

# DRAWING A “BROADER CONCLUSION” ON IRAN’S NUCLEAR PROGRAM

BY OLLI HEINONEN<sup>1</sup>

JUNE 2017

Under the terms of the nuclear deal with Iran, formally known as the Joint Comprehensive Plan of Action (JCPOA), key restrictions would expire when the IAEA formally reaches a “broader conclusion” that Tehran’s nuclear program is entirely peaceful. Such a conclusion would result in the lifting of the UN’s remaining non-nuclear sanctions, including the ban on ballistic missile testing and the conventional arms embargo.<sup>2</sup> Furthermore, the U.S. and EU would delist additional entities from their sanctions lists.<sup>3</sup> Notably, the EU would delist all entities affiliated with Iran’s Islamic Revolutionary Guard Corps, the organization responsible for both terrorist activities abroad as well as key aspects of the nuclear program.

Spurring the IAEA to reach a broader conclusion as quickly as possible appears to be Iran’s goal. In a televised speech in the middle of May, Iran’s President Hassan Rouhani expressed his intention to engage in “lifting all the non-nuclear sanctions during the coming four years” – at least two years earlier than the JCPOA would otherwise allow.<sup>4</sup> Unless additional steps are taken to redress the International Atomic Energy Agency’s (IAEA) closing of Iran’s possible military dimension (PMD) file in December 2015,<sup>5</sup> it is technically possible for the IAEA to reach a broader conclusion within four years.

.....  
1. I would like to thank Annie Fixler and David Adesnik of FDD for their helpful review and editorial comments.

2. UN Security Council Resolution 2231 states that the ban on ballistic missile testing expires eight years from Adoption Day (October 18, 2015), and the ban on conventional arms embargo ends five years from Adoption Day, or when the IAEA reaches a broader conclusion, whichever comes first. United Nations Security Council, Resolution 2231, July 20, 2015, “Annex B: Statement,” page 98. ([http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/s\\_res\\_2231.pdf](http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/s_res_2231.pdf))

3. Joint Comprehensive Plan of Action, Vienna, July 14, 2015, Annex II, Attachments 2 and 4. ([http://collections.internetmemory.org/haeu/20160313172652/http://eeas.europa.eu/statements-eeas/docs/iran\\_agreement/annex\\_1\\_attachements\\_en.pdf](http://collections.internetmemory.org/haeu/20160313172652/http://eeas.europa.eu/statements-eeas/docs/iran_agreement/annex_1_attachements_en.pdf))

4. President Rouhani stated, “I will engage myself in lifting all the non-nuclear sanctions during the coming four years.” Quoted in: “Rouhani’s vow to end remaining sanctions ‘difficult but possible,’” *Mehr News Agency* (Iran), May 15, 2017. (<http://en.mehrnews.com/news/125389/Rouhani-s-vow-to-end-remaining-sanctions-difficult-but-possible>)

5. 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, paragraphs 8, 9, and 15. (<https://www.iaea.org/sites/default/files/gov-2015-72.pdf>)

**Dr. Olli Heinonen** is a senior advisor on science and nonproliferation at the Foundation for Defense of Democracies. He is the former deputy director general of the International Atomic Energy Agency (IAEA) and head of its Department of Safeguards.

## WHAT IS REQUIRED FOR THE IAEA TO REACH A BROADER CONCLUSION?

To reach a broader conclusion, the IAEA needs to be able to conclude – based on extensive verification and analysis of all information available to it – that all nuclear material has remained in peaceful activities, which means that there are no indications of diversion of nuclear material from peaceful activities and no indications of undeclared nuclear material or activities in Iran as a whole.<sup>6</sup>

Despite the IAEA's previous conclusion that Iran had, in fact, carried out a wide range of activities "relevant to the development of a nuclear explosive device," the IAEA Board of Governors reached a political decision in December 2015 to "close" the investigation into the possible military dimensions (PMD) of Iran's nuclear program, a decision necessary to ensure the implementation of the Joint Comprehensive Plan of Action (JCPOA). This decision has amplified the IAEA's shortcoming in its ability to form a composite picture of, and thereby fully monitor, proscribed nuclear weapons development activities in Iran.<sup>7</sup> Such monitoring and verification is essential to determine the nature of Iran's nuclear program.

## WHY THE POSSIBLE MILITARY DIMENSION INVESTIGATIONS NEEDS TO BE COMPLETED

Prior to the JCPOA, the IAEA had an outstanding PMD investigation with Iran. In a December 2015 report intended to inform the Board of Governors' decision, the IAEA concluded:<sup>8</sup>

A range of activities relevant to the development of a nuclear explosive device were conducted in Iran prior to the end of 2003 as a coordinated effort, and some activities took place after 2003. The Agency also assesses that these activities did not advance beyond feasibility and scientific studies, and the acquisition of certain relevant technical competences and capabilities. The Agency has no credible indications of activities in Iran relevant to the development of a nuclear explosive device after 2009.

The report – and the decision to close the investigation – were prerequisite steps in order to proceed to the JCPOA's Implementation Day, which occurred on January 16, 2016. However, Iran did not respond to all of the IAEA questions during the investigations. The December 2015 report also noted instances in which Iran provided incomplete or inaccurate information.<sup>9</sup> Nonetheless, the Board of Governors chose to cut off the inquiry.

Despite Tehran's deficient cooperation, the IAEA found some man-made uranium particles at a location in Parchin, where an explosive test chamber associated with PMD studies was believed to have been located and subsequently dismantled. The IAEA concluded that Iran's explanations with regard to the purpose of the chamber did not match its own findings. Such questions would normally trigger follow-up actions such as taking of additional samples, visits to relevant sites, and interviews of relevant persons, according to standard safeguards practices. Subsequent IAEA reports, however, do not indicate that any such steps have been conducted – a situation very likely attributed to the Board's decision to close the PMD file.

6. International Atomic Energy Agency, "Safeguards Statement for 2015," accessed June 7, 2017, paragraphs 10-13. ([https://www.iaea.org/sites/default/files/16/08/statement\\_sir\\_2015.pdf](https://www.iaea.org/sites/default/files/16/08/statement_sir_2015.pdf))

7. Joint Comprehensive Plan of Action, Vienna, July 14, 2015, Annex I, Section T. ([http://collections.internetmemory.org/haeu/20160313172652/http://eeas.europa.eu/statements-eeas/docs/iran\\_agreement/annex\\_1\\_nuclear\\_related\\_commitments\\_en.pdf](http://collections.internetmemory.org/haeu/20160313172652/http://eeas.europa.eu/statements-eeas/docs/iran_agreement/annex_1_nuclear_related_commitments_en.pdf))

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

9. "The Possible Military Dimensions of Iran's Nuclear Program," *The Iran Task Force*, December 2015. ([http://taskforceoniran.org/pdf/The\\_PMDs\\_of\\_Iran%E2%80%99s\\_Nuclear\\_Program.pdf](http://taskforceoniran.org/pdf/The_PMDs_of_Iran%E2%80%99s_Nuclear_Program.pdf))

A recent report by the National Council of Resistance of Iran further claims that Iran has continued to work on some aspects of the design of nuclear weapons.<sup>10</sup> Elsewhere, it has been reported that Iran may have revitalized some mines and built an additional uranium ore conversion facility in the Anarak region.<sup>11</sup> As with all new information obtained from open sources, the Agency has a duty to assess and corroborate these reports against its own data and seek, where appropriate, clarifications from Iran, including by accessing locations, taking samples, and conducting interviews, and then inform the Board appropriately in its quarterly reports.

## **ADDITIONAL SHORTCOMINGS IN IAEA MONITORING**

The JCPOA assigns no specific monitoring task to the IAEA in Section T to ensure that Iran fully complies with its commitments not to engage in nuclear weapons-related activities, nor does the nuclear agreement ensure that the IAEA has unrestricted access to verify Iran's commitment.<sup>12</sup> A clear provision outlining such a task is particularly important, as it makes sure in unambiguous terms the IAEA's ongoing investigations and access, particularly given its earlier conclusion that Iran had conducted computer modeling of a nuclear explosive device prior to 2004 and between 2005 and 2009.<sup>13</sup> Such a verification requirement should be introduced by the IAEA Board.

The December 2015 IAEA report also states that Iran developed detonators and multipoint detonation systems that had characteristics suitable for the development of a nuclear explosive device.<sup>14</sup> In the same report, Tehran confirmed that research had been undertaken at an institution in Iran where plasma focus equipment was used to generate short neutron pulses and to develop and test suitable detectors.<sup>15</sup> The Agency's findings on the development of a prototype firing system that would enable the newly designed payload for a Shahab 3 missile to explode in the air above a target or upon impact with the ground remains still to be fully investigated.<sup>16</sup> The IAEA assessed that all of these activities, which are now proscribed under the JCPOA, were relevant to the development of a nuclear explosive device. While it has no credible indication that such activities continued after 2009, the IAEA report does not indicate the level of confidence it has on this conclusion. The December 2015 report and subsequent reports do not indicate if the IAEA has requested that Iran dismantle some of the equipment or capabilities, or if those locations have since then been subject to follow-up actions or monitoring.

10. "NCRI Revelation: Activities Continue at Organization Responsible for Work on Nuclear Weapons," *National Council of Resistance of Iran*, April 21, 2017. (<http://ncr-iran.org/en/news/nuclear/22603-ncri-revelation-activities-continue-at-organization-responsible-for-work-on-nuclear-weapons>)

11. Frank Pabian, "Commercial Satellite Imagery as an Evolving Open-Source Verification Technology: Emerging Trends and Their Impact for Nuclear Nonproliferation Analysis," *European Commission's Joint Research Center Technical Reports*, 2015. (<http://publications.jrc.ec.europa.eu/repository/handle/JRC97258>)

12. Under the JCPOA, Iran commits not to engage in activities that could contribute to the design and development of a nuclear explosive device. These include designing, developing, acquiring, or using computer models to simulate nuclear explosive devices. Iran will also not undertake 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. In addition, 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 are only permitted if approved by the Joint Commission for non-nuclear purposes and subject to monitoring. Proscribed are also designing, developing, fabricating, acquiring, or using explosively driven neutron sources or specialized materials for explosively-driven neutron sources. Joint Comprehensive Plan of Action, Vienna, July 14, 2015, Annex I, Section T. ([http://collections.internetmemory.org/haeu/20160313172652/http://eeas.europa.eu/statements-eeas/docs/iran\\_agreement/annex\\_1\\_nuclear\\_related\\_commitments\\_en.pdf](http://collections.internetmemory.org/haeu/20160313172652/http://eeas.europa.eu/statements-eeas/docs/iran_agreement/annex_1_nuclear_related_commitments_en.pdf))

13. International Atomic Energy Agency, "Final Assessment on Past and Present Outstanding Issues regarding Iran's Nuclear Programme," GOV/2015/68, December 2, 2015, paragraph 62. (<https://www.iaea.org/sites/default/files/gov-2015-68.pdf>)

14. Ibid, paragraphs 40 and 46. (<https://www.iaea.org/sites/default/files/gov-2015-68.pdf>)

15. Ibid, paragraph 65. (<https://www.iaea.org/sites/default/files/gov-2015-68.pdf>)

16. Ibid, paragraph 73. (<https://www.iaea.org/sites/default/files/gov-2015-68.pdf>)

## NEW IMPLEMENTATION PARAMETERS ARE NEEDED FOR PMD INVESTIGATIONS

It has now been a year and a half since the IAEA Board made the politically-motivated decision to remove the agenda item on the possible military dimension from its consideration. An effective and credible monitoring system, however, requires addressing the remaining open questions. Such investigations would need to be comprehensive in order for the Agency to arrive at a final credible conclusion that all nuclear material and activities in Iran are in peaceful use. In order to derive a credible broader conclusion, the IAEA needs to move diligently to resume its PMD investigations, including visits to military sites and interviewing people associated with experiments in question.

Assuming that the IAEA Secretariat is following its verification standards and is going forward, it is vital also for the IAEA to detail, in an open manner in its quarterly reports, its progress in tackling the legacy issues identified in the December 2015 report and the work the Secretariat is undertaking towards the broader conclusion. Article 5 of the Safeguards Agreement between Iran and the IAEA includes provisions for reporting to the IAEA Board, and therefore such details would be in line with the stated goal of the JCPOA to increase transparency into Iran's nuclear program.

In the interest of enhanced transparency, the director general should also include information on stocks of natural and enriched uranium in any form, along with additional details regarding plans for enrichment research and development (R&D) in his quarterly reports to the Board. Such information, together with the nature of Iran's cooperation with the IAEA – both qualitative and quantitative – would help to build the international community's confidence as the IAEA approaches reaching the broader conclusion. This methodology would also enable the international community to decide, upon the receipt of the announcement of a broader conclusion, what additional measures may be needed to ensure that Iran does not use the expiration of limitations on certain nuclear activities to step up the nuclear weapons latency ladder. This will be particularly important when Iran has a free hand to proceed both with its cruise missile program (which UN Security Council resolutions currently do not restrict) and with its ballistic missile activities. Specifically, the international community will need to ask whether reliance on current IAEA safeguards are sufficient and provide timely warnings of Iranian nuclear weapons development, or if it will be necessary to restrict further uranium enrichment activities.

Transparent and meaningful reporting is necessary for the IAEA member states to assess the IAEA's progress towards a broader conclusion, especially given the fact that the JCPOA only serves as a temporary lid on the development of Iran's uranium enrichment capacities. Ongoing R&D has the capability of manufacturing most centrifuge components,<sup>17</sup> and acquisition of uranium ore concentrates without limitations is permitted under the nuclear deal when the deal's terms sunset. While many of the deal's limitations are not linked to reaching a broader conclusion, Iran may argue that once a broader conclusion is reached, the country should no longer be subject to limitations on its nuclear activities.

Ultimately, we need to keep in mind the reasons which led the IAEA Board to report Iran to the UN Security Council in 2005 and the subsequent actions taken by Iran to defy the Security Council's numerous resolutions. The international community has been (and should remain) concerned about Iran's history of non-compliance

.....  
17. David Albright and Olli Heinonen, "Is Iran Mass Producing Advanced Gas Centrifuge Components?" *The Institute for Science and International Security*, May 30, 2017. ([http://isis-online.org/uploads/isis-reports/documents/Mass\\_Production\\_of\\_Centrifuges\\_30May2017\\_Final.pdf](http://isis-online.org/uploads/isis-reports/documents/Mass_Production_of_Centrifuges_30May2017_Final.pdf))

with its safeguards undertakings, its excessive uranium enrichment activities beyond any justifiable needs of its known nuclear program, its ballistic missile program, and Iran's aggressive behavior in the region. Yet even with this backdrop, once the IAEA reaches a broader conclusion, restrictions related to Iran's missile program and conventional arms trade will be terminated. At the same time, Iran will emerge with a more advanced uranium enrichment program with no clear demonstrable need for such activities. Iran will be a step closer to nuclear weapons capability with breakout time gradually dropping to a couple weeks. With the current terms of the JCPOA that ultimately allows Iran to develop and deploy a more sophisticated nuclear program down the road, a premature broader conclusion drawn along with an unsatisfactory PMD outcome is both dangerous and irresponsible in creating unwarranted complacency on the nature of Tehran's nuclear program.