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Iran: Interim Nuclear Agreement and Talks on a Comprehensive Accord

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Summary

On November 24, 2013, Iran and the six powers that have negotiated with Iran about its nuclear program since 2006 (the United States, the United Kingdom, France, Russia, China, and Germany—collectively known as the “P5+1”) finalized an interim agreement (“Joint Plan of Action,” JPA) requiring Iran to freeze many aspects of its nuclear program in exchange for relief from some international sanctions. The period of the interim deal was to be six months, during which time Iran and the P5+1 would attempt to reach a comprehensive deal on the long-term status of Iran’s nuclear program.

The main elements of the JPA are requirements that Iran freeze, in effect, its production of enriched uranium hexafluoride containing 20% uranium-235—the form of enriched uranium in Iran’s stockpile that has caused the most concern; dilute and convert the 20% enriched uranium and 5% enriched uranium stocks to other forms that would take time to reverse; halt key elements of its heavy-water reactor program that could lead to a plutonium bomb; and provide the International Atomic Energy Agency (IAEA) with additional information about its nuclear program, as well as access to some nuclear-related facilities which are not covered by Iran’s IAEA safeguards agreement.

Under the JPA, the P5+1 countries agreed to refrain from imposing new sanctions and permit Iran to repatriate to Iran about \$700 million per month in oil sales proceeds. Iran’s oil exports are capped at about 1 million barrels per day—a 60% drop from 2011 levels of about 2.5 million barrels per day. The JPA also permits Iran to sell petrochemicals and trade in gold and other precious metals, and to conduct transactions with foreign firms involved in Iran’s auto sector. The estimated value of the revenue that accrues to Iran from these sources is about \$250 million per month. Iran also is permitted to access about \$65 million per month of hard currency for tuition for Iranian students, to buy spare parts for U.S.-made civilian aircraft, and to receive international facilitation of humanitarian purchases of food and medicine.

The JPA has been seen as slowing Iran’s build-up of nuclear material and improving the international community’s ability to identify Iranian efforts to develop nuclear weapons. Throughout 2014, the attention of the international community increasingly turned to the potential outcome of negotiations on a comprehensive nuclear accord. The P5+1-Iran negotiations began in February 2014 and reportedly made steady progress, although insufficient to reach agreement by the July 20 expiration of the first six-month JPA period. In July, the two sides announced that progress—and Iran’s compliance with the JPA provisions—justified extending the JPA until November 24, 2014.

Intensive negotiations attempted to finalize a deal by that deadline, but the two sides again announced that more time was needed to close still significant gaps in their positions. The main outstanding issues reportedly center on the size and scope of Iran’s uranium enrichment program; the duration of the comprehensive accord; and the extent and sequencing of the lifting of nuclear-related sanctions. On November 24, Iran and the P5+1 announced that they were extending the talks—and all provisions of the JPA—with the intent of finalizing a detailed agreement by June 30, 2015. The parties have stated they would first attempt to reach an overarching framework for the agreement by March 24, 2015.

Regional and international governments are closely watching the negotiations. Some U.S. allies, as well as some in Congress, assert a concern that the P5+1 might accept an accord that does not ensure that Iran could not utilize its nuclear infrastructure to develop a nuclear weapon in a short period of time. Some countries in the region, including the Persian Gulf monarchies, express concern that a final accord would prompt a broader U.S.-Iran rapprochement that could cause the United States to retreat from the Middle East. Others assert that a final accord would give Iran additional resources to extend its influence in the region. On the other hand, an accord could produce greater U.S.-Iran cooperation against the threat to the region posed by the Islamic State organization's seizure of territory in Iraq and Syria. U.S. officials acknowledge that Iran and the United States have held bilateral talks on the Islamic State and other regional issues at the margins of the negotiations on a comprehensive nuclear accord.

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Introduction

Multilateral negotiations regarding Iran's nuclear program date back to 2003 after a pilot-scale clandestine gas centrifuge enrichment facility was revealed at Natanz. In October of that year, Iran concluded an agreement with France, Germany, and the United Kingdom that contained provisions designed to alleviate international concerns regarding Iran's uranium enrichment and heavy-water reactor programs. Iran temporarily suspended all enrichment and reprocessing operations and signed the IAEA Additional Protocol to its safeguards agreement, but also asserted its right to develop nuclear technology. Between 2003 and 2006, questions arose about undeclared nuclear activities in Iran. In January 2006, Iran broke international seals and restarted work on its commercial-scale enrichment plant. In June 2006, the P5+1 presented a proposal to Tehran that offered a variety of incentives in return for several Iranian confidence-building steps concerning those programs. Since then, the two sides have held multiple rounds of talks—some as recently as spring of 2013—without reaching agreement. Following the June 2013 election of Iranian President Hassan Rouhani, many observers expressed optimism that these negotiations would produce an agreement. After Rouhani took office in August 2013, Iran and the P5+1 met twice (once in October and once in November) prior to the talks that agreed on November 24, 2013, to the “Joint Plan of Action” (JPA, sometimes referred to in international documents as JPoA). The JPA set out an approach toward reaching a long-term comprehensive solution to international concerns regarding Iran's nuclear program.

As part of the diplomatic efforts cited above, the U.N. Security Council adopted several resolutions, the most recent of which (Resolution 1929) was adopted in June 2010. These resolutions require Iran to cooperate fully with an ongoing International Atomic Energy Agency (IAEA) investigation of its nuclear activities, suspend its uranium enrichment program, suspend its construction of a heavy-water reactor and related projects, and ratify the Additional Protocol to its IAEA safeguards agreement. Resolution 1929 also requires Tehran to refrain from “any activity related to ballistic missiles capable of delivering nuclear weapons” and to comply with a modified provision (called code 3.1) of Iran's subsidiary arrangement to its IAEA safeguards agreement.¹ Several of these resolutions imposed economic and other sanctions on Iran.

In addition to concluding the JPA, Iran signed a joint statement with the IAEA on November 11, 2013, describing a “Framework for Cooperation.”² According to the statement, Iran and the IAEA agreed to “strengthen their cooperation and dialogue aimed at ensuring the exclusively peaceful nature of Iran's nuclear programme through the resolution of all outstanding issues that have not already been resolved by the IAEA.” The IAEA has long sought to resolve some outstanding questions regarding Tehran's nuclear program, some of which concern possible Iranian research on nuclear weapons development.

¹ Iran is a party to the nuclear Nonproliferation Treaty (NPT) and has concluded a comprehensive safeguards agreement with the IAEA. Such agreements are designed to enable the IAEA to detect the diversion of nuclear material from peaceful purposes to nuclear weapons uses, as well as to detect undeclared nuclear activities and material. For more information, see CRS Report R40094, *Iran's Nuclear Program: Tehran's Compliance with International Obligations*, by Paul K. Kerr.

² Available at <http://www.iaea.org/press/?p=4018>.

Background on Nuclear Program³

Iran has nuclear programs that could potentially provide Tehran with the capability to produce both weapons-grade highly enriched uranium (HEU) and plutonium—the two types of fissile material used in nuclear weapons. Statements from the U.S. intelligence community indicate that Iran has the technological and industrial capacity to produce nuclear weapons at some point, but the U.S. government assesses that Tehran has not mastered all of the necessary technologies for building a nuclear weapon.

A November 2007 National Intelligence Estimate assessed that Iran “halted its nuclear weapons program” in 2003.⁴ The estimate, and subsequent statements by the intelligence community, also assessed that Tehran is “keeping open the option to develop nuclear weapons.”⁵ However, Director of National Intelligence James Clapper stated during an April 18, 2013, Senate Armed Services Committee hearing that Iran has apparently not decided to produce nuclear weapons.⁶ And, U.S. officials argue that the IAEA and/or U.S. intelligence would likely detect an Iranian attempt to use its safeguarded facilities for producing weapons-grade HEU.⁷ Tehran could also use covert facilities to produce fissile material for a weapon, partly because the IAEA would likely detect an Iranian attempt to use its safeguarded facilities for this purpose. U.S. officials have also expressed confidence in the United States’ ability to detect Iranian covert nuclear facilities.⁸ Others point out that the Iranian government could decide to build up nuclear material stocks as part of a safeguarded program but then “break out” of any agreement and produce weapons-grade material from those stocks. This latter scenario has been the focus of debate over potential “break out” timelines. The Administration has said its goal for a comprehensive agreement is to increase the time needed for the production of nuclear material for one weapon from the current estimate of two months to between six months and one year, as well as to improve the international community’s ability to detect such a scenario.⁹ In addition to the production of weapons-grade nuclear material, a nuclear weapons program requires other key elements such as warhead design and reliable delivery systems (see **Appendix**).

³ For more information, see CRS Report RL34544, *Iran’s Nuclear Program: Status*, by Paul K. Kerr.

⁴ The estimate defined “nuclear weapons program” as “nuclear weapon design and weaponization work and covert uranium conversion-related and uranium enrichment related work.”

⁵ For example, Director of National Intelligence James Clapper stated during a January 31, 2012, Senate Select Intelligence Committee hearing that Iran has “is keeping open the option to develop” nuclear weapons.

⁶ “Hearing on Current and Future Worldwide Threats,” Senate Committee on Armed Services, April 18, 2013. Clapper explained that such a decision “would be made singly” by Iranian Supreme Leader Ayatollah Ali Khamene’i.

⁷ “Hearing on Security Threats to the United States,” Senate Select Committee on Intelligence, March 12, 2013. Then-IAEA Deputy Director General for Safeguards Herman Nackaerts stated in July 2013 that the IAEA “would know within a week,” if Iran were to use its safeguarded facilities to produce weapons-grade HEU. (Barbara Slavin, “Tight IAEA Inspection Regime Hampers Iran’s Nuclear Breakout,” *Al-Monitor*, July 22, 2013).

⁸ “Senior Administration Official Holds A Background Briefing Previewing Iran P5+1 Talks,” November 6, 2013; Colin H. Kahl, “Not Time to Attack Iran: Why War Should Be a Last Resort,” *Foreign Affairs*, January 17, 2012.

⁹ Statement by Secretary of State John Kerry in Vienna, Austria, November 24, 2014. <http://www.state.gov/secretary/remarks/2014/11/234363.htm>; Transcript of Senate Foreign Relations Committee Hearing on President Obama’s Proposed Fiscal 2015 Budget Request for International Affairs, April 8, 2014.

Iranian Nuclear Facilities¹⁰

This section contains a brief description of the Iranian nuclear facilities most relevant to the JPA and negotiations on a comprehensive accord. According to a November 14, 2013, IAEA report, Iran had generally stopped expanding its enrichment and heavy water reactor programs during the negotiations leading up to the JPA.¹¹ Iran operates a Russian-built nuclear power reactor. Russia will provide fuel for this reactor until 2021. Iran says it is building fuel-making enrichment facilities for a future expanded nuclear reactor fleet. Iran also has three uranium mining and milling sites. Negotiations focus on the enrichment program and the heavy water reactor due to their potential for nuclear weapons material production.

Enrichment Facilities

Iran has three gas centrifuge enrichment facilities (Natanz Fuel Enrichment Plant (FEP); Natanz Pilot Fuel Enrichment Plant (PFEP) and Fordow Fuel Enrichment Plant (FFEP)). Gas centrifuges enrich uranium by spinning uranium hexafluoride gas at high speeds to increase the concentration of the uranium-235 isotope. Such centrifuges can produce low-enriched uranium (LEU), which can be used for fuel in nuclear power reactors or research reactors, and weapons-grade highly enriched uranium (HEU). LEU used in nuclear power reactors typically contains less than 5% uranium-235; research reactor fuel can be made using 20% uranium-235; HEU used in nuclear weapons typically contains about 90% uranium-235. Tehran argues that it is enriching uranium for use as fuel in nuclear power reactors and nuclear research reactors.

Natanz Commercial-Scale Fuel Enrichment Plant (FEP)

In this facility, Iran is using first-generation centrifuges, called IR-1 centrifuges, to produce LEU containing up to 5% uranium-235. As of November 2013, Iran had installed about 15,400 of these centrifuges, approximately 8,800 of which are enriching uranium. Iran had also installed about 1,000 centrifuges with a greater enrichment efficiency, called IR-2m centrifuges, in the facility. The IR-2m centrifuges are not enriching uranium.

Natanz Pilot Fuel Enrichment Plant (PFEP)

Iran had been using IR-1 centrifuges in this facility to produce LEU containing approximately 20% uranium-235 until this work halted under the JPA. Iran's production of LEU enriched to the 20% level has caused concern because such production requires approximately 90% of the effort necessary to produce weapons-grade HEU, which, as noted, contains approximately 90% uranium-235.¹² Iran is testing other centrifuge models in this facility under IAEA supervision, but such work is monitored and limited under the JPA (see below).

¹⁰ Unless otherwise noted, this section is based on CRS Report RL34544, *Iran's Nuclear Program: Status*, and the three most recent reports from IAEA Director-General Amano to the IAEA Board of Governors: GOV/2013/27 (May 2013), GOV/2013/40 (August 2013), and GOV/2013/56 (November 2013).

¹¹ *Implementation of the NPT Safeguards Agreement and Relevant Provisions of Security Council Resolutions in the Islamic Republic of Iran*, GOV/2013/56, November 14, 2013.

¹² Former IAEA Deputy Director General Olli Heinonen, "Dealing with a Nuclear Iran: Redlines and Deadlines," Center for Strategic and International Studies, February 6, 2013.

Fordow Fuel Enrichment Plant (FFEP)

Iran was using IR-1 centrifuges in this facility to produce LEU containing approximately 20% uranium-235 until the JPA took effect. Iran has installed about 2,700 first-generation centrifuges, approximately 700 of which were enriching uranium.

Enriched Uranium Inventory

At the time the JPA was concluded, Iran had enough uranium hexafluoride containing up to 5% uranium-235, which, if further enriched, would yield enough weapons-grade HEU for several nuclear weapons. The total amount of Iranian LEU containing 20% uranium-235 would, if it were in the form of uranium hexafluoride and further enriched, be sufficient for a nuclear weapon. Since the JPA, however, Iran has either converted much of that material for use as fuel in a research reactor located in Tehran (called the Tehran Research Reactor), or prepared it for that purpose (see below). Tehran's uranium conversion facility is not set up to reconvert the reactor fuel to uranium hexafluoride.¹³

Arak Reactor

Iran is constructing a heavy water-moderated reactor at Arak, which, according to Tehran, is intended to produce radioisotopes for medical use. Iran has said that the reactor is to replace the Tehran Research Reactor. The JPA limits further development of the facility. Heavy water production requires a separate production plant. Prior to the JPA, Tehran notified the IAEA that it had produced enough heavy water to commission the reactor.

The Arak reactor is a proliferation concern because heavy water reactors produce spent fuel containing plutonium better suited for nuclear weapons than plutonium produced by light water-moderated reactors.¹⁴ However, plutonium must be separated from the used fuel—a procedure called “reprocessing.” Iran has said that it will not engage in reprocessing. JPA Provisions and Implementation

The JPA text describes a two-step process for Iran and the P5+1 to “reach a mutually-agreed long-term comprehensive solution that would ensure Iran’s nuclear programme will be exclusively peaceful.” This solution would also “produce the comprehensive lifting of all UN Security Council sanctions, as well as multilateral and national sanctions related to Iran’s nuclear programme.” Reiterating previous Iranian statements, the JPA also states that “Iran reaffirms that under no circumstances will Iran ever seek or develop any nuclear weapons.” The two sides began implementing the JPA on January 20, 2014.

Under the JPA, the P5+1 and Iran established a “Joint Commission” to “monitor the implementation of the near-term measures and address issues that may arise.” The IAEA is “responsible for verification of nuclear-related measures,” but the commission will work with the agency “to facilitate resolution of past and present issues of concern,” the agreement says. In

¹³ *Nuclear Industry in Iran: An Overview on Iran’s Activities and Achievements in Nuclear Technology*, Atomic Energy Organization of Iran, 2012, p. 13. This absence can also be inferred from IAEA reports and the November 24 interim agreement (JPA) text.

¹⁴ Both the Tehran Research Reactor and an Iranian nuclear power reactor near Bushehr are light-water reactors.

November 2013, Iran and the IAEA concluded a Framework for Cooperation specifying measures to be taken to address outstanding questions and set up monitoring arrangements under the JPA. The commission also monitors the implementation of the agreement's sanctions provisions.

IAEA Safeguards

The IAEA's ability to inspect and monitor nuclear facilities, as well as to obtain information, in a particular country pursuant to that government's comprehensive safeguards agreement is limited to facilities and activities that have been declared by the government. Additional Protocols to IAEA comprehensive safeguards agreements increase the agency's ability to investigate undeclared nuclear facilities and activities by increasing the IAEA's authority to inspect certain nuclear-related facilities and demand information from member states. Iran signed such a protocol in December 2003 and agreed to implement the agreement pending ratification. However, following the 2005 breakdown of the limited agreements with the European countries to suspend uranium enrichment, Tehran stopped adhering to its Additional Protocol in 2006.¹⁵ Subsidiary arrangements to IAEA safeguards agreements describe the "technical and administrative procedures for specifying how the provisions laid down in a safeguards agreement are to be applied."¹⁶ Code 3.1 of Iran's subsidiary arrangement to its IAEA safeguards agreement requires Tehran to provide design information for new nuclear facilities "as soon as the decision to construct, or to authorize construction, of such a facility has been taken, whichever is earlier." As outlined below, Iran and the IAEA have negotiated an additional safeguards agreement (subsidiary arrangement) that details how to implement monitoring required under the JPA.

Nuclear Program Provisions Under the JPA¹⁷

Under the JPA, Iran agreed to refrain from "any further advances of its activities" at the Natanz commercial-scale facility, Fordow facility, and Arak reactor. Tehran is also to provide the IAEA with additional information about its nuclear program, as well as access to some nuclear-related facilities to which Iran's IAEA safeguards agreement does not require access. These latter steps are designed to ensure Iran's compliance with the Iran-P5+1 agreement, as well as improve the IAEA's ability to detect Iranian efforts to produce weapons-grade HEU using its declared nuclear facilities, or to use or develop covert facilities for that purpose. In its reports in 2014 and in January 2015, the IAEA has confirmed that Iran has complied with the terms of the JPA.

Officials of P5+1 governments expressed confidence that the IAEA would be able to detect any Iranian noncompliance with the joint plan of action.¹⁸ Herman Nackaerts, a former IAEA Deputy Director General for Safeguards, echoed this confidence in an interview with *Reuters*.¹⁹ The

¹⁵ Iran announced that it would stop implementing the protocol two days after the IAEA Board of governors adopted a resolution in February 2006 which referred Iran's noncompliance with its IAEA safeguards agreement to the U.N. Security Council.

¹⁶ *2001 IAEA Safeguards Glossary*. Available at <http://www-pub.iaea.org/books/IAEABooks/6570/IAEA-Safeguards-Glossary-2001-Edition>.

¹⁷ Unless otherwise noted, this section is based on the agreement text (available at http://eeas.europa.eu/statements/docs/2013/131124_03_en.pdf), "Background Briefing By Senior Administration Officials On First Step Agreement On Iran's Nuclear Program," November 24, 2013, and GOV/2013/56.

¹⁸ CNN, November 25, 2013.

¹⁹ Fredrik Dahl, "Analysis: Reversible Iran Deal Puts More Pressure on Final Talks," *Reuters*, November 27, 2013.

interim agreement's nuclear provisions will add "probably several months" to the time needed for Iran to produce material for a nuclear weapon, deputy National Security Adviser Antony Blinken stated November 25, 2013.²⁰

Centrifuge Limits

Iran is to refrain from feeding uranium hexafluoride into its installed centrifuges that were not previously operating (enriching uranium). Tehran is also to replace existing centrifuges only with "centrifuges of the same type" and produce centrifuges for the sole purpose of replacing damaged centrifuges. Tehran is to refrain from installing additional centrifuges at the Natanz FEP facility and has pledged not to construct additional enrichment facilities. At the Natanz PFEP, its pilot-scale plant, Iran is not allowed to accumulate enriched uranium. Iran may continue to enrich up to 5% level in the previously operating centrifuges.

Level of Enrichment Limits

Iran may only enrich uranium to the level up to 5% uranium-235. Tehran is also to dilute half of its stockpile of uranium hexafluoride containing 20% uranium-235 to no more than 5% uranium-235. The rest of the uranium hexafluoride containing 20% uranium-235 is to be converted to uranium oxide for use as fuel for the Tehran Research Reactor.²¹ Iran is also to refrain from building a line in its uranium conversion facility for reconvertng the uranium oxide back to uranium hexafluoride.

LEU Stockpile Limits

Iran is also to, in effect, freeze the amount of stocks of enriched uranium hexafluoride containing up to 5% uranium-235 by converting it to uranium oxide. The uranium dioxide is to be set aside for R&D on fuel for Iran's Bushehr nuclear power reactor.

Centrifuge R&D

According to the joint plan of action, Iran will continue its "current enrichment R&D Practices" under IAEA safeguards, "which are not designed for accumulation of the enriched uranium." This provision prohibits Tehran from producing enriched uranium hexafluoride containing more than 5% uranium-235 as part of an R&D program.

Additional Monitoring

The agreement also provides for additional IAEA monitoring of the enrichment facilities. Specifically, it allows IAEA inspectors to access video records from those facilities on a daily

²⁰ "Deal Leaves Iran's Nuclear Facilities Intact," *National Public Radio*, November 25, 2013.

²¹ This material is unsuitable for further enrichment. Uranium hexafluoride is the form of uranium used as feedstock for centrifuge enrichment.

basis. Previously, inspectors reportedly accessed such records (the video is not streamed in real time to the agency), but not on a daily basis.²² Arak Reactor

Under the JPA, Iran is to refrain from commissioning the reactor, transferring fuel or heavy water to the reactor site, testing and producing additional reactor fuel, and installing remaining reactor components. The agreement allows Tehran to continue some construction at the reactor site and also produce reactor components off-site that are not covered by the agreement. Iran has also agreed to refrain from reprocessing spent nuclear material and building a reprocessing facility.²³ Iran has agreed to submit updated design information about the reactor to the IAEA and agree upon a suitable safeguards approach for the reactor.

Additional Information

According to the JPA, Iran is to provide the IAEA with other information about its nuclear programs, such as past undeclared activities. Provision of this information is required by the additional protocol and code 3.1 of Iran's subsidiary arrangement to its IAEA safeguards agreement.

Iran also provides IAEA inspectors with "managed access" to its centrifuge assembly workshops, centrifuge rotor production workshops, centrifuge storage facilities, and uranium mines and mills.²⁴ Access to these facilities, will help the IAEA to enhance its understanding of the enrichment program's scope and thereby improve the agency's ability to detect an undeclared Iranian enrichment facility.

Right to Enrichment

The JPA acknowledges that Iran's right to the peaceful use of nuclear energy under the NPT will be part of a comprehensive solution, but shies away from stating that enrichment is part of this right. It stipulates that an enrichment program in Iran would have defined limits and transparency measures.²⁵

²² Deputy National Security Adviser Blinken stated in a November 25, 2013, television interview that such access would enable IAEA inspectors to detect Iranian efforts to produce weapons-grade HEU at its declared enrichment facilities "almost instantaneously."²² However, as noted, U.S. officials have previously expressed confidence in the IAEA's ability to detect such Iranian efforts; the extent to which the November 24 agreement improves this ability is unclear.

²³ There is no public official evidence that Iran has a reprocessing facility.

²⁴ According to the IAEA, "managed access" to nuclear-related facilities is "arranged in such a way as 'to prevent the dissemination of proliferation sensitive information, to meet safety or physical protection requirements, or to protect proprietary or commercially sensitive information.' Such arrangements shall not preclude the Agency from conducting activities necessary to provide credible assurance of the absence of undeclared nuclear material and activities at the location in question." (2001 IAEA Safeguards Glossary. Available at <http://www-pub.iaea.org/books/IAEABooks/6570/IAEA-Safeguards-Glossary-2001-Edition>.)

²⁵ Tehran has long argued that it has the right to enrich uranium pursuant to the NPT, Article IV of which states, in part, that nothing in the treaty "shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity" with the non-proliferation provisions of the treaty. For example, Iran demanded in a 2012 proposal to the P5+1 that those (continued...)

The Obama Administration has not acknowledged that Iran or any other country has the right to enrich uranium because the United States does not believe that the NPT contains an explicit right to enrichment. A senior Administration official explained on November 24, 2013, that, although the comprehensive solution does envision a possible Iranian enrichment program, “the United States has not recognized a right to enrich for the Iranian government, nor do we intend to. The document does not say anything about recognizing a right to enrich uranium.”²⁶

The United States also expressed concern that acknowledging such a right for Iran could weaken the P5+1’s ability to persuade Tehran to accept limits on its enrichment program because Iranian negotiators could claim that an “acknowledged inalienable right cannot be abridged.”²⁷ U.S. officials have also wanted to avoid acknowledging such a right because the acknowledgement could set a precedent that could compromise other U.S. efforts to limit the number of enrichment facilities in the world.²⁸ Echoing the U.S. argument, then British Foreign Secretary Hague testified on November 25, 2013, that the JPA does not contain “a recognition of the right to enrich, which we do not believe exists under the non-proliferation treaty.” French Minister of Foreign Affairs Laurent Fabius made a similar claim in a radio interview the same day.²⁹

Other governments, including Germany and Japan, argue that the NPT includes a right to enrichment. Under Secretary Sherman acknowledged during a October 3, 2013, Senate Foreign Relations Committee hearing. Indeed, Russian Minister of Foreign Affairs Sergey Lavrov indicated in a November 26, 2013, statement that the agreement acknowledges “the right of Iran” to enrich uranium for peaceful purposes.³⁰

Sanctions Easing Under the JPA

The JPA provides for what the Administration terms “limited, temporary, targeted, and reversible” sanctions relief for Iran.³¹ Almost all U.S. sanctions laws provide the President with waiver authority, as well as the power to determine sanctions violations. Those sanctions that have been imposed by executive order could be eased by a superseding order. For information on the use of waivers and other authorities to implement the sanctions relief of the JPA, see CRS Report R43311, *Iran: U.S. Economic Sanctions and the Authority to Lift Restrictions*, by Dianne E. Rennack, and CRS Report RS20871, *Iran Sanctions*, by Kenneth Katzman.

The JPA provides for the following:

- Iran is able to repatriate \$700 million per month in hard currency from oil sales, and to access an additional \$65 million per month of its hard currency holdings

(...continued)

countries recognize and announce “Iran’s nuclear rights, particularly its enrichment activities, based on NPT Article IV.” Available at http://www.armscontrol.org/factsheets/Iran_Nuclear_Proposals.

²⁶ “Background Briefing By Senior Administration Officials On First Step Agreement On Iran’s Nuclear Program,” November 24, 2013.

²⁷ Interview with former Administration official, December 4, 2013.

²⁸ Interviews with two former Administration officials, December 4, 2013, and December 5, 2013.

²⁹ Interview given by M. Laurent Fabius to Europe 1, November 25, 2013.

³⁰ Comment from Russian Foreign Minister Sergey Lavrov, Russian Ministry of Foreign Affairs, November 26, 2013.

³¹ White House Office of the Press Secretary. “Fact Sheet: First Step Understandings Regarding the Islamic Republic of Iran’s Nuclear Program.” November 23, 2013.

abroad for tuition for Iranian students abroad. Iran is estimated to have the vast majority (80%) of its \$100 billion in foreign exchange holdings inaccessible,³² in part because of a provision (Section 504) of the Iran Threat Reduction and Syria Human Rights Act of 2012 (P.L. 112-158) that requires Iran to be paid for oil sales in accounts located in the countries that buy the Iranian oil.

- Under the JPA, Iran's oil exports are to remain at their December 2013 level of about 1 million barrels per day—a 60% drop from 2011 levels of about 2.5 million barrels per day. This implied that Iran's current oil customers would not reduce their oil purchases from Iran “significantly” during the interim period—such reduction is a requirement to avoid sanctions on the banks of those countries under Section 1245 of P.L. 112-81. To avoid penalizing these oil buyers, the Administration exercised the waiver provisions of Section 1245. The European Union countries eased sanctions against shipping insurance that deterred some Iranian oil purchases.³³
- Iran was permitted to resume sales of petrochemicals and trading in gold and other precious metals, and to resume transactions with foreign firms involved in Iran's auto sector. The Administration estimated the value of the revenue Iran would accrue from these changes during a six-month period would be about \$2.5 billion. However, the Administration estimates that Iran only earned about \$400 million from petrochemical and auto exports during the first six month JPA (January – July 2014) period—dramatically lower than was predicted.³⁴ There are no published estimates of what Iran earned from these same categories subsequently.
- Under the JPA, the United States was required to facilitate humanitarian transactions that are already allowed by U.S. law, such as sales of medicine to Iran, but which many banks refuse to finance. The United States also committed to license safety-related repairs and inspections inside Iran for certain Iranian airlines. Such licensing is specifically permitted under U.S. trade regulations written pursuant to Executive Order 12959 (May 6, 1995) and Executive Order 13059 (August 19, 1997) that impose a ban on U.S. trade with and investment in Iran. Some U.S. sales to Iranian air lines have been made under this JPA provision.
- The Joint Commission discussed above is empowered to consider Iranian complaints about foreign firms that Tehran believes have been sanctioned inappropriately for their commercial interactions with Iran.

The JPA did not require an easing of any U.S. sanctions that were imposed in the 1980s and 1990s based on Iran's support for acts of international terrorism. The sanctions relief does not, for example, permit foreign firms to resume investment in Iran's energy sector. Iran's gross domestic product (GDP) shrank about 5% in 2013 due largely to sanctions, but, largely because of the JPA sanctions easing, rebounded to slight growth (about 1%) in 2014.³⁵

³² Author conversations with congressional staff and experts on Iran, September – November 2013.

³³ Daniel Fineren. “Iran Nuclear Deal Shipping Insurance Element May Help Oil Sales.” Reuters, November 24, 2013.

³⁴ “Iran Reaps Less Cash from Eased Sanctions Than Predicted.” Bloomberg Government, November 25, 2014.

³⁵ Elad Benari. “Zarif: We Only Spoke with the U.S. About the Nuclear Program.” Arutz Sheva, November 27, 2013.

Efforts to Forge a Comprehensive Solution

According to the JPA, Iran and the P5+1 “aim to conclude negotiating and commence implementing” the second step of the comprehensive solution “no more than one year after the adoption of this document” (by November 24, 2014). The comprehensive solution described in the JPA would include a “mutually defined [Iranian] enrichment programme with practical limits and transparency measures to ensure the peaceful nature of the programme.” Specifically, the two sides are to reach agreement on the “scope and level” of Iran’s enrichment activities, the capacity and location of Iranian enrichment facilities, and the size and composition of Tehran’s enriched uranium stocks. These limits would continue “for a period to be agreed upon.” Tehran would be obligated to “resolve concerns related to” the Arak reactor, refrain from reprocessing spent nuclear fuel or constructing a facility “capable of reprocessing,” implement “agreed transparency measures and enhanced monitoring,” and ratify and implement its Additional Protocol.

The JPA also states that “international civil nuclear cooperation” would be part of a comprehensive solution.³⁶ And, “[f]ollowing successful implementation of the final step of the comprehensive solution for its full duration, the Iranian nuclear programme will be treated in the same manner as that of any non-nuclear weapon state party to the NPT.”

P5+1-Iran negotiations on a comprehensive settlement began in February 2014 and reportedly made progress, although insufficient to reach agreement by the July 20 expiration of the first six-month JPA period. In July, the two sides announced that progress—and Iran’s compliance with the JPA provisions as certified by the IAEA—justified extending the JPA until November 24, 2014.

Intensive negotiations attempted to finalize a deal by that deadline, but the two sides again announced that more time was needed to close still significant gaps in their positions. On November 24, 2014, Iran and the P5+1 announced that they were extending the talks—and all provisions of the JPA—with the intent of finalizing a detailed agreement by June 30, 2015. The parties stated they would first attempt to reach an overarching framework and roadmap for the agreement by March 24, 2015, and would conclude the comprehensive agreement, including technical issues, by June 30. In November 2014, the negotiators clarified some of Iran’s obligations under the JPA, but reiterated that Iran received no further sanctions relief beyond that already provided for under the original JPA. Most notably, Iran is still be able to obtain \$700 million per month in hard currency proceeds and remains bound by the 1 million barrels per day oil export cap.

Major Outstanding Issues

A comprehensive agreement appears to hinge on the issue of what Iran’s centrifuge capacity will be and how long limits should stay in place, as well as the timeline for lifting sanctions. Although the specific remaining gaps in the two sides’ positions have not been made public, press reports indicate that there has been progress on some areas, such as conversion of the Fordow underground enrichment facility into a small-scale research facility, technical changes to the Arak

³⁶ Such cooperation would include “modern light water power and research reactors and associated equipment, and the supply of modern nuclear fuel as well as agreed” research and development (R&D) practices.

reactor so that it cannot produce large quantities of plutonium, and strengthened monitoring by the International Atomic Energy Agency (IAEA).³⁷

However, remaining unresolved issues are significant. Iran's position has been to oppose any limitation on its centrifuge numbers because it claims to need a large-scale enrichment capacity for nuclear fuel production for its future reactor fleet. The United States and its partners want to limit enrichment capacity and tie the amount to Iran's practical nuclear fuel needs, which will be minimal in the near term. According to press reports, among the options being discussed are time limits on enrichment caps, reduced uranium stocks held in Iran, or provision of reactor fuel from an outside source. Some press reports in early November 2014 said that the P5+1 were ready to agree to a centrifuge limit of 4,500, if Iran agreed to ship its fuel stocks out of the country for storage in Russia. However, at present, Iran appears to have chosen not to agree to this arrangement.³⁸ Another unresolved question for negotiators is how to address Iran's research and development activities for an advanced generation of more efficient centrifuges, currently allowed but limited under the JPA under IAEA supervision.

A wide range of sources indicates that Iran is also seeking immediate relief from sanctions as soon as a final accord takes effect. The United States and its P5+1 partners reportedly continue to insist that sanctions relief be implemented stepwise as Iran complies with the terms of the final agreement.

The P5+1 negotiators have also emphasized that any comprehensive agreement would have to provide enough monitoring to ensure that Iran could not quickly either "break out" of the agreement or clandestinely produce material for a nuclear weapon. Under Secretary of State Wendy Sherman has said that "Our goal now is to develop a durable and comprehensive arrangement that will effectively block all of Iran's potential paths to fissile material for a nuclear weapon. Such an arrangement would bar Iran from producing fuel for a weapon with either uranium or plutonium. Through inspections and monitoring, it would also offer the best method to prevent the covert processing of these materials and make any effort by Tehran to turn away from its obligations so visible and so time-consuming that the attempt would not succeed."³⁹

Another issue which may be part of a comprehensive agreement is the resolution of outstanding questions by the IAEA about "possible military dimensions." This refers to suspected weapons-relevant work Iran may have conducted in the past, such as research about nuclear payload for missiles. U.N. Security Resolutions require Iran to resolve these questions by providing full information to the IAEA, and the Agency holds regular talks with Iran to chart a path forward. A November 2014 IAEA Director General report to the Board of Governors said that while the Agency could verify that there was no diversion of nuclear material from the facilities it was monitoring, it could not conclude that there was no nuclear weapons-related activities taking place in the country, due to the lack of access to documentation, material, and personnel.⁴⁰ Iran's cooperation and transparency on the issue of past weapons-related activities, even if the

³⁷ "Effective Iran nuclear deal in sight" Arms Control Association Press Release, November 24, 2014.

³⁸ David Sanger, Michael Gordon, Peter Baker, "A nuclear deal for U.S. and Iran slips away again," *New York Times*, November 24, 2014.

³⁹ Remarks of Under Secretary for Political Affairs Wendy Sherman, Center for Strategic and International Studies, October 24, 2014.

⁴⁰ Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran, Report of the Director General, International Atomic Energy Agency, GOV/2014/58, November 7, 2014.

information is not 100% complete, is expected to be a key requirement for comprehensive agreement.

Congressional Views and Involvement

The JPA contains a P5+1 commitment to “[n]ot impose new nuclear-related sanctions ... if Iran abides by its commitments under this deal, to the extent permissible within their political systems.”⁴¹ This pledge has direct implications for congressional action while the JPA is in effect and talks on a comprehensive accord are ongoing, because Congress is in a position to enact additional Iran sanctions laws.

Some in Congress seek a congressional vote on any comprehensive agreement reached—a proposal the Administration opposes.⁴² The Administration also has opposed—to the point of threatening a presidential veto—legislation to impose additional sanctions on Iran while the negotiations are ongoing. The Administration has taken that position even with respect to legislation, such as S. 1881 in the 113th Congress and the “Nuclear Weapon Free Iran Act of 2015,” (S. 269), marked up by the Senate Banking Committee on January 28, 2015, in which sanctions would go into effect only if no comprehensive agreement is reached. A separate bill in the 114th Congress, S.Res. 40, would express the sense of Congress that new sanctions be imposed on Iran if no agreement is reached by the June 30, 2015, deadline. The Administration argues that new sanctions would cause Iran to leave the negotiations and could cause some countries to end their cooperation with international sanctions.⁴³

Those in Congress who argue for imposition of additional sanctions assert that the failure thus far to reach a comprehensive accord with Iran, despite nearly one year of negotiations, suggests that Iran will not accept further curbs on its nuclear program. Many experts question what factors might prompt Iran to accept P5+1 proposals that Iran has until now refused. Some in Congress maintain that additional economic pressure on Iran would not cause Iran to exit the talks but rather would succeed in compelling Tehran to accept additional concessions needed to forge the comprehensive accord.

P5+1 negotiators have acknowledged that a comprehensive nuclear deal would include a broad easing of international sanctions against Iran. The JPA indicates that “nuclear-related” sanctions would be eased in a comprehensive deal. Sanctions that were imposed to affect Iran’s nuclear negotiating behavior—such as those to reduce Iran’s oil exports—are considered by both sides as “nuclear related,” even if that sanction does not specifically refer to weapons proliferation or nuclear issues. Iran reportedly is demanding that a comprehensive agreement ease those sanctions imposed in recent years, including those that limit its oil and oil products exports, its use of the international financial system, and its receipt and repatriation of hard currency.⁴⁴ Iran appears to have acquiesced that a nuclear deal will not immediately result in the easing of sanctions addressing purely human rights issues or Iran’s support for terrorist groups.⁴⁵

⁴¹ White House Office of the Press Secretary. “Fact Sheet: First Step Understandings Regarding the Islamic Republic of Iran’s Nuclear Program.” November 23, 2013.

⁴² <http://www.ft.com/intl/cms/s/0/70385cdc-74c3-11e4-a418-00144feabdc0.html#axzz3K6fCnOjY>.

⁴³ Ibid.

⁴⁴ Author conversations with Iran experts in Washington, DC 2014.

⁴⁵ Author conversations with Iran experts in Washington, DC 2014.

The Administration has said that, at least initially to implement a nuclear deal, it would use the waiver and other authority to suspend application of sanctions on Iran.⁴⁶ U.S. officials assert that, after Iran's compliance is tested over an unspecified period of time, the Administration would ask Congress to repeal or terminate those sanctions that cannot be lifted through Administration action alone.⁴⁷ The requirements for lifting sanctions are discussed in CRS Report R43311, *Iran: U.S. Economic Sanctions and the Authority to Lift Restrictions*, by Dianne E. Rennack, and in a reported Treasury Department report that has not been released.⁴⁸ In a background briefing in March 2014, a senior Administration official stated

we are doing a considerable amount of work, including consultations with the Congress, in that regard. We need to understand in great detail how to unwind sanctions and what—under what authorities and what can be done by the Executive Branch, what can be done by waivers, what will need congressional action.... any sanctions relief, should we get to a comprehensive agreement, will be phased in and will be in response to actions that Iran takes.⁴⁹

Regional Views ⁵⁰

A comprehensive nuclear agreement with Iran is likely to have profound implications for the Middle East, and particularly the states of the Gulf Cooperation Council (GCC: Saudi Arabia, Kuwait, Bahrain, UAE, Qatar, and Oman) which have been aligned with the United States to contain Tehran's regional influence. An Iran nuclear agreement has the potential to lower regional tensions that have, at times, threatened to boil over into military conflict. Governments generally friendly to Tehran, such as those of Iraq and Syria, are likely to welcome an agreement because an accord would substantially ease sanctions on Iran and thereby provide Tehran with additional resources to help those governments battle Sunni-led rebellions. One threat is common to Iraq, to Syria, to Iran, and to the Gulf states—that posed by the Islamic State organization that has captured substantial territory in both Iraq and Syria.

The nuclear negotiations have lowered Gulf tensions to the point where Foreign Minister Zarif has visited several of the GCC states and separately met with Saudi Foreign Minister Saud bin Faysal Al Saud. Oman has hosted recent sessions of the P5+1 talks and technical talks on an accord might return to Oman in early 2015, according to some P5+1 diplomats.

GCC officials—as well as those of Israel and other U.S. allies—have long expressed concern that closer U.S.-Iranian relations that might result from a nuclear accord could empower Iran to be more assertive in the Gulf region and broader Middle East. Among the GCC states, these fears are amplified at the moment by GCC perceptions, expressed particularly strongly by officials of Saudi Arabia, UAE, and Bahrain, of what they see as an expansionist, sectarian Iranian agenda aimed at empowering Shia Muslims in the region at the expense of Sunnis. Iranian leaders attribute similarly sectarian motives to their GCC counterparts. Analysts continue to debate

⁴⁶ <http://thehill.com/blogs/blog-briefing-room/221528-kerry-congress-consulted-on-iran-but-dont-need-initial-vote>.

⁴⁷ David Sanger. "Obama Sees an Iran Deal Skirting Congress, for Now." *New York Times*, October 20, 2014.

⁴⁸ David Sanger. "Obama Sees an Iran Deal Skirting Congress, for Now." *New York Times*, October 20, 2014.

⁴⁹ Dept. of State. "Background Briefing on Next Week's EU-Coordinated P5+1 Talks With Iran." March 14, 2014.

⁵⁰ Some material in this section was provided by Christopher M. Blanchard and James Zanotti, Specialists in Middle Eastern Affairs.

whether Saudi Arabia would seek to acquire its own nuclear weapons capability if Iran did so. Some GCC officials have also expressed concerns about a “double standard” in which Iran would be allowed to continue enriching uranium, whereas the United States insists that civilian nuclear programs in the Gulf, such as that in UAE, not include indigenous production of nuclear fuel.⁵¹

Some experts assert that the GCC states, and other regional states that cooperate closely with the United States on security matters such as Israel and Jordan, privately might question whether the nuclear negotiations with Iran represent a more fundamental U.S. shift away from the region. In citing evidence for a possible U.S. shift, leaders of some of these states conflate a potential deal with Iran with U.S. reticence to act to try to oust the government of Syrian President Bashar Al Assad, the U.S. pullout of all troops from Iraq in 2011, and U.S. assertions that it will not deploy any ground combat troops to battle the Islamic State organization in Iraq or Syria.

Still, it is likely that few, if any, regional states will sharply shift their defense and foreign policy postures. The GCC states are closely aligned on security issues with the United States and host significant numbers of U.S. troops and amounts of U.S. prepositioned military equipment—in large part due to contingency plans regarding a potential crisis with Tehran. These states have been at odds with the Islamic Republic since its 1979 Islamic revolution—and especially during the 1980-1988 Iran-Iraq war in which Iran attacked international shipping and some Gulf port facilities of Kuwait. Pro-Iranian Shia movements reportedly were responsible for acts of intimidation and terrorism in several of the GCC states during the 1980s and 1990s—an era that long predated international concerns about Iran’s nuclear program.

Still, the potential for a nuclear accord and improved U.S. relations with Iran have prompted a GCC examination of alternative security arrangements. In particular, Saudi Arabia has proposed greater political unity among the GCC states. Failing to achieve consensus on that idea, the GCC countries have announced plans—to be further formalized at the December 2014 GCC summit in Qatar—for greater military command integration and defense coordination.

Israel’s leaders routinely assert that their country is uniquely threatened by the possibility that Iran might eventually obtain nuclear weapons, despite limitations and safeguards in any comprehensive accord. Israeli Prime Minister Binyamin Netanyahu has repeatedly warned of the alleged perils of a deal that would in any way ease the international sanctions regime against Iran and would accept Iran’s retention of enriched uranium or of infrastructure potentially usable for the generation of fissile material. Netanyahu appears to believe that his criticisms could cause P5+1 negotiators to stiffen their terms for a final deal. He might also be attempting to cultivate support from key audiences such as Congress and broader U.S. public opinion—particularly in connection with potential legislative initiatives relating to the imposition and/or lifting of sanctions. However, as for a potential Israeli military strike on Iranian nuclear facilities, many—if not most—observers deem it unlikely while P5+1 hopes remain for a diplomatic solution.⁵²

⁵¹ Author conversations with Gulf diplomats. 2011-2013.

⁵² See, e.g., Amos Harel, “With Iran deal sealed, don’t expect Israel to send out the air force,” *Ha’aretz*, November 25, 2013.

Implications for U.S.-Iran Relations⁵³

Many of the reported regional concerns about a potential comprehensive agreement assume that a deal will produce a breakthrough in U.S.-Iran relations, potentially at the expense of close U.S. relations with its allies in the region. Iran and the United States have been mostly at odds since the February 1979 Islamic revolution, and came into limited naval conflict during the 1980-1988 Iran-Iraq war, when U.S. forces defended the GCC states from attack by Iran. In 1984, the United States placed Iran on its list of “state sponsors of terrorism” and has accused Iran of numerous acts of terrorism against the United States and its interests.

Yet, at times the several years prior to the JPA, the United States and Iran have cooperated in the region when doing so has suited their mutual interests. U.S. diplomats negotiated with Iranian officials to form the post-Taliban government in Afghanistan in late 2001, and Iran and the United States have tacitly cooperated in the formation of virtually all post-Saddam governments in Iraq.

The JPA was, in part, a product of quiet U.S.-Iran negotiations brokered by Oman, a GCC state that maintains excellent relations with Iran, in 2013.⁵⁴ The U.S.-Iran talks accelerated after the June 2013 election of President Hassan Rouhani, who unexpectedly won election on a platform of ending Iran’s international isolation and obtaining relief from international sanctions. The potential for rapprochement appeared to improve as the U.N. General Assembly meetings convened in New York in September 2013. President Obama, in his September 24, 2013, speech, confirmed that he had exchanged letters with Rouhani stating the U.S. willingness to resolve the nuclear issue diplomatically,⁵⁵ and restated that the United States is not seeking regime change in Iran. The Administration signaled that the President would be open to meeting Rouhani during the gatherings; a meeting did not occur, but a September 27, 2013, phone call President Obama placed to Rouhani represented the first direct contact between presidents of the two countries since the 1979 Islamic revolution. In remarks after JPA was announced, President Obama said that “we can begin to chip away at the mistrust between our two nations.”⁵⁶

Iranian leaders, apparently to mollify hardliners who believe that a nuclear deal will increase U.S. cultural, political, social, and economic influence in Iran, have denied that a comprehensive nuclear agreement will produce a dramatic breakthrough in U.S.-Iran relations. Anticipation of a possible broader breakthrough has been fed by the fact that Secretary of State John Kerry has had substantial interaction with Iranian Foreign Minister Zarif in the course of the nuclear talks, including separate bilateral meetings on regional and other issues. U.S. officials acknowledge that bilateral meetings have discussed the threat posed by the Islamic State organization, the situation in Bahrain, and the fate of three American nationals confirmed or believed held by Iran. On Iraq, the United States and Iran are indirectly cooperating to support the Shiite-dominated government of Prime Minister Haydar Al Abbadi against Islamic State forces. On Syria, Iran continues to support the government of President Al Assad, although some U.S. diplomats are said to perceive that Iran might yet be persuaded to help move Assad aside in order to blunt the appeal of the Islamic State. U.S. diplomats who take this position note that Iran helped oust Iraqi Prime

⁵³ For detail on U.S.-Iran relations, see CRS Report RL32048, *Iran: U.S. Concerns and Policy Responses*, by Kenneth Katzman.

⁵⁴ http://blog.foreignpolicy.com/posts/2013/11/26/who_is_the_shadowy_sultan_that_shepherded_the_nuclear_deal_with_iran.

⁵⁵ Remarks by President Obama in Address to the United Nations General Assembly, September 24, 2013.

⁵⁶ Statement by the President on the First Step Agreement on Iran’s Nuclear Program. November 23, 2013.

Minister Nuri al-Maliki, who was perceived as an obstacle to winning back Iraqi Sunni support to the government side, in August 2014.

A possible hindrance to any post-nuclear agreement U.S.-Iran rapprochement will be remaining U.S. sanctions and issues unrelated to proliferation. U.S. officials have stressed that no sanctions that address long-standing U.S. concerns about Iran's use of terrorism or its human rights abuses will be eased as part of a nuclear deal with Iran. U.S. officials also maintain that a nuclear deal will not cause the United States to cease its public criticism of Iran's human rights practices and its detention of U.S. citizens.

Appendix. Nuclear Weapons Development⁵⁷

An effective nuclear weapons capability has three major elements: producing fissile material in sufficient quantity and quality for a nuclear explosive device; designing and weaponizing a survivable nuclear warhead; and producing an effective means for delivering the weapon, such as a ballistic missile.⁵⁸ The U.S. government assesses that, although Iran could eventually produce nuclear weapons, it has not yet decided to do so and has not mastered all of the necessary technologies for building a nuclear weapon. Tehran had a nuclear weapons program but halted it in 2003, according to U.S. government estimates.⁵⁹

Under Secretary of State for Political Affairs Wendy Sherman explained during an October 3, 2013, Senate Foreign Relations Committee hearing that Iran would need as much as one year to produce a nuclear weapon if the government made the decision to do so.⁶⁰ This estimate takes into account the amount of time that Iran would need to produce a sufficient amount of weapons-grade highly-enriched uranium (HEU), which is widely regarded as the most difficult task in building nuclear weapons, as well as to develop the other components necessary for a nuclear weapon. This estimate does not include the time that Iran would need to be able to render a nuclear weapon deliverable by a ballistic missile. Then-Secretary of Defense Leon Panetta stated in January 2012 that Iran would need “possibly ... one to two years in order to put [a nuclear weapon] on a deliverable vehicle of some sort.”⁶¹

A senior intelligence official explained during a December 2007 press briefing that the “acquisition of fissile material” was the “governing element in any timelines” regarding Iran’s production of a “nuclear device.”⁶² However, the estimate articulated by Sherman assumes that Iran would need less time to produce the necessary weapons-grade HEU than it would to complete the relevant nuclear weapons design and weaponization tasks.⁶³ This estimate also apparently assumes that Iran would use its declared nuclear facilities to produce fissile material for a weapon.⁶⁴ The other assumptions behind the estimate are not clear.⁶⁵

⁵⁷ For more information about Iran’s ballistic missile program, see CRS Report R42849, *Iran’s Ballistic Missile and Space Launch Programs*, by Steven A. Hildreth.

⁵⁸ For a more detailed discussion, see Office of Technology Assessment, *Technologies Underlying Weapons of Mass Destruction* (OTA-BP-ISC-115), December 1993.

⁵⁹ A 2007 National Intelligence Estimate defined “nuclear weapons program” as “nuclear weapon design and weaponization work and covert uranium conversion-related and uranium enrichment related work.”

⁶⁰ “Reversing Iran’s Nuclear Program,” Hearing of the Senate Foreign Relations Committee, October 3, 2013.

⁶¹ Transcript of remarks by Secretary Panetta from CBS’s 60 Minutes interview, January 29, 2012.

⁶² “Unclassified Key Judgments of the National Intelligence Estimate: Iran: Nuclear Intentions and Capabilities,” Background Briefing with Senior Intelligence Officials, December 3, 2007.

⁶³ Iran has expanded its fissile material production capability after halting the other aspects of its weapons development program in 2003.

⁶⁴ It is worth noting that no country has ever used a centrifuge facility designed and built for low-enriched uranium production to produce weapons-grade HEU. Therefore, Iran may need a trial-and-error period to determine the proper modifications for its own centrifuge facilities, were Tehran to adapt them for such a purpose.

⁶⁵ For a detailed discussion of the variables such estimates must take into account, see *Iran’s Nuclear, Chemical, and Biological Capabilities: A Net Assessment*, International Institute for Strategic Studies, 2011, pp. 69-70 and William C. Witt, Christina Walrond, David Albright, and Houston Wood, *Iran’s Evolving Breakout Potential*, Institute for Science and International Security, October 8, 2012.

Tehran would probably use covert enrichment facilities to produce fissile material for nuclear weapons—a tactic that would require a longer period of time, according to testimony from Director of National Intelligence James Clapper during an April 18, 2013, Senate Armed Services Committee hearing. In his testimony to Congress in March 2013, DNI Clapper said that “Tehran has the scientific, technical, and industrial capacity to produce nuclear weapons. This makes the central issue its political will to do so. Such a decision will reside with the supreme leader, and at this point we don't know if he'll eventually decide to build nuclear weapons.”⁶⁶ As noted in the body of this report, U.S. officials have argued that the International Atomic Energy Agency would likely detect an Iranian attempt to use its safeguarded facilities to produce weapons-grade HEU. They have also expressed confidence in the United States’ ability to detect covert Iranian enrichment plants.

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⁶⁶ Senate Select Intelligence Committee Hearing on National Security Threats to the United States, March 12, 2013.