

Research Paper

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Middle East and North Africa Programme | September 2014

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# Iran's Nuclear Future

**CHATHAM  
HOUSE**

The Royal Institute of  
International Affairs

## Summary

- Since September 2013 a diplomatic solution has come to look possible to concerns that aspects of Iran's nuclear programme could be a cover for an eventual nuclear weapon programme.
- There is a risk, however, that the six countries negotiating with Iran will miss the opportunity for a solution by seeking to impose restrictions on the country's uranium enrichment activities that are incompatible with its strong sense of identity as a sovereign state. Both sides have been pressing for more than they can reasonably expect to achieve. If a deal is not done by 24 November 2014, the negotiation will probably break down.
- The West should review its assessment of Iranian intentions. If the conclusion remains that Iran is not intent on acquiring nuclear weapons, the West can afford to settle for measures that do not compromise Iranian self-respect.
- Chief among those is the legally based cooperation that the International Atomic Energy Agency (IAEA) will need to determine that Iran's programme is indeed exclusively peaceful.
- Iran can also be asked to commit to not adding to its current operating uranium enrichment capacity until the first all-Iranian power reactor is nearing completion, which will be many years from now. Meanwhile Iran can rely on fuel-provision arrangements with the suppliers of foreign-built power reactors, enhanced by international assurances against cut-off of fuel supplies.
- The surest protection against an Iranian nuclear threat will come from a combination of Iranian self-interest and the deterrent effect of IAEA monitoring (as is the case with the potential threat posed by the nuclear programmes of several other countries). This can be backed by military deterrence and should be reinforced by gradual normalization of Iran's regional relations.

## Introduction

In its January 2014 Worldwide Threat Assessment the US intelligence community judged that

Iran has made technical progress [...] from which it could draw if it decided to build missile-deliverable nuclear weapons. These technical advances strengthen our assessment that Iran has the scientific, technical and industrial capacity to eventually produce nuclear weapons. This makes the central issue its political will to do so. [...] We do not know if Iran will eventually decide to build nuclear weapons.<sup>1</sup>

The International Atomic Energy Agency (IAEA) and Iran are cooperating in the investigation of the country's past nuclear activities with potential military dimensions. The agency has never detected any diversion by Iran, a party to the Nuclear Non-Proliferation Treaty (NPT) since 1970, of declared nuclear material to military use or for purposes unknown. Iran says that its programme and facilities (see Box 1) are for civil purposes and have been and are entirely peaceful. The Supreme Leader Ayatollah Khamenei's collection of religious and political statements made since 2003, known as the nuclear fatwa, on the unacceptability of all weapons of mass destruction in Islamic law and behaviour, is said to be the final binding statement committing Iran to never having nuclear weapons (see Box 2).

The United States and Iran held secret talks from March to September 2013 about their differences on the nuclear question. On that basis, the six countries that had negotiated unavailingly with Iran for several years (China, France, Germany, Russia, the United Kingdom and the United States – known interchangeably as the Six, P5+1, or E [for European] 3+3) accepted the constructive change of posture that President Hassan Rouhani announced at the UN General Assembly in New York in September 2013. Since then progress has been significant and encouraging.

At the heart of it has been a tacit admission by Iran that it cannot progress as a country without the international sanctions currently imposed on it being 'broken', to use President Rouhani's word. Equally essential has been a change of policy by the United States and its partners. Since September 2013 they have consented that the end point of the negotiations should include Iran having an enrichment capability linked to mutually agreed needs. It was this change and not just sanctions that brought Iran to the table.

The subsequent Joint Plan of Action (JPA), agreed on 24 November 2013, addressed concerns that Iran has been moving gradually towards a position from which it could hope to 'break out', i.e. produce enough weapon-grade uranium (HEU) for one bomb in so short a time that the UN Security Council, or powers acting outside it, would be unable to arrest production.<sup>2</sup> It also outlined some of the elements for the 'final step' of a comprehensive solution to be negotiated by 20 July 2014, or, failing that, within an agreed additional period.

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<sup>1</sup> James Clapper [US Director of National Intelligence], 'Worldwide Threat Assessment of the US Intelligence Community', Statement for the Record, Senate Select Committee on Intelligence, 29 January 2014, p. 5. <http://online.wsj.com/public/resources/documents/DNIthreats2014.pdf>.

<sup>2</sup> 'Joint Plan of Action', 24 November 2013, pp. 1-2, [http://eeas.europa.eu/statements/docs/2013/131124\\_03\\_en.pdf](http://eeas.europa.eu/statements/docs/2013/131124_03_en.pdf).

### Box 1: Iran's nuclear facilities

Iran embarked on a nuclear power programme in the 1950s under the Shah, and with American assistance.<sup>a</sup> The United States provided Iran with the 5MW Tehran Research Reactor, which is now used to produce medical isotopes. In 1974, the Atomic Energy Organization of Iran (AEOI) contracted Siemens to build two power reactors at Bushehr. The programme was interrupted by the 1979 revolution and by the 1980–88 war initiated by Iraq.

Since the resumption of the programme in the early 1990s, Iran has completed one of the two Bushehr reactors with Russian help and acquired:

- uranium conversion and fuel fabrication facilities at Isfahan,
- an enrichment facility with a potential capacity of 50,000 centrifuge machines at Natanz,
- a second, much smaller (3,000 centrifuge) enrichment facility at Fordow,
- a total of 18,000 installed first-generation centrifuges (IR-1),
- 1,000 installed second-generation centrifuges (IR-2m), and
- one heavy water production plant at Arak, where a 40MW research reactor designed to be moderated by heavy water is nearing completion.

Iran's long-term published plans include acquiring a 20,000 MW nuclear generating capacity, and building at least four medical isotope reactors and 10 enrichment facilities.<sup>b</sup> It has consistently disclaimed any interest in acquiring a fuel reprocessing capacity. The AEOI is currently in negotiation with Russia for the supply of additional power reactors.<sup>c</sup>

<sup>a</sup> World Nuclear Association, 'Nuclear Power in Iran', 24 May 2014, <http://www.world-nuclear.org/info/Country-Profiles/Countries-G-N/Iran/>.

<sup>b</sup> 'Iran plans several new nuclear reactors', Press TV, 12 April 2011, <http://edition.presstv.ir/detail/fa/174371.html> and International Atomic Energy Agency, 'Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran', IAEA GOV/2013/40, 28 August 2013, p. 7 (paragraph 28), <https://www.iaea.org/Publications/Documents/Board/2013/gov2013-40.pdf>.

<sup>c</sup> Ariel Ben Solomon, 'Iran negotiating with Russia over construction of new nuclear power plants', *The Jerusalem Post*, 29 December 2013, <http://www.jpost.com/Iranian-Threat/News/Iran-negotiating-with-Russia-over-construction-of-new-nuclear-plants-336487>.

All the issues have been examined intensively since January, first in exploratory talks and then in full-fledged negotiations. The aim is a complete package. Given the political pressures on the negotiators from those in Washington and Tehran who are opposed to any negotiation, it is hard, though not inconceivable, to imagine a further interim agreement followed by more negotiations on remaining issues.

There were talks between Iran and the United States in early August, possibly to explore further potential compromises. The timetable is now that negotiations between the P5+1 and Iran will resume in early September and that ministers will be involved during the last week of September, in the margins of the UN General Assembly.

This paper sets out what has been done so far and what bids each side has made to the other, and recommends how the gaps can be bridged, so that the risks associated with Iranian possession of a technology – uranium enrichment – that is intrinsically dual-use (civil/military) can be minimized to an acceptable degree.

### Box 2: The nuclear fatwa

According to the constitution and in practice, Iran's Supreme Leader, Ayatollah Khamenei, decides the general lines of the country's policy. The Bamdad Institute, a Study Centre attached to the Atomic Energy Organization of Iran, has published a definitive collection of some 30 extracts on weapons of mass destruction from his sermons and statements at political encounters since 2003. These constitute the nuclear fatwa. The collection was presented at a seminar in Moscow in September 2013.<sup>a</sup>

A fatwa may be issued in response to a specific question, or it may be issued at the initiative of a *mujtahid* (a person accepted within the Shia tradition as an original authority in Islamic law), in accordance with the obligation to enjoin good and forbid evil. Oral pronouncements have the same religio-judicial standing as written statements.

Some say that a fatwa can be withdrawn if circumstances dictate, and that Iran may be being deceitful. But it is beyond doubt that Khamenei has regarded weapons of mass destruction, including nuclear weapons, as *haram* (forbidden) and has consistently enjoined this in a binding manner upon the Iranian state over a decade.

The question for the international community is whether to trust all arms of the Iranian state to behave at all times and places in future in accordance with the nuclear policy contained in Khamenei's fatwa. Not yet, is the answer. There are past and current aspects of Iran's actions that have been or could be seen as inconsistent with it, or could be misused in future to subvert it. These have to be clarified and circumscribed through negotiations under the Joint Plan of Action. Any mutually agreed solutions should then be made operational within Iran in accordance with Khamenei's decreed policy.

The solutions also need to be internationally verified through measures undertaken within the provisions of the Non-Proliferation Treaty and some beyond them. These measures, and their duration, then need to be confirmed by the UN Security Council and their implementation monitored, the final state being, as the P5+1 have already assured Iran, that it will be treated in due course like other parties to the NPT.

<sup>a</sup> Center for Energy and Security Studies, 'The Role of Religion in Iranian Nuclear Foreign Policy', 5 September 2013, <http://ceness-russia.org/data/doc/13-09-05%20CENESS%20Workshop%20Agenda%20-%20Final.pdf>.

## What has been done under the Joint Plan of Action

### Limiting Iran's programme

In return for limited but useful sanctions relief, Iran has carried out its obligations under the first step of the JPA in order to address 'break-out' concerns. It has:

- halted the production of 20 per cent U235 uranium (a short hop, technically, from weapon-grade, at least 90 per cent);
- disposed of its stock of gaseous uranium (UF<sub>6</sub>) enriched to 20 per cent U235 by converting it into the oxide form needed for fuel assemblies or by down-blending it (during the July–November extension period Iran will reduce the oxidized stock by converting a quarter of it to fuel plates, having committed to turn all of it into fuel plates eventually);

- refrained from expanding its installed and operating centrifuge capacity;
- installed no new equipment or fuel elements at Arak; and
- facilitated enhanced monitoring by the IAEA, notably by allowing its inspectors daily access to its two enrichment facilities and access to its centrifuge production workshops.

These actions enable Iran to signal that it is not intent on breaking out but do not compromise a vital point of principle for it, namely that all states are entitled to make peaceful use of nuclear technologies, including uranium enrichment. The United States and its partners rightly claim that these are serious limits to the most worrying elements of Iran's nuclear activities. The IAEA has attested to the fact that Iran has abided by its undertakings.<sup>3</sup> Given, in addition, the seriousness of Iran's approach to the negotiations, trust has begun to grow.

### Enhanced IAEA access

Although the 'first step' section of the JPA does not refer to the Additional Protocol (see below), because its application has been politically contentious in Iran since 2005, the extra access envisaged in that text is currently enabling the IAEA to acquire much of the information that the protocol is designed to make available. And an explicit reference to the protocol in the 'final step' section suggests that Iran has undertaken to submit it for ratification in the course of implementing the 'final step'.

The Additional Protocol is a model legal text adopted by IAEA member states in the 1990s, following the discovery and dismantling of a clandestine Iraqi uranium enrichment programme, to help reduce the risk that the IAEA would fail to become aware of undeclared nuclear activities and material in non-nuclear weapon states.<sup>4</sup> When the protocol is in force in a state subject to IAEA nuclear safeguards, the IAEA is much better able to arrive with confidence at the judgment that a nuclear programme is exclusively peaceful.<sup>5</sup>

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<sup>3</sup> International Atomic Energy Agency, 'Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran', GOV2014/28, 23 May 2014, <http://www.iaea.org/Publications/Documents/Board/2014/gov2014-28.pdf>.

<sup>4</sup> On IAEA Nuclear Safeguards, and the role of an Additional Protocol to a country's Safeguards Agreement with the IAEA, see [http://www.iaea.org/Publications/Factsheets/English/sg\\_overview.html](http://www.iaea.org/Publications/Factsheets/English/sg_overview.html).

<sup>5</sup> This is because the Additional Protocol provides, among other things, for access to all parts of a state's nuclear fuel cycle (including any location where nuclear material may be present), short-notice access to all buildings on a nuclear site, collection of environmental samples beyond declared locations, and access to information about, and verification of, research and development on the fuel cycle and on manufacture of sensitive nuclear-related technologies.

## The agenda

The negotiating parties have agreed that nothing is agreed finally until everything is agreed. As one senior US official put it, 'there is not one formula [...] there are a number of ways you can put the pieces of the puzzle together [...] it's a package not a checklist'.<sup>6</sup>

The negotiations are addressing the following points.

- The duration of the final step (which is to be followed by a process of normalization of Iran's nuclear situation).
- The parties' rights and obligations under the NPT and IAEA Safeguards Agreements.
- A schedule for the comprehensive lifting of all nuclear-related sanctions.
- A definition of the future parameters of an Iranian enrichment programme that is consistent with Iran's practical needs.
- How to resolve all nuclear proliferation concerns relating to the reactor under construction at Arak.
- International civil nuclear cooperation with Iran.
- The resolutions adopted by the UN Security Council (between 2006 and 2010) with a view, as the JPA puts it, 'toward bringing to a satisfactory conclusion UNSC consideration of this matter'.
- The negotiations must be accompanied by full implementation of the transparency and IAEA monitoring measures that are an agreed element of the first step.

## Provisional agreement on Arak reactor

Iran insists on completing and operating the 40 MW heavy-water moderated research reactor at Arak. It wishes to minimize any changes to the reactor and its functioning. The P5+1 proposed that the reactor be modified to run on low enriched uranium (LEU) rather than natural uranium. There is now agreement in principle to redesigning the reactor in order to ensure that very much less plutonium is produced than envisaged.<sup>7</sup>

If such design changes can be complemented by Iranian agreement to export spent fuel for long-term storage abroad (which Iran has accepted in relation to the Bushehr reactor), by standard IAEA material accounting and monitoring of reactor operations, and by Iranian reaffirmation of a 'no reprocessing' policy, the risk of an Iranian plutonium-based nuclear weapons programme will have been removed.

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<sup>6</sup> US Department of State, 'Background Briefing on P5+1 Talks', 16 May 2014, <http://www.state.gov/r/pa/prs/ps/2014/05/226252.htm>.

<sup>7</sup> 'Iran nuclear talks extended for four more months', *IISS Strategic Comment*, Vol. 2014, No. 23, 23 July 2014, <http://www.iiss.org/en/regions/iran/iran-nuclear-talks-extended-for-four-more-months-f345>.

## Progress on Fordow

Iran has offered to convert the Fordow plant into a research facility, or a laboratory. This would involve ending the production of LEU in the plant, where 3,000 centrifuges have been installed and which is sufficiently far underground to make the results of aerial bombing uncertain, if the decision was one day taken to destroy it in this way.

## Agreement to relief from sanctions on Iran being staged

The P5+1 wish to retain some leverage after an agreement, on the basis that this is necessary to give Iran an incentive to adhere to the comprehensive solution. There have been extensive exchanges on how the international community would first suspend and eventually end nuclear-related sanctions. Details have not leaked, but it has been claimed that Iran may have acknowledged that sanctions relief will be staged.<sup>8</sup>

## Iran/IAEA Framework of Cooperation

On 11 November 2013 Iran and the IAEA agreed on how the latter's investigation into the country's past nuclear activities with potential military dimensions should be carried out. Many of the actions specified in the agreement have been completed.<sup>9</sup>

## Negotiating challenges: possible solutions

### Defining the future parameters of Iran's uranium enrichment programme

The negotiating parties took a step towards resolving this conundrum by agreeing in the JPA that the parameters of the enrichment programme should be 'consistent with practical needs', and by endorsing Iran's readiness to incorporate LEU into reactor fuel instead of stockpiling it. By 18 July, when the JPA was renewed, there was no agreement, however, on how many centrifuge machines Iran will operate, and of what type, or on the duration of agreed restrictions.

The P5+1 have been suspicious of Iran's intentions and have insisted on constraints on its capabilities. They do not accept that Iran should build up, even gradually, a capability to make fuel for nuclear power reactors yet unbuilt. Given that Iran has no agreement with Russia on the transfer of the know-how required to produce fuel for the Bushehr reactor, the P5+1 have also seen no reason to concede Iran's demand, expressed in a speech by the Supreme Leader on 7 July, that by 2021 Iran should possess sufficient capacity to make a year's supply of fuel for Bushehr.<sup>10</sup> Instead, they have argued that Iran's enrichment capacity should be modest for the foreseeable future – restricted to just a few thousand of its first-generation, relatively inefficient IR-1 machines.

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<sup>8</sup> Ibid.

<sup>9</sup> The Arms Control Association (US) is tracking completion of the actions. See <http://www.armscontrol.org/Implementation-of-the-Iran-IAEA-Framework-for-Cooperation>.

<sup>10</sup> The Office of the Supreme Leader Sayyid Ali Khamenei, 'Supreme Leader's Speech in Meeting with Government Officials', 7 July 2014, <http://www.leader.ir/langs/en/index.php?p=contentShow&id=12087>.



Iran does not wish to dismantle any of the 18,000 IR-1s and 1,000 IR-2m centrifuges that have been installed at, or to close, Fordow; nor is it willing to abandon research into more advanced centrifuge designs, or to lay off workers at its centrifuge component manufacturing sites. Conceding to any of those points would be perceived in Iran as a humiliating failure to defend the country's rights and as jeopardizing the goal of an eventual commercially viable nuclear fuel supply capability. Iran has nonetheless offered a freeze on the number of centrifuges now operating – 9,400 – albeit only for a few years.

### *Alternatives*

At this point Iran is not in need of domestically produced LEU to fuel reactors. It has already produced all the LEU it needs to fuel the Tehran Research Reactor (TRR), completed in 1967, for the remainder of its operating life. The Russian company that completed construction of the Bushehr power reactor in 2011 is keeping it supplied with fuel. However, Iran has plans to construct at least four small medical isotope-producing reactors that can be designed to burn LEU.<sup>11</sup>

It is possible, therefore, to envisage an understanding that for a period to be defined (see below) Iran's 'practical need' will be to produce fuel for these four small reactors. This can be done with the 9,400 IR-1 centrifuges that have been in operation during the first step of the JPA. One consequence would be that Iran could not hope to produce enough HEU for a weapon, using un-enriched uranium as feed material, in under six months; and would need at least two months using 1,000 kg of 3.5 per cent U235 as feed. Even two months is time enough for the IAEA to detect and report the beginnings of 'break-out' and for the UN Security Council to determine a forceful response.<sup>12</sup>

The problem becomes more complicated if Iran asserts an intention to build all-Iranian power reactors, and argues that it needs to expand its enrichment capacity, including by installing more advanced centrifuges, to produce fuel for them. Capacity expansion would imply a reduction in the period available for timely detection of and reaction to any break-out. With 20,000 IR-1s in operation, for instance, and a 1,000 kg stockpile of 3.5 per cent per cent U235 available as feed, enough HEU for one weapon could be produced in about six weeks. With 20,000 more advanced IR-2m centrifuges, production would be even quicker.

However, the reality is that Iran is still many years away from being able to design and build all-Iranian power reactors. So if it can be persuaded to undertake not to expand its enrichment capacity until there is imminent need to produce the initial fuel-load for an indigenous power reactor, its operating capacity can remain at 9,400 IR-1s for well over a decade. In the meantime, the development – monitored by the IAEA – of more efficient centrifuge models could ensure that Iran is well placed to meet that need when it arises.

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<sup>11</sup> 'Iran plans several new nuclear reactors', Press TV, 12 April 2011, <http://edition.presstv.ir/detail/fa/174371.html>.

<sup>12</sup> Different views are held on this point. The 'Worldwide Threat Assessment of the US Intelligence Community' concludes: 'Despite this progress, we assess that Iran would not be able to divert safeguarded material and produce enough weapons grade uranium for a weapon before such activity would be discovered', p. 6. In considering time-scales and associated risks, it is also reasonable to take into account the additional time necessary to actually build a weapon – estimates of the amount of time weaponization would take in Iran vary, but are in the range of 6–18 months.

Another likely assertion by Iran is that it will need to have large stocks of LEU to guard against a cut-off in the supply of fuel for the existing Bushehr reactor and for at least two others (what one might call Iran's second-phase reactors), which it is in the process of contracting to purchase from the Russian company that completed Bushehr. That too would require a major expansion of enrichment capacity.

For Iran the fear of a cut-off has a basis in historical experience. In the last three decades Germany refused to complete Bushehr; France (despite having secured an Iranian investment in the Eurodif enrichment process) refused Iran access to LEU; and the United States and Argentina refused to keep the Tehran Research Reactor supplied.

But the fear of a supply cut-off can be addressed in more ways than one. An alternative to that asserted by Iran would be for the P5+1 to undertake to encourage the Russian supplier of fuel for Bushehr, and the planned additional reactors, to install in Iran an 'international' or 'regional' fuel fabrication plant in a joint venture with the Atomic Energy Organization of Iran (AEOI) and, possibly, other states in the region that are purchasing reactors from Russia. Such a consortium could be tasked by Iran with producing fresh fuel loads well in advance of reactor re-loading dates. This would provide Iran with a cushion against any cut-off in the external supply of LEU to the fuel fabrication plant. Such a consortium would be a partial response to Iran's offer made in earlier rounds of negotiations to place its fuel cycle plants under multinational control.

Another Iranian interest – avoiding lay-offs at centrifuge-component manufacturing sites – could be met by putting in place arrangements for Iran to supply certain specified components to foreign manufacturers of centrifuge machines. Meeting quality standards set by experienced manufacturers could be helpful for Iran's civil nuclear industry in the long run.

All this said, the time will come when Iran will want and be able to design and construct all-Iranian reactors (what one might call its third-phase reactors). At that point it could reasonably claim to have a practical need for a much larger enrichment capacity than 9,400 first-generation centrifuges.

If by that time all IAEA concerns have been resolved and the agency has fully verified the peaceful nature of Iran's nuclear programme, attempting to discriminate against the country by resisting a capacity expansion will not be a viable or legitimate option. Instead the international community will have to rely on what is the best guarantee against abuse of Iran's enrichment capability: namely, its government's judgment that abuse is not in the country's interest. This, after all, is what the community relies on elsewhere where non-nuclear-weapon states have acquired a dual-use enrichment capability.

The framers of the NPT, in failing to outlaw non-nuclear-weapons states' use of sensitive dual-use technologies, vested the integrity of the nuclear non-proliferation regime in the ability of treaty parties to recognize mutual security benefits in maintaining the regime. In other non-nuclear-weapon states that have an enrichment capacity, it is national interest calculations (see below), backed up by the deterrent effect of regular IAEA monitoring, that militate against non-peaceful use, not restrictions on the numbers and types of centrifuges at the disposal of those states.

In Iran's case the deterrence derived from the risk of detection leading to coercive UN Security Council and bilateral reactions to 'break-out' would be reinforced by the continuing physical deterrent of US and Israeli military power.<sup>13</sup>

### The duration of the final step and a schedule for the lifting of sanctions

The P5+1 have tried and failed to get Iran to accept that the drastic limitation of its enrichment capacity they proposed should last a long time – for the foreseeable future.<sup>14</sup> Some reports speak of limits lasting 20 years.

For its part, Iran has tried and failed to get the P5+1 to accept that it should scale up its production capacity after a maximum of five years. Though the P5+1 complain about a lack of Iranian realism, Iran is not yet prepared to surrender what it considers to be its right to use costly indigenously developed facilities to produce fuel for power reactors, starting with Bushehr from 2021, when its supply contract with Russia will be due for renewal.

One way out of this impasse would be to allow the duration of whatever enrichment capacity restrictions are agreed to be a function of the IAEA's verifying that there are no undeclared nuclear activities or nuclear material in Iran – and, as suggested above, to supplement that provision with an Iranian undertaking not to take advantage of the ending of restrictions until the AEOI has a practical need for fuel for indigenous power reactors.

It would be hard to justify extending beyond that IAEA verification milestone the anomalous situation in which Iran has found itself since 2003, when IAEA inspectors discovered numerous breaches of its safeguards agreement with the agency. Once the proliferation concerns aroused by its 'policy of concealment' between 1985 and 2003, by associated IAEA safeguards failures and by possible indications of weapon-related research have been fully discussed and resolved, it would be inconsistent with the NPT to claim that Iran should be denied the same nuclear technology options as other treaty parties. However, to extend the confidence-building period, Iran can volunteer to refrain from adding to operating enrichment capacity until it has a practical need to do so for its third-phase indigenous reactors. Its compliance with that commitment could be monitored by the IAEA.

Part of this logic applies equally to nuclear-related sanctions. The IAEA's provision of 'credible assurances' (a standard IAEA formula) as to the absence of undeclared nuclear activities and material in Iran ought to trigger the lifting of all remaining nuclear-related sanctions.

That need not and should not exclude suspension at an earlier stage of the bilateral sanctions imposed in 2012, for instance when agreement is reached on the final step of a comprehensive

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<sup>13</sup> One might wonder whether the physical deterrent of US and Israeli military power is still cogent given recent American reluctance to engage militarily in the region. But US commitments to Israel's security are strong and are overwhelmingly supported in the United States, where the Iranian nuclear programme is regarded as a threat. The issue is a key priority for the United States, alongside terrorism and the Arab–Israeli peace question, and will remain so under any conceivable administration. It would be open to both Israel and the United States not to attack Iran, even if they determined that Iran was intending break-out. But Iran is both pragmatic and risk-averse: it is very unlikely to rely on no-attack being Israel's and the United States' choice and to take such a gamble and run such a risk to the ruling system's future.

<sup>14</sup> Conversations with UK and former US officials during 2014.

solution. Those sanctions were imposed 'as legitimate pressure on Iran to return to negotiations'.<sup>15</sup> Once a negotiated solution has been achieved, they have no place. And suspended sanctions can always be resumed if ever Iran fails to implement the final step in whole or in part.

The duration of other elements in the final step need not be commensurate with the duration of restrictions on enrichment and of the sanctions relief process. Each element in the final step can have its own timeline.

### Bringing to a conclusion UN Security Council consideration of the matter

Broadly speaking, the resolutions that the UN Security Council has adopted under Article 41 of the UN Charter require Iran to extend full cooperation to the IAEA, to apply the Additional Protocol and to 'suspend' all enrichment-related and Arak-related activity 'in order to build confidence and resolve outstanding questions'.

Iran has resisted demands for suspension since the collapse, in 2005, of an understanding, reached with the United Kingdom, France and Germany in 2003, which entailed suspension; and suspension has long since ceased to be relevant to the original goal of averting Iranian mastery of enrichment technology. But Iran might not rule out a very brief suspension to save the face of the Security Council and to make possible 'closure' on that front.

This could occur, if the parties wished, in the context of agreement on the contents of the final step of a comprehensive solution. It would be more consistent with the Security Council's resolutions, however, for 'closure' to occur once Iran had reapplied the Additional Protocol and the IAEA had produced 'credible assurances'.

### Rights and obligations under the NPT and IAEA Safeguards Agreements

The text of the JPA indicates that the final step will 'reflect the rights and obligations of parties to the NPT and IAEA Safeguards Agreements'. It is unclear whether this implies that the parties intend to set down in the text of the comprehensive solution a shared understanding of these rights and obligations. Given divergent Iranian and US interpretations of Article IV of the NPT, it may be wise for them to continue to accord *de facto* treatment to the 'right to enrich', and to put *de jure* differences to one side.

The United States has strategic counter-proliferation considerations in mind when it claims that the NPT does not accord a right to enrich. It fears that recognizing such a right would encourage other non-nuclear-weapon states to seek this sensitive technology (and to question the Nuclear Suppliers Group's bias against its supply).

But the US claim rests on a dubious refusal to acknowledge two things: that international law permits what it does not prohibit; and that the NPT does not prohibit enrichment for peaceful purposes, under IAEA safeguards.

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<sup>15</sup> Foreign Secretary William Hague, statement to the UK House of Commons, 24 January 2012.

### International civil nuclear cooperation

The text of the JPA suggests that, in seeking to identify areas for international cooperation, the parties will focus on light-water moderated power and research reactors, the supply of reactor fuel, and research and development practices. There would be merit in their extending this list to include spent-fuel management (assuming the Arak reactor ends up entering into service).

Once the Iranian nuclear programme is being treated 'in the same manner as' any other NPT non-nuclear-weapon state (a goal laid down in the JPA for the final step in its implementation), consideration can be given to inviting Iran to join the Nuclear Suppliers Group. This would help to integrate it into the community of NPT parties that have large-scale nuclear programmes and are strongly committed to maintaining a global nuclear non-proliferation regime. And it would help to reassure Iran that in future it would not be denied access to nuclear technology for peaceful purposes.

Meanwhile Iran should be encouraged to adhere to the Convention on Nuclear Safety<sup>16</sup> and to engage with its Gulf neighbours over safety concerns about reactors in seismic zones – and be invited to Nuclear Security Summits. In addition, it should be encouraged to ratify the Comprehensive Test Ban Treaty and play a part in pursuing a WMD free zone in the Middle East.

### Possible military dimension

The JPA provided for a joint commission, to include Iran and the P5+1, to work with the IAEA 'to facilitate resolution of past and present issues of concern' to the agency. The creation of a commission can offer Iran a forum in which to air concerns about IAEA legal and political authority in this area and about what it alleges to be fabricated intelligence. Iran could also use the forum to seek assurances from the P5+1 that it will not be given cause to regret self-incrimination by shedding light on any weapon-related research that it may have undertaken in the past: the so-called 'possible military dimension'.<sup>17</sup>

Iran and the P5+1 could also agree that in future any suspicions about Iranian nuclear or nuclear-related activities would first be discussed discreetly with the country in the Joint Commission. That would be consistent with the prevailing procedure under US/USSR and US/Russian arms control agreements, which all provide for a joint consultative body. The practice employed by the United States, the United Kingdom, France, Germany and Israel of passing intelligence to the IAEA and allowing the agency to embarrass Iran by reporting that it has failed to respond adequately to 'allegations' has not been conducive to the peaceful resolution of differences.<sup>18</sup>

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<sup>16</sup> International Atomic Energy Agency, 'Convention on Nuclear Safety', IAEA INFCIRC/449, 5 July 1994, <https://www.iaea.org/Publications/Documents/Infcircs/Inf449.shtml>.

<sup>17</sup> IAEA suspicions were set out in the Annex to its report; see International Atomic Energy Agency, 'Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran', GOV/2011/65, 8 November 2011, <http://www.iaea.org/Publications/Documents/Board/2011/gov2011-65.pdf>.

<sup>18</sup> Nor has past Iranian rigidity helped on important considerations for the IAEA such as its position that, if relevant new information emerges, it should not be prohibited from reopening matters dealt with previously under the framework agreements with the IAEA.

## The politics of an agreement

### In Iran

Iran's proclaimed policy is to alleviate international concerns so that it can gradually overcome the effects of sanctions. By limiting concessions to the minimum needed to achieve these aims, it intends to promote the authority and security of the ruling system.

Iran has wanted to diversify electric power generation away from hydrocarbons for decades. There is near-universal popular support for the programme in the country. It wants to justify its huge sunk costs. Iran intends to have a nuclear industry that will show it to be a powerful and technically advanced country that has stood up to real threats to its security, prosperity and religious mission.

Iran's economy has stopped shrinking and stabilized in 2014.<sup>19</sup> Growth is expected to resume in 2015 as a result of better economic decision-making, austerity measures, some recovery in the value of the rial, improved (though fragile) confidence among business people, falling inflation, and increased non-oil and oil exports. Iran wants maximum sanctions relief as soon as possible so that growth will pick up, investment can rise, the fall in employment can be halted and government spending can be increased.

Iran is not so desperate, however, as to see the imposition of further sanctions – which are currently threatened by some in the US Congress – as anything other than a breach of faith that would bring down the JPA. Nor will the Iranian establishment as a whole, and not just the hard-liners within it, agree to concessions that amount to permanent discrimination against Iran under the NPT.

President Rouhani has the authority to negotiate at the international level, but has to account to Ayatollah Khamenei, who himself has to decide whether agreements, as they emerge, adequately reflect Iran's fundamental interests. That is what he has decided so far. But Khamenei is highly sceptical because he considers that US hostility to Iran is immutable. In a speech to mark National Nuclear Technology Day in April, he said that 'The activities of the Islamic Republic in the area of nuclear research and development will not stop in any way. None of the nuclear achievements of the country can be given up.'<sup>20</sup>

Khamenei holds the balance between Rouhani and Rouhani's domestic opponents. So far he has prevented too ferocious criticism of the president, and in consequence the number of those seeking actively to derail his approach to the negotiations in parliamentary debates has been relatively small. The expectation that there will be a deal is reported to be widespread in Iran.<sup>21</sup>

This is partly because resolution of the nuclear dispute is crucial for the country's future. Iran, and with it the ruling system, would be strengthened if a deal held. While it is unlikely the system will

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<sup>19</sup> Further analysis available the most recent IMF Survey, 'Iran Presses Ahead with Economic Reform', 4 April 2014, <http://www.imf.org/external/pubs/ft/survey/so/2014/car040414a.htm>.

<sup>20</sup> 'Khamenei's Red Lines on Nuclear Talks', The Iran Primer, United States Institute of Peace, 16 April 2014, <http://iranprimer.usip.org/blog/2014/apr/16/khamenei-s-red-lines-nuclear-talks>.

<sup>21</sup> Farideh Farhi, 'Rouhani's First Year', lobelog.com, 27 June 2014, <http://www.lobelog.com/iran-rouhanis-first-year/>.

lose its grip on power in the medium term in any case, there is no doubt that it has failed to conduct itself in a way that enables consistent national progress. It is especially hard to adapt when, as in Iran, domestic politics are riven with dissent. Some signs of potential decline are evident, resulting from government mismanagement under the former president, Mahmoud Ahmadinejad, a malaise in relations between ruling elites and a proportion of Iranians, and above all repercussions from the decade-long nuclear dispute with the West. Iran asserted its sovereignty and independence during the 1979 revolution, but in recent years it has lost control over its destiny to an extraordinary degree. Its economy is currently vitiated by stringent economic sanctions. The government cannot deliver the change it has promised to the electorate unless the negotiation on the nuclear issue can be steered to success.

These facts will be well known to Khamenei. He talks about the value of resistance to Iran's enemies, in the economy as in international relations. But he is aware that internal stability and prosperity are tied to developments in the international arena. He is likely to approve a deal, therefore, provided the government can show that it is consistent with Iran's self-respect – that Iran has preserved rights to develop and use nuclear energy under the NPT without discrimination, that it has not been defeated by its enemies and that it has protected its dignity.

### In the United States

It is clear that opinion in the other members of the group of six countries negotiating with Iran is significant, but rarely determining. Russia and China have long been willing to negotiate on the terms finally agreed by the group in November 2013. And for an equivalent time France has probably been the most reluctant of the others to accept any softening in the positions adopted by the P5+1.

The United States is the power that Iran must deal with. The administration of President Barack Obama intends to fulfil the terms of the JPA, which it sees as best serving US interests, as well as those of its allies in the Gulf and of Israel. On 16 May, a senior US official said:

We believe if we can get a comprehensive agreement that ensures Iran cannot get a nuclear weapon, that its program is entirely peaceful, that addresses the issues we laid out very clearly in the JPA, that [...] Congress will be supportive of it.<sup>22</sup>

This is not certain, however. The detailed terms that may be necessary to convince the US Congress to enact sanctions relief may be too steep for Iran to accept.

The US negotiators have made a skilful and sustained effort to break the mould in which preoccupation with the assumed threat from Iran, with US historical and contemporary grievances against Iran, and sensitivity to Israeli views, have together put agreements out of reach. The attempt by both sides to escape the influence of the ghosts of history have been well described by one former US diplomat as stepping back from the abyss of futility.<sup>23</sup> This means changing a

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<sup>22</sup> US Department of State, 'Background Briefing on P5+1 Talks', 16 May 2014, <http://www.state.gov/r/pa/prs/ps/2014/05/226252.htm>.

<sup>23</sup> John Limbert, 'Tehran and Washington: Back from the Abyss of Futility', Muftah.org, 22 April 2014, <http://muftah.org/tehran-washington-back-abyss-futility/#.VARtRMVdXWc>.

dysfunctional pattern that has prevented the two countries from dealing with each other, even when it was clearly in their interests to do so. The rapprochement with the United States that has taken place since 2013 is historic, but is limited in its effects to the ability to discuss the nuclear issue creatively. In New York in September 2013, Rouhani said that resolving the nuclear question could open the way to a 'framework to manage our differences'.<sup>24</sup>

While the reluctance of the US military and of public opinion to enter more Middle Eastern wars has been telling, there remains strong opposition within Congress to Obama's strategy towards Iran, resulting in pressure for further sanctions during the negotiations. This has so far been insufficient to derail the policy. Opposition is becoming increasingly partisan, however, with prominent Democrats more reluctant than in the past to side with Republicans against their president.

For more than 20 years Israeli views have had great influence on Congressional and executive thinking about Iran. Israel has consistently warned against the effects of the JPA. On Holocaust Day, 27 April 2014, Prime Minister Benjamin Netanyahu said:

Iran seeks an agreement that will lift the sanctions and leave it as a nuclear threshold state with the capability to manufacture nuclear weapons within several months at most [...] A deal which enables Iran to be a nuclear threshold state will bring the entire world to the threshold of an abyss. I hope that the lessons of the past have been learned, and that the desire to avoid confrontation at any cost will not lead to a deal that will exact a much heavier price in the future. I call on the leaders of the world powers to insist that Iran fully dismantle its capacity to manufacture nuclear weapons, and to persist until this goal is achieved.<sup>25</sup>

Giving some of the detail behind this assessment, Yaacov Amidror, until recently Netanyahu's national security adviser, has written:

None of the assumptions behind the emerging accord are sound: Neither the assumption that a monitoring regime could guarantee identification in real time of Iranian violations; nor the assumption that the US would act with alacrity if a breach is identified; nor the assumption that in the real world Iran will truly be deterred by US threats. An agreement along these lines would be far worse than no agreement, and could force Israel to respond independently.<sup>26</sup>

It is not clear yet whether an agreement with Iran can be reached, or what its terms will be. But if it is, the Obama administration will not be disposed to allow Israel a veto over it.

## Conclusion

The Obama administration would vigorously promote to Congress and to the public a text that it considered to be in the US national interest and consistent with its security undertakings to Israel. It would be right to do so. But there is still a risk that the opportunity afforded by the current

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<sup>24</sup> 'Rouhani calls for time-bound nuclear talks', Al Jazeera, 25 September 2013, <http://www.aljazeera.com/news/americas/2013/09/rouhani-calls-for-time-bound-nuclear-talks-2013924213938482781.html>.

<sup>25</sup> 'Full transcript of Netanyahu speech for Holocaust Remembrance Day', *The Times of Israel*, 27 April 2014, <http://www.timesofisrael.com/full-transcript-of-netanyahu-speech-for-holocaust-remembrance-day/>.

<sup>26</sup> Yaacov Amidror, 'Israel Cannot Accept the Emerging Accord between the US and Iran', Begin-Sadat Center for Strategic Studies, 24 April 2014, <http://besacenter.org/perspectives-papers/israel-accept-emerging-according-us-iran/>.



negotiations will be missed. The policy of outside powers towards Iran's nuclear ambitions should rest on one of two alternative assumptions. The first is that Iran is determined to acquire nuclear weapons and will do so sooner or later unless it is deprived of all means of producing weapon-grade material. The second is that Iran is not decided on acquiring nuclear weapons and can be discouraged and deterred from ever embarking on this path by a well-founded diplomatic agreement.

If one's starting point is the first assumption, then there is little point in negotiating with Iran because it has become obvious since 2003 that it will not voluntarily dismantle all facilities that could be used to produce weapon-grade material or eradicate all the related knowledge that has been acquired.

If one's starting point is the second assumption, then the right policy is to negotiate an agreement that will minimize the risk of Iran's leaders ever deciding to ignore their NPT obligations and misuse their nuclear facilities and know-how to produce nuclear weapons. A risk-minimizing agreement is one that provides for extensive external inspection and monitoring of Iran's use of nuclear materials, that inhibits break-out while Iran is building confidence in its intentions, and that offers Iran gains that it would be sure of losing were it to decide to embark on the acquisition of weapons.

The United States and the EU have opted for the second assumption. They have tried so far, however, to negotiate an outcome that falls between the goals of the two policies that flow from the two assumptions. They have been pressing Iran to accept a hybrid outcome: to cut the number of centrifuge machines to a point where its theoretical fissile material production capacity would be very small, and to abandon its efforts to develop more advanced centrifuge models.

What is propelling them down this path is the difficulty the US government anticipates in Congress. Many in Congress have accepted the Israeli line on Iran's nuclear programme; they are therefore inclined to the first assumption and will not be impressed by a hybrid outcome. They want a full-blooded dismantlement of Iran's nuclear capabilities. They will see through the claim that cutting back Iran's declared centrifuge capacity to a few thousand machines for say 20 years means that it 'cannot' (as the US negotiators describe their aim) acquire nuclear weapons.

And the Iranian government would rather the negotiations fail than commit political suicide by signing on to a programme that meant it could never develop its domestic civil nuclear industry further.

What is needed, therefore, is for the United States and EU to revisit their assumptions about Iran's intentions. If they arrive at the conclusion that Iran is intent on acquiring nuclear weapons, then they should bring the negotiations to a close and set about preparing for more severe sanctions and quite possibly a war.

If they conclude that the second assumption remains valid, then they should have the courage of their convictions and ask Iran for the measures summarized below.

- IAEA access to Iran's nuclear programme commensurate with the prevailing interpretation of what is required by the NPT.

- The progressive resolution of all outstanding IAEA concerns.
- Ratification by the Iranian parliament of the Additional Protocol.
- Confidence-building on the non-expansion of Iran's enrichment capacity until the IAEA is satisfied that the programme's aims are entirely peaceful.
- Tying expansion and the use of more advanced centrifuges to the fuel needs of actual as opposed to notional all-Iranian power reactors.
- Any other confidence-building measures that Iran is ready to offer in return for sanctions relief.

Such an agreement would be interpreted by some domestic critics of the Obama administration as a sign of diminished US power in an increasingly multipolar world. But the fact is that ending Iran's enrichment programme forever has been beyond US capability for more than a decade; and strategic rivals of the United States, such as Russia and China, will not find their weight in the world increased by a nuclear deal with Iran.

Moreover, these critics underestimate the deterrent pressure on Iran of knowing that any diversion of nuclear material for weapons purposes would be detected by the IAEA; that renewed and harsher sanctions or a war would follow detection; and that detection would cause immense damage to the improved standing Iran needs not just to make its way in the world but to survive.

Reactions to such an agreement in the region are harder to predict, given the worrying nature, and speed, of the changes taking place both within and between states there. In his 11 July press conference during the Gaza war, Netanyahu appeared to downgrade the nuclear threat from Iran. He may reverse this later in the year, but it is possible that Israel will now acquiesce in an agreement between the P5+1 and Iran.<sup>27</sup> Saudi Arabia's policy will be decided by King Abdullah. It will be open to him to conclude that Saudi needs will be best served by acknowledging that a nuclear deal should be given a chance because it will not place the country in a worse position than it is in now, and that there would be an adverse reaction from Iran were Saudi Arabia to be seen trying to thwart a deal.

Supporters of an agreement will have good arguments to draw on, whether in the United States, Europe or the Middle East. Such an agreement would be good for international security. It would provide:

- extra oversight of Iran's programmes;
- sufficient warning, during a confidence-building period, of any attempt to break out and acquire a minimal weapon capability;

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<sup>27</sup> See, for example, Yossi Alpher, 'Iran and the P5+1: Did anyone in the Middle East notice the four month extension?', Norwegian Institute of International Affairs, 12 August 2014, <http://english.nupi.no/content/download/496012/1651085/file/Alpher%20article.pdf>.

- reinforcement of the non-proliferation regime in general; and
- a better chance of avoiding a regional nuclear arms race than any alternative course of action.

It would not lead to any extension of Iranian influence in contested areas outside its borders. It would not alter the current uneasy political or strategic balance between Iran and the West's allies in the region. On the contrary, by reducing one source of tension, it could contribute to opening the way to much-needed dialogue across the Gulf on mutual security and combating common threats.

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