

MONITORING IRANIAN WEAPONIZATION ACTIVITIES: ANOTHER CRUCIAL FLAW OF THE NUCLEAR DEAL

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The nuclear agreement has emboldened the Islamic Republic. Since signing the deal in the summer of 2015, Iran's behavior around the world and especially in the Middle East has become more aggressive. During the course of the negotiations that led to the nuclear agreement, Israeli officials from across the political spectrum expressed concerns about the trajectory of the negotiations. As the details of the agreement emerged, Jerusalem warned that the deal was deficient on many levels.

There are concerns that Europe will defy U.S. sanctions should Iran refuse to accept additional restrictions leading to a reinstatement of sanctions. However, when faced with a choice of losing access to the American economy or ceasing business with Iran, European businesses will almost always choose the latter.

This paper focuses specifically on the significant deficiencies in the monitoring of Iran's weaponization activities as prescribed by Section T of Annex I of the Joint Comprehensive Plan of Action (JCPOA). However, addressing only those flaws related to verification will be insufficient to block Iran's patient path to nuclear weapons. Instead, the United States and its European allies must work diligently to fix the full range of deficiencies in the deal.

COMPONENTS OF A NUCLEAR STATE/NUCLEAR THRESHOLD STATE

There are three capabilities a state must possess in order to become a threshold nuclear weapons state: fissile material, delivery systems, and weaponization.

Before addressing the issue of weaponization in depth, it is important to understand how the JCPOA fails to adequately address the other two.

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1. The author would like to thank Annie Fixler, David Adesnik, Mark Dubowitz, Olli Heinonen, Jonathan Schanzer, and Nicole Salter for their helpful review and editorial comments.

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Fissile Material²

Although Iran has not provided a logical explanation as to why it needs to continue its development of advanced centrifuges (apart from enhancing its scientific knowledge), the nuclear deal permits Iran to engage in research and development on building advanced centrifuges and to begin deploying them in less than a decade. Using advanced centrifuges, which enrich uranium 15-20 times faster than current IR-1 models,³ Iran would be able to quickly produce significant quantities of highly enriched uranium in small, hard-to-detect, clandestine facilities.

In fact, although it is a signatory to the Nuclear Non-Proliferation Treaty, Iran has never voluntarily declared its enrichment facilities to the IAEA. Only after the sites were revealed by third parties did Iran report them to the IAEA.⁴

Although previous United Nations Security Council resolutions demanded that Iran cease enriching uranium,⁵ the nuclear agreement permits Iran to enrich uranium to 3.67 percent at the Natanz facility, using about 5,000 IR-1 centrifuges, and to operate approximately 1,000 more IR-1 centrifuges at the Fordow facility, as long as the latter only utilizes elements other than uranium.⁶ As a result, Iran argues that the agreement recognizes its right to enrichment.⁷ And after restrictions regarding the stockpile and enrichment level expire, Iran may use nuclear submarines and maritime propulsion tankers as pretexts to stockpile highly enriched uranium.⁸

At the same time, even as the JCPOA required Iran to redesign the Arak heavy water reactor so that it cannot produce weapons-grade plutonium,⁹ the agreement permits Iran to build additional heavy water reactors after 15 years and addresses Iran's stocks of heavy water in ways that break with IAEA norms and standards.¹⁰ Furthermore, the operation of Arak, according to an Iranian-Chinese agreement, may allow Iranian scientists to get their hands on technology relevant to developing a plutonium-based nuclear bomb.

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2. In order to build one nuclear bomb, a sufficient quantity of fissile material is required – highly enriched uranium (more than 90 percent) or plutonium produced from nuclear reactors. The quantity required for one bomb is known as One Significant Quantity (SQ1).

3. “Centrifuge Research and Development Limitations in Iran,” *Institute for Science and International Security*, August 29, 2014. (https://isis-online.org/uploads/isis-reports/documents/Centrifuge_RD_limitations_P51_negotiations_august_29_2014-final.pdf)

4. Iran failed on a number of occasions to meet its safeguards reporting obligations. Prior to 2003, Iran was not obligated to provide the IAEA with early information about construction of Natanz; however, Iran's failure to provide information on Fordow, Kalaye Electric, the Tehran Research Center, and Lashkar Abad were violations. “U.S.: Iran working on nuclear weapons,” *CNN*, December 13, 2002. (<http://www.cnn.com/2002/WORLD/meast/12/13/iran.nuclear/>); Karen DeYoung and Michael B. Shear, “U.S., Allies Say Iran Has Secret Nuclear Facility,” *The Washington Post*, September 26, 2009. (<http://www.washingtonpost.com/wp-dyn/content/article/2009/09/25/AR2009092500289.html>)

5. United Nations Security Council, Resolution 1929, June 9, 2010. (https://www.iaea.org/sites/default/files/unsc_res1929-2010.pdf)

6. Joint Comprehensive Plan of Action, Vienna, July 14, 2015, Annex I, paragraphs 27, 28, 45, and 46. (<https://www.state.gov/documents/organization/245318.pdf>)

7. “Trump angry with recognition of Iran's right to enrichment: Rouhani,” *Press TV (Iran)*, January 31, 2017. (<http://www.presstv.com/Detail/2017/01/31/508567/Iran-US-Alborz-Hassan-Rouhani-Donald-Trump-JCPOA-uranium-enrichment>)

8. “Iran submarine plan may fuel Western nuclear worries,” *Reuters*, July 5, 2012. (<https://www.reuters.com/article/iran-nuclear-submarines/iran-submarine-plan-may-fuel-western-nuclear-worries-idUSL6E8151HB20120705>); Olli Heinonen, “Iranian Moves Offer Opportunity to Improve JCPOA,” *Foundation for Defense of Democracies*, December 23, 2016. (http://www.defenddemocracy.org/content/uploads/documents/IranianMoves_JCPOA.pdf)

9. Joint Comprehensive Plan of Action, Vienna, July 14, 2015, Annex I, paragraphs 2-13. (<https://www.state.gov/documents/organization/245318.pdf>)

10. For analysis of Iranian exports of heavy water to Oman and the ways that this breaks with IAEA standards, see: Olli Heinonen, “IAEA Takes a Light Touch on Iran's Heavy Water,” *Foundation for Defense of Democracies*, April 28, 2016. (<http://www.defenddemocracy.org/media-hit/iaea-takes-a-light-touch-on-irans-heavy-water/>)

Instead of demanding that Iran first comply with previous United Nations Security Council (UNSC) resolutions, which were backed by rare UNSC consensus and which demanded Iran suspend all uranium enrichment and cease activity at the Arak facility, the deal instead places only temporary restrictions on Iran's uranium and plutonium pathways to a nuclear weapon.

The Delivery System

In order to launch a warhead, it needs to be connected to a system capable of carrying it to its destination. The system can be a ballistic missile, a drone, a plane, or even a much simpler system with a smaller, but still sufficient, potential to inflict damage.

The nuclear agreement did not address Iran's vast arsenal of ballistic missiles, which U.S. intelligence assesses Iran would use to deliver a nuclear device.¹¹ During the negotiations, Iran argued that discussion of ballistic missiles fell outside the purview of a purely nuclear deal. And yet, the Iranians also demanded that the UNSC missile-related sanctions be lifted and threatened to leave the negotiating table if their demand was not met.¹² The United States and its P5+1 partners agreed to this demand. As a result, while the JCPOA itself does not address Iran's missile arsenal, the UNSC Resolution 2231 endorsing the nuclear agreement lifts ballistic missile and arms export restrictions after eight and five years, respectively.¹³

Even during the eight-year period when the missile restrictions still apply, the resolution only "calls upon" Iran not to engage in the development of ballistic missiles "designed to be capable" of delivering a nuclear weapon. Although then-Secretary of State John Kerry testified before the Senate Foreign Relations Committee that UNSCR 2231 contained "the exact same language" prohibiting ballistic missile launches as previous resolutions,¹⁴ this is simply false. As a result of the weaker language on missiles in UNSCR 2231, the Security Council has taken no actions in response to Iran's ballistic missile activities.

Iran continues to develop and test short- and medium-range ballistic missiles, as well as testing a space-launch vehicle that may facilitate the development of intercontinental ballistic missiles. Between July 2015 and January 2018, Iran launched 23 ballistic missiles, including 14 nuclear-capable missiles in violation of UNSCR 2231.¹⁵

THE WEAPONS SYSTEM

The definition of a nuclear weapons system includes all the activities related to the development of technologies to shape the fissile material (uranium and/or plutonium) in the way required to activate it inside a nuclear device and to time the detonation mechanism to create the desired nuclear effect.

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11. Daniel R. Coats, "Worldwide Threat Assessment of the US Intelligence Community," *Testimony before Senate Select Committee on Intelligence*, May 11, 2017, page 7. (<https://www.dni.gov/files/documents/Newsroom/Testimonies/SSCI%20Unclassified%20SFR%20-%20Final.pdf>)

12. Rupert Cornwell, "Iran nuclear talks: Tehran tells UN - lift ballistic missile embargo or there will be no deal," *The Independent (UK)*, July 6, 2015. (<http://www.independent.co.uk/news/world/middle-east/iran-nuclear-talks-tehran-tells-un-lift-ballistic-missile-embargo-or-there-will-be-no-deal-10370214.html>)

13. United Nations Security Council, Resolution 2231, July 20, 2015, pages 99-100. ([http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/2231\(2015\)](http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/2231(2015)))

14. John Kerry, "Iran Nuclear Agreement Review," *Hearing before the Senate Committee on Foreign Relations*, July 23, 2015. (<https://www.foreign.senate.gov/hearings/072315>)

15. Behnam Ben Taleblu, "Iranian Ballistic Missile Tests Since the Nuclear Deal – 2.0," *Foundation for Defense of Democracies*, January 25, 2018, page 5. (http://www.defenddemocracy.org/content/uploads/documents/MEMO_IranBallisticMissile.pdf)

Even without sophisticated delivery systems, Iran can achieve the status of a nuclear-threshold state by testing “an explosive device” that is not technically a bomb. Although such a test would yield a smaller effect, it would still signal that Iran has reached nuclear-threshold capacity, even if it has not mastered the more difficult technological challenges necessary to assemble a nuclear warhead and affix it to a missile for aerial launch. Therefore, it is important to ensure that the limitations on Iran, in both the agreement and the supervision of its implementation, not only prevent the Iranians from developing a warhead that can be connected to a delivery platform, but also from developing a nuclear device.

Inspection, verification, and monitoring to prevent weaponization activities are difficult because unlike developing nuclear fuel, weaponization activities do not necessarily take place at one or two large sites whose existence can be detected and monitored. Many of the activities involved in the development of a weapons system can be carried out in small, clandestine facilities and on military bases, making them hard to detect or monitor.

Additionally, many of the critical components needed for the development of a weapons system or nuclear device are dual use. Indeed, the experiments and the equipment can also be used for conventional weapon systems and civilian purposes. Thus, a complex and somewhat ambiguous combination of technological and infrastructural abilities have to be monitored to prevent weaponization.

Finally, verification related to weaponization is challenging because the IAEA’s professional experience and know-how is mainly in the inspection of declared sites and entities. The Agency cannot effectively inspect a complex area without preparing in advance and building the needed knowledge base. For example, in order to monitor the Iraqi weapons program, the IAEA created a designated body, comprised of inspectors with specific expertise. A fix to the JCPOA should include a similar designated inspection body under the IAEA.

PREVIOUS EFFORTS TO ADDRESS THE POSSIBLE MILITARY DIMENSIONS OF IRAN’S PROGRAM

Prior to the JCPOA, the IAEA attempted to resolve outstanding concerns about the possible military dimensions (PMDs) of Iran’s nuclear program. An in-depth understanding of the know-how and technology that Iran had already acquired was required to monitor and ensure that the activities were not resuscitated.

An annex to the IAEA director general’s report from November 2011 provides a comprehensive history of the Agency’s efforts to resolve its concerns and details 12 outstanding issues related to nuclear explosive development indicators:¹⁶

- **Program management structure:** “...indicates that the activities [referenced below] were, at least for some significant period of time, managed through a programme structure, assisted by advisory bodies, and that, owing to the importance of these efforts, senior Iranian figures featured within this command structure...”
- **Procurement activities:** “...Iran’s efforts to procure goods and services allegedly involved a number of ostensibly private companies which were able to provide cover for the real purpose of the procurements...”

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16. 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, November 8, 2011, Annex pages 4-12. (<https://www.iaea.org/sites/default/files/gov2011-65.pdf>)

- **Nuclear material acquisition:** "...suggests that Iran was working on a project to secure a source of uranium suitable for use in an undisclosed enrichment programme..."
- **Nuclear components for an explosive device:** "...[indicates] preparatory work, not involving nuclear material, for the fabrication of natural and high enriched uranium metal components for a nuclear explosive device was carried out..."
- **Detonator development:** "...Iran has not explained to the Agency its own need or application for such detonators ... given their possible application in a nuclear explosive device, and the fact that there are limited civilian and conventional military applications for such technology, Iran's development of such detonators and equipment is a matter of concern..."
- **Initiation of high explosives and associated experiments:** "...indicates that Iran has had access to information on the design concept of a multipoint initiation system ... a multipoint initiation system, such as that described above, can be used in a nuclear explosive device..."
- **Hydrodynamic experiments:** "...Hydrodynamic experiments ... which involve high explosives in conjunction with nuclear material or nuclear material surrogates, are strong indicators of possible weapon development..."
- **Modeling and calculations:** "... studies involved the modelling of spherical geometries, consisting of components of the core of an HEU nuclear device subjected to shock compression... The application of such studies to anything other than a nuclear explosive is unclear to the Agency..."
- **Neutron initiator:** "Such components, if placed in the centre of a nuclear core of an implosion type nuclear device and compressed, could produce a burst of neutrons suitable for initiating a fission chain reaction..."
- **Conducting a test:** "...Iran may have planned and undertaken preparatory experimentation which would be useful were Iran to carry out a test of a nuclear explosive device..."
- **Integration into a missile or delivery vehicle:** "...Iran conducted computer modelling studies of at least 14 progressive design iterations of the payload chamber and its contents to examine how they would stand up to the various stresses that would be encountered on being launched and travelling on a ballistic trajectory to a target..."
- **Fuzzing, arming, and firing system:** "...additional work was conducted on the development of a prototype firing system that would enable the payload to explode both in the air above a target, or upon impact of the re-entry vehicle with the ground..."

The IAEA director general's report from August 2013 details the Agency's view on the principles central to an agreement between Iran and the IAEA – known as a “structured approach document” – to resolve outstanding issues related to PMDs:¹⁷

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 17. International Atomic Energy Agency, “Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran,” GOV/2013/40, August 28, 2013, page 3. (<https://www.iaea.org/sites/default/files/gov2013-40.pdf>)

- “It is essential for the Agency to address all outstanding issues, not just those related to possible military dimensions. It is important, therefore, that the structured approach document, which is focused on those issues outlined in the Annex to the Director General’s November 2011 report (GOV/2011/65), make explicit reference to the fact that all other outstanding issues remain to be addressed separately;
- “To ensure comprehensive coverage and to remove ambiguity, it is also important that all aspects of the possible military dimensions, as reflected in the Annex to GOV/2011/65, be explicitly addressed in the structured approach document;
- “The Agency needs to be able to request further information and conduct follow up actions as it considers necessary. While taking into account Iran’s security concerns, these follow up actions should not be subject to undue restrictions on access to ‘all relevant information, documentation, sites, material and personnel in Iran’ (GOV/2011/69);
- “The Agency should not be expected, nor would it be in a position, to provide, at the outset all details of how, when and where it will conduct its verification activities;
- “The Agency needs to be able to return to issues previously discussed, if necessary;
- “The Agency is prepared to share information with Iran if and when the Agency considers it to be appropriate to the conduct of effective verification; and
- “The Agency needs to be able to confirm the satisfactory resolution of all of the issues identified in the Annex to GOV/2011/65 before it considers them to be no longer outstanding and report them as such to the Board of Governors.”

Prior to the JCPOA, Iran and the IAEA could not reach an agreement on a structured approach document. Tehran refused to provide the IAEA with the necessary documents, information, and access to resolve all outstanding concerns – including concerns from the November 2011 annex and those raised subsequently to that report – regarding the possible military dimensions of its nuclear program.

THE JCPOA’S ROADMAP FOR RESOLVING PMDS AND PREVENTING WEAPONIZATION

Section M of Annex I of the nuclear agreement commits Iran to working with the IAEA to resolve PMD concerns through the “Roadmap for Clarification of Past and Present Outstanding Issues.”¹⁸ In keeping with the timeline specified by the roadmap, on December 2, 2015, the director general issued a “Final Assessment” report, which revealed serious gaps in Iran’s declarations regarding its past nuclear weaponization activities. For example, despite Iranian statements that its work on multipoint initiation technology was for conventional military purposes, the IAEA assessed that the technology “has characteristics relevant to a nuclear explosive device.”¹⁹

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 18. International Atomic Energy Agency, “Road-map for the Clarification of Past and Present Outstanding Issues regarding Iran’s Nuclear Program,” GOV/INF/2015/14, July 14, 2015. (<https://www.iaea.org/sites/default/files/gov-inf-2015-14.pdf>); Joint Comprehensive Plan of Action, Vienna, July 14, 2015, Annex I, Section M. (<https://www.state.gov/documents/organization/245318.pdf>)

19. International Atomic Energy Agency, “Final Assessment on Past and Present Outstanding Issues regarding Iran’s Nuclear Programme,” GOV/2015/68, December 2, 2015, page 9. (<https://www.iaea.org/sites/default/files/gov-2015-68.pdf>)

Despite a lack of resolution of most of the 12 issues listed in the November 2011 annex, the IAEA board of governors, on December 15, 2015 – only two weeks after the IAEA director general’s report indicated serious gaps – decided to end its consideration of that agenda item.²⁰ Iran has used this to claim that there can be no further investigation of PMDs,²¹ even though the secretariat is obliged to continue verification of the completeness of Iran’s declarations under the safeguards agreement. The board of governors’ decision contradicted the IAEA director general’s recommendations as well as the position of a number of members of the board.²² It was mainly the result of an Iranian refusal to move forward with other nuclear commitments while the PMD item remained open, as well as American pressure to reach full implementation of the JCPOA as quickly as possible. A month later, on January 16, 2016, the nuclear deal came into effect.

SECTION T

Annex I, Section T of the JCPOA addresses Iran’s commitments to refrain from the “development of a nuclear explosive device.” It is the pivotal component of the agreement with regard to preventing weaponization. Specifically, Iran is prohibited from:²³

- “82.1. Designing, developing, acquiring, or using computer models to simulate nuclear explosive devices.
- “82.2. Designing, developing, fabricating, acquiring, or using multi-point explosive detonation systems suitable for a nuclear explosive device, unless approved by the Joint Commission for non-nuclear purposes and subject to monitoring.
- “82.3. Designing, developing, fabricating, acquiring, or using explosive diagnostic systems (streak cameras, framing cameras and flash x-ray cameras) suitable for the development of a nuclear explosive device, unless approved by the Joint Commission for non-nuclear purposes and subject to monitoring.
- “82.4. Designing, developing, fabricating, acquiring, or using explosively driven neutron sources or specialized materials for explosively driven neutron sources.”

While preventing Iran from engaging in the activities enumerated in Section T could prevent Iran from closing some of the technological gaps remaining for the completion of its weaponization aspirations, the lack of detail in this section undermines the ability of the IAEA to effectively monitor the terms. For example, does the use of high explosive lenses instead of multipoint explosive detonation systems violate the limitations? Moreover, Section T does not thoroughly address all of the issues raised in the November 2011 IAEA report, as explained in the chart below:

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20. International Atomic Energy Agency, “Joint Comprehensive Plan of Action implementation and verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council Resolution 2231 (2015),” GOV/2015/72, December 15, 2015, page 3. (<https://www.iaea.org/sites/default/files/gov-2015-72-derestricted.pdf>)

21. “PMD now part of history: Zarif” *Mehr News Agency* (Iran), December 15, 2015. (<https://en.mehrnews.com/news/112856/PMD-now-part-of-history-Zarif>); “Case of inspection of Iran’s military sites closed forever: AEOI,” *Press TV* (Iran), October 28, 2017. (<http://www.presstv.com/Detail/2017/10/28/540199/Iran-IAEA-AEOI-Behrouz-Kamalvandi-JCPOA>)

22. This assessment is based on the author’s first-hand knowledge as well as conversations with knowledgeable parties.

23. Joint Comprehensive Plan of Action, Vienna, July 14, 2015, Annex I, Section T. (<https://www.state.gov/documents/organization/245318.pdf>)

	The PMD Issue	Parallel coverage in Section T	Comments
1	Program management structure	Not specifically covered	
2	Procurement activities	82.3	
3	Nuclear material acquisition	Not covered	Appears partially in other chapters of the agreement
4	Nuclear components for an explosive device	Not covered	
5	Detonator development	82.2	
6	Initiation of high explosives and associated experiments	82.2	Not fully covered
7	Hydrodynamic experiments	82.3	
8	Modeling and calculations	82.1	
9	Neutron initiator	82.4	
10	Conducting a test	Not covered	Indirect reference in the agreement, especially to the test
11	Integration into a missile or delivery vehicle	Not covered	Should have been covered in the chapter dealing with delivery systems, which does not exist in the agreement
12	Fuzzing, arming, and firing system	Not covered in this chapter	Should have been covered in the chapter dealing with delivery systems, which does not exist in the agreement

Section T also lacks detail compared to the Nuclear Suppliers Group (NSG) list of dual-use products.²⁴ For example, beyond the streak cameras mentioned in article 82.3, the deal should prohibit Iran from acquiring or developing all dual-use goods listed by the NSG unless otherwise permitted by the Joint Commission. The United States and its P5+1 partners should clarify that the lists that appear in Section T are only examples and that the full list is the one established by the NSG.

Only belatedly have the problems with Section T received the attention they deserve.²⁵ For roughly a year and a half after the implementation of the nuclear deal, the IAEA's reports on its efforts to verify Iranian commitments under Section T were paltry at best. Even as the IAEA affirmed in its June 2017 report that its verification and monitoring of Section T were ongoing, then-Director General Yukiya Amano noted publicly that "the Agency's

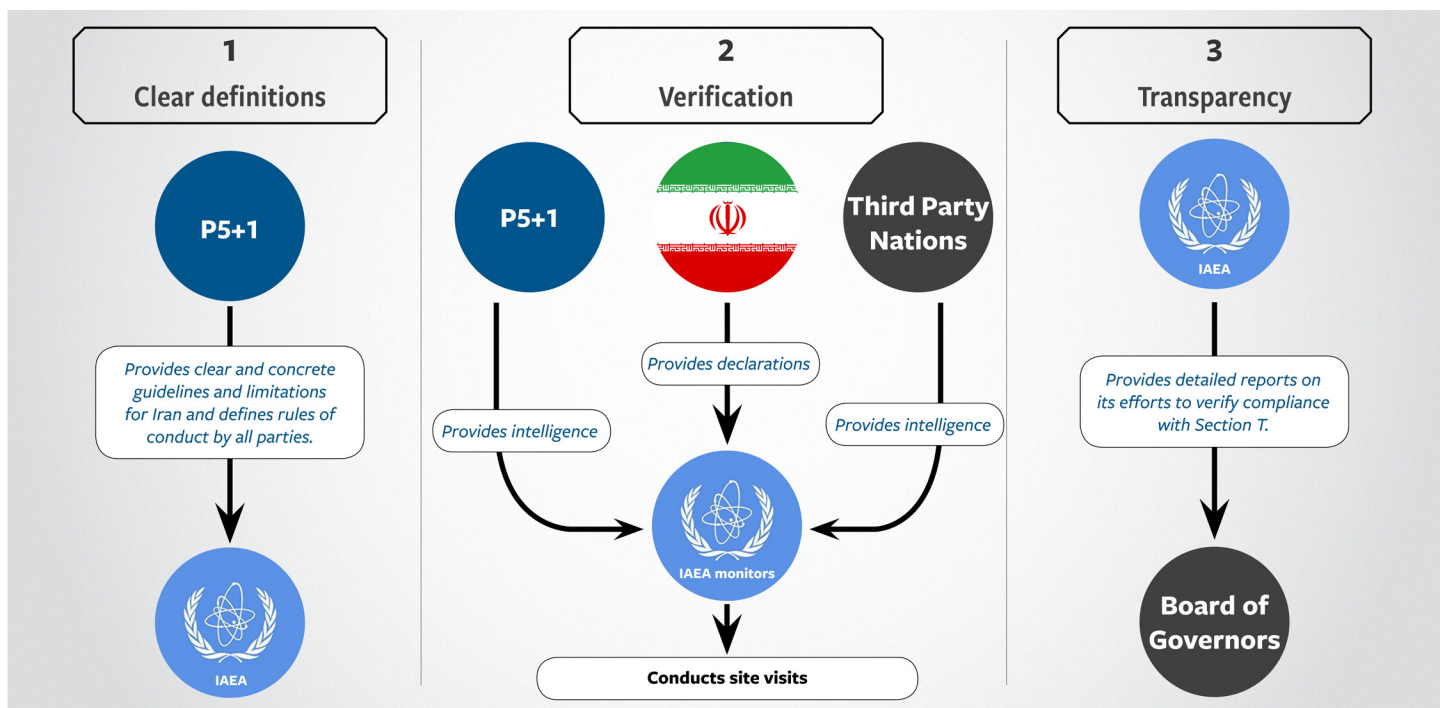
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 24. "Guidelines," *Nuclear Suppliers Group*, accessed March 26, 2018. (<http://www.nuclearsuppliersgroup.org/en/guidelines>); International Atomic Energy Agency, "Communication Received from the Permanent Mission of Switzerland to the International Atomic Energy Agency regarding Certain Member States' Guidelines for Transfers of Nuclear-related Dual-use Equipment, Materials, Software and Related Technology," INFCIRC/254/Rev.10/Part 2a (Corrected), February 5, 2018. (<https://www.iaea.org/sites/default/files/publications/documents/infcircs/1978/infcirc254r10p2c.pdf>)

25. David Albright and Olli Heinonen, "Verifying Section T of the Iran Nuclear Deal: Iranian Military Site Access Essential to JCPOA Section T Verification," *Institute for Science and International Security*, August 31, 2017. (http://isis-online.org/uploads/isis-reports/documents/Section_T_31Aug2017_Final.pdf)

tools are limited.” He called on the P5+1 to clarify Section T and explained that Russia believes that monitoring Iranian weaponization activities fall outside the mandate of the IAEA.²⁶

In order to ensure effective monitoring, the P5+1 must translate the general principles of Section T into concrete limitations on Iranian activities and clear obligations to provide access and information to the IAEA. In addition to the IAEA rights and obligations under the Comprehensive Safeguards Agreement and Additional Protocol, the P5+1 is responsible for defining the terms of Section T for the IAEA so that its inspectors can effectively monitor the commitments. Simultaneously, the IAEA must craft a verification regime based on Iran’s written declarations of its previous activities as well as intelligence provided by the P5+1 and third-party nations. Under the verification regime, the IAEA will need to conduct visits at suspect sites (including military facilities) to ensure compliance. And finally, the IAEA must provide detailed and transparent reports to the board of governors on its efforts, inter alia, to verify compliance with Section T.

FIGURE 1: REQUIREMENTS FOR ADEQUATE MONITORING OF SECTION T



RECOMMENDATIONS AND CONCLUSION

Verification that Iran is not engaged in weaponization activities is central to an effective nuclear agreement. An effective verification, monitoring, and inspection regime must be built on the following principles:

- The IAEA must be granted “anywhere, anytime” access to all civilian and military sites that it deems necessary to verify that Iran is not engaged in proscribed nuclear and weaponization activities. This type of access is in line with access provided under the Additional Protocol, which Iran has committed to provisionally apply. The current

26. Francois Murphy, “IAEA chief calls for clarity on disputed section of Iran nuclear deal,” *Reuters*, September 26, 2017. (<https://www.reuters.com/article/us-iran-nuclear-iaea/iaea-chief-calls-for-clarity-on-disputed-section-of-iran-nuclear-deal-idUSKCN1C12AN>)

configuration, under which the IAEA must “provide Iran the basis” for its concerns about suspicious activity and request access only if Iran’s responses do not resolve the IAEA’s concerns,²⁷ does not guarantee that the Agency will have timely access to suspicious facilities and provides Iran with time to sanitize and hide weaponization activities.

- Iran must provide an explanation of all of the items in the written list of previous weaponization activities and provide full and complete answers to any IAEA follow-up questions. Iran must also list all key persons who took part in these activities and make them available to the IAEA for interviews. As part of this process, Iran must resolve all outstanding PMD issues, including all issues that have arisen since November 2011.
- All locations – including military facilities – where weaponization and dual-use experiments have taken, or are currently taking, place must be subject to IAEA verification, monitoring, and inspection regimes identical to those imposed on enrichment sites, R&D sites, and centrifuge production sites.
- IAEA reports must include all requests for access and whether or not Iran has approved the request. IAEA reports must also include detailed information on enrichment activities and stocks of nuclear material.
- The Procurement Working Group should view all proposals from states seeking to provide nuclear and dual-use goods to Iran with a presumption of denial unless Iran and the third-party nation can prove that the procurement, technical training, or other support poses no proliferation risk.
- The U.S. and its allies must support the creation of a designated body under the IAEA with the necessary expertise to verify Section T.

Finally, to adequately fix the JCPOA, negotiators must address 1) the shortcomings in the current terms of the nuclear restrictions – in particular related to the sunset clauses and advanced centrifuge R&D and 2) the failure to restrict all nuclear-related activities – especially related to the development of delivery vehicles. Simultaneously, officials must reckon with the challenge of constraining Iran’s global terrorism and regional aggression.

The termination of restrictions on Iranian nuclear activity is fast approaching. Washington and its allies must fix the fatal flaws of the nuclear deal and prevent Iran from becoming a threshold nuclear state. The fixes that are necessary to rectify the problems with the JCPOA are significant. Superficial and cosmetic amendments or efforts to paper over the flaws will only exacerbate the long-term problem. There is an urgent need to fix the nuclear deal, and prudence dictates that nations must have a “Plan B” should current efforts fail to prevent Iran from continuing down the nuclear weapons path.

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27. Joint Comprehensive Plan of Action, Vienna, July 14, 2015, Annex I, paragraphs 75 and 76. (<https://www.state.gov/documents/organization/245318.pdf>)