).

⁴⁶ 'Tehran treaty: winners and losers in Geneva nuclear deal', Spiegel Online, 2 Dec. 2013, <<http://www.spiegel.de/international/world/how-the-nuclear-deal-with-tehran-could-change-the-world-a-936620.html>>.

⁴⁷ Dahl, F. and Croft, A., 'Iran angry over U.S. sanctions, nuclear talks interrupted', Reuters, 13 Dec. 2013.

Several rounds of intensive negotiations were subsequently held in Vienna, Austria, that dealt with a number of contentious issues, including Iran's plan to continue centrifuge research and development work. On 12 January the parties announced that they had reached agreement on a series of technical understandings for implementing the joint plan of action.⁴⁸ The interim agreement entered into force on 20 January 2014.⁴⁹

The future of Iran's enrichment programme

In the joint plan of action the parties committed to conclude a long-term comprehensive agreement within one year of the signing of the document in Geneva. Many commentators saw the future of Iran's enrichment programme as being the main issue of contention to be taken up in the follow-on negotiations.⁵⁰ While the interim agreement had not explicitly recognized an Iranian right to enrich uranium, it did acknowledge that Iran's enrichment programme would continue and be part of any comprehensive agreement. The joint plan of action called for a final step with a 'mutually defined [Iranian] enrichment programme' and 'agreed limits on [the] scope and level of enrichment activities, capacity ... and stocks of enriched uranium' that should be 'consistent with practical-needs'.⁵¹ Iranian officials interpreted this to mean that the USA and the other powers had agreed that Iran could continue its enrichment activity indefinitely.⁵²

The joint plan of action did not spell out the future end-state for Iran's nuclear programme. Rather, it stipulated that the comprehensive accord would 'have a specified long-term duration to be agreed upon', after which the 'Iranian nuclear programme will be treated in the same manner as that of any non-nuclear weapon state party to the NPT'.⁵³ Some critics of the interim deal complained that this 'sunset provision' set the stage for a time when there would be no sanctions and no special restrictions on Iran's enrichment capacity; Iran could then build an industrial-scale uranium-

⁴⁸ 'Iran, world powers agree to enforce Geneva deal on Jan. 20', Fars News Agency, 12 Jan. 2014, <<http://english.farsnews.com/newstext.aspx?nn=13921022001533>>; and White House, 'Summary of technical understandings related to the implementation of the Joint Plan of Action on the Islamic Republic of Iran's nuclear program', 16 Jan. 2014, <<http://www.whitehouse.gov/the-press-office/2014/01/16/summary-technical-understandings-related-implementation-joint-plan-actio>>.

⁴⁹ 'Iran nuclear deal comes into force', *Tehran Times*, 20 Jan. 2014; and 'Iran nuclear: curbs on uranium enrichment begin', BBC News, 20 Jan. 2014, <<http://www.bbc.co.uk/news/world-middle-east-25805209>>.

⁵⁰ E.g. see Kimball, D. G., 'After the first-phase deal with Iran', *Arms Control Today*, vol. 43, no. 10 (Dec. 2013).

⁵¹ Joint plan of action (note 18), p. 4.

⁵² 'Iran's enrichment recognized in deal: Zarif', Press TV (Iran), 24 Nov. 2013, <<http://www.press.tv.com/detail/2013/11/24/336364/iran-right-to-enrich-recognized-zarif/>>.

⁵³ Joint plan of action (note 18), p. 4.

enrichment capacity as a ‘normal’ non-nuclear weapon state party to the NPT.⁵⁴

The framework agreement between Iran and the IAEA

On 11 November 2013 the IAEA’s Director General, Yukiya Amano, and Ali Akbar Salehi, head of the Atomic Energy Organization of Iran (AEOI), signed an agreement in Tehran setting out a framework to strengthen ‘cooperation and dialogue aimed at ensuring the exclusively peaceful nature of Iran’s nuclear programme’.⁵⁵ The agreement was reached following talks between Iranian and IAEA officials held in Vienna on 28–29 October.⁵⁶ Iran and the IAEA had previously met 10 times since January 2012 in an unsuccessful attempt to reach agreement on the scope and sequencing of the IAEA’s investigation of suspected undeclared nuclear activities in Iran. In the new agreement, the two sides pledged to ‘cooperate further with respect to verification activities to be undertaken by the IAEA to resolve all present and past issues’.⁵⁷

An annex to the framework agreement listed six initial steps to be taken by Iran within three months. These included a commitment by Iran to allow IAEA inspectors to visit the Gchine uranium mine near Bandar-e-Abbas, Hormozgan province, for the first time since 2005, and to provide additional information about the amount of natural uranium mined there. Iran also agreed to grant agency inspectors access to the unsafeguarded heavy-water production plant near Arak.⁵⁸ On 8 December inspectors visited the plant for the first time since 2011 and took samples of the heavy water produced at the facility.⁵⁹ Salehi stressed that Iran had no obligation under its comprehensive safeguards agreement with the IAEA to allow such inspections but had agreed to do so in order to show ‘goodwill’ in resolving the dispute over its nuclear programme.⁶⁰

In addition to these steps, Iran agreed in the annex to provide information to the IAEA about four new research reactors that it planned to build for medical isotope production and 16 sites designated for future nuclear power plants. Iran also promised to clarify earlier statements about plans to build additional centrifuge enrichment facilities and a presidential

⁵⁴ Reiss, M. B. and Takeyh, R., ‘Don’t get suckered by Iran’, *Foreign Affairs*, 2 Jan. 2014.

⁵⁵ International Atomic Energy Agency, ‘IAEA, Iran sign Joint Statement on Framework for Cooperation’, Press Release 2013/21, 11 Nov. 2013, <<http://www.iaea.org/newscenter/pressreleases/2013/prn201321.html>>.

⁵⁶ Iran, IAEA describe negotiations “very productive”, Press TV (Iran), 29 Oct. 2013, <<http://www.presstv.com/detail/2013/10/29/331924/iraniaea-talks-very-productive/>>.

⁵⁷ International Atomic Energy Agency (note 55).

⁵⁸ The heavy water produced at the plant will be used to operate the IR-40 reactor that is under construction at the same site.

⁵⁹ ‘U.N. inspectors visit Iranian site linked to nuclear program’, Reuters, 8 Dec. 2013.

⁶⁰ Iran, IAEA agree on “roadmap” for further cooperation’, *Tehran Times*, 11 Nov. 2013.

statement in 2010 claiming that Iran had developed laser enrichment technology.⁶¹

The framework agreement did not explicitly mention the IAEA's ongoing investigation of 'possible military dimensions' to Iran's nuclear programme. The weapon-related activities that Iran allegedly pursued involved high-explosives tests with nuclear weapon applications; neutron initiation and detonator experiments; research and development work to fit a nuclear warhead on a missile, along with arming, firing and fusing mechanisms; and procurement activities related to the alleged warhead work. Most of this alleged weapon-related work occurred prior to 2003, but the IAEA suspected that some activities may have continued to the present.⁶² Iran has dismissed the allegations as baseless and the product of forgeries and fabrications by hostile foreign intelligence services.

In his November 2013 report to the IAEA Board on safeguards implementation in Iran, Amano explained that the 'outstanding issues that are not addressed by the practical measures listed in the Annex of the Framework for Cooperation, including those issues identified in previous reports of the Director General to the Board of Governors, will be addressed in subsequent steps'.⁶³ In the view of some analysts, this represented a tactical shift by the IAEA, whereby it had decided to start with less controversial transparency issues and then address the main concerns about possible military dimensions to Iran's nuclear programme in the next phase.⁶⁴ Among the contentious issues still to be taken up was the agency's request to visit a large military production complex located at Parchin, near Tehran. The IAEA had received information from member states alleging that a site at Parchin had been used for conducting high-explosives experiments—some of which may have involved uranium—associated with a programme to develop a nuclear weapon.⁶⁵

On 11 December officials from the IAEA and Iran met in Vienna to review progress in implementing the initial steps of the framework agreement. According to an IAEA official, the two sides would begin negotiations in early 2014 on the next series of measures under the framework agreement,

⁶¹ International Atomic Energy Agency (note 55). For the 2010 presidential statement see 'Iran's latest achievements in laser technology', Press TV, 8 Feb. 2010, <<http://www.youtube.com/watch?v=8snVEsyzvK4>>.

⁶² The agency's concerns are described in International Atomic Energy Agency, Board of Governors, 'Implementation of the NPT safeguards agreement and relevant provisions of the Security Council resolutions in the Islamic Republic of Iran', Report by the Director General, GOV/2011/65, 8 Nov. 2011.

⁶³ International Atomic Energy Agency, GOV/2013/56 (note 25), p. 11.

⁶⁴ Albright, D. and Stricker, A., 'Iran's negotiating track with the IAEA', Institute for Science and International Security (ISIS) Report, 26 Nov. 2013, <<http://isis-online.org/isis-reports/category/iran/#2013>>.

⁶⁵ For a critique of claims that Parchin was the site of secret nuclear-related activities see Kelley, R., 'The International Atomic Energy Agency and Parchin: questions and concerns', SIPRI Expert Comment, 18 Jan. 2003, <http://www.sipri.org/media/expert-comments/18jan2013_IAEA_Kelley>.

which would include discussions of the agency's concerns about possible military dimensions to Iran's nuclear programme.⁶⁶

Towards a comprehensive settlement?

In 2013 the progress made in the talks between Iran and the P5+1 states and between Iran and the IAEA marked the functional convergence of what had been two parallel but separate negotiating tracks. Each set of talks increasingly served to reinforce the other in terms of laying out practical transparency and confidence-building measures. However, they left key issues and challenges unaddressed, two of which stand out: defining a permissible scope for Iran's nuclear programme that would lay to rest concerns that it could produce a nuclear weapon, and specifying modalities for resolving questions about Iranian nuclear activities with possible military dimensions.

There remained considerable doubt as the year ended about whether the parties could overcome their mutual suspicion, and in some cases incompatible goals and priorities, to achieve constructive progress towards a settlement of the Iranian nuclear controversy.

⁶⁶ 'Iran, IAEA hold productive nuclear talks, new meeting on January 21', Reuters, 11 Dec. 2013.