

**January 28, 2014**

## **Implementation of the Iran Nuclear Deal**

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Chairman Ros-Lehtinen, Ranking Member Deutch, distinguished members of the Subcommittee, thank you for inviting me to address this hearing on the “Implementation of the Iran Nuclear Deal”.

In my short testimony today, I will focus on the verification aspects of the Iran nuclear deal concluded in Geneva on 24 November 2013<sup>1</sup>, highlight some key implications, and make some suggestions for the way forward.

On 16 January 2014 the White House made public details from a more extensive non-paper, which specifies the current understandings between Iran and the P5+1 on the implementation of the Joint Plan of Action (JPA) in months to come. On 17 January, the IAEA issued a report on its monitoring plans under the JPA on Iran’s nuclear program to its Board of Governors, and followed up on 20 January 2014 with an information document regarding Iran’s first actual steps in implementing the JPA.

Very briefly, let me outline the technical markers being laid out in the Joint Plan of Action.

According to the provisions of the interim agreement, Iran continues to produce low enriched (below 5%) uranium and keeps both 5% and 20% enriched uranium stocks on its soil. Iran maintains centrifuge production capabilities including the skills of the work force, and continues with centrifuge R&D and testing. Iran is allowed to produce additional centrifuge rotors only to replace broken ones, but is not restricted in its production of other key centrifuge components or raw materials. In addition, no new centrifuges will be installed or new enrichment

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<sup>1</sup> Communication dated 27 November 2013 received from the EU High Representative concerning the text of the Joint Plan of Action, IAEA, INFCIRC/855, 27 November 2013.

locations will be built during this period. With regard Iran's uranium stockpile and production, some of the 5% enriched uranium and all the 20% enriched uranium gets converted to oxides. In terms of capacity – that is, when Iran is able to produce enough weapons grade UF<sub>6</sub> material for a single nuclear explosive - this moves the sliding bar to three months from the currently estimated two to three weeks window given Iran's currently known facilities.

Construction work in non-nuclear parts is permitted at the Arak IR-40 reactor, and reactor component manufacturing for IR-40 can proceed elsewhere. There are no restrictions to the production of heavy water. However, the halting of fuel production at Isfahan that would feed the Arak reactor and prohibiting the installation of nuclear components delays the commissioning of the Arak reactor until 2016.

### **Centrifuge manufacturing and installation**

In November 2003, the EU3 (France, Germany and the United Kingdom) and Iran agreed<sup>2</sup> that the latter suspends its uranium enrichment and reprocessing programs, signs and implements provisionally the Additional Protocol, and provides the IAEA with a complete picture on its past nuclear program. Ten years ago, when Iran entered into agreement with the EU3, the nuclear program of Iran was less extensive and sophisticated. To-day Iran has mastered all aspects of the front end of a nuclear fuel cycle at semi-industrial scale, and has indigenous capabilities to produce domestically most nuclear equipment. The EU3-Iran arrangements in 2003, and verification details worked out between Iran and the IAEA, provided the IAEA with generally wider access rights to centrifuge manufacturing and testing than under the current Plan of Action. The 2003 undertaking included, *inter alia*, access to nuclear R&D not involving nuclear material. An example of such access was the IAEA visits to the centrifuge mechanical testing facilities in Tehran, Isfahan, and Natanz, which is excluded from the current plan. This would be relevant for any advanced centrifuge testings being carried out today. Another difference is that in 2003-2005, the IAEA had access to centrifuge component manufacturing facilities, and all components and key raw materials such as high strength aluminum or maraging steel were subject to monitoring by the IAEA.

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<sup>2</sup> Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran, IAEA, GOV/2003/73, 10 November 2003.

Under the current agreement, Iran would produce additional centrifuges only to replace the broken ones, and it commits to placing all manufactured rotor cylinders and centrifuges under IAEA control. One of the challenges the IAEA is facing is to establish whether all rotors manufactured or acquired by Iran have been, indeed, declared. While it is not obvious from the Joint Plan of Action and the non-paper whether the IAEA will be provided with the essential information on the acquisition and inventories of raw materials in order to be able to confirm the declaration, this information is clearly needed to provide a more complete picture. Some additional complications may also arise from the fact that the IAEA does not have access to Iran's R&D installations where the mechanical tests of centrifuges are being conducted without nuclear material.

### **Enriched uranium inventories**

What will be the stocks of uranium in Iran six months from now? Iran will continue to produce 5 % enriched uranium with a monthly rate of about 250 kg UF<sub>6</sub>. However, it will convert any newly produced UF<sub>6</sub> to uranium oxide by the end of the six month period. Iran can be expected at the end of the period to tally 7.5 to 8.0 tons of 5 % enriched UF<sub>6</sub>, the rest being held in oxide form. This remains a substantial amount. A separate deal that was negotiated in 2009 but ultimately fell through that sought to provide fuel for Tehran Research Reactor, foresaw Iran's inventory of low enriched uranium not exceeding 1.2 tons of UF<sub>6</sub>.

Under today's agreement, Iran will dilute half of its 20 % enriched uranium to 5 % and convert it to uranium oxide. The other half will be converted in the coming months to oxide, but it will be kept as a working stock to produce 20 % enriched uranium fuel for the Tehran Research Reactor. These dilution and conversion activities of 20 % enriched uranium are the major factors which extend the break-out times to over three months, with currently known and installed centrifuges.

Such conversion activities meet the criteria set out under the JPA, which is meant to serve an interim stage. A more long lasting resolution however would clearly be needed going forward given stocks of 20 % uranium in pure oxide form can be reconverted to uranium hexafluoride and enriched further. As required by the Joint Plan, Iran has stated that there is currently no reconversion line to reconvert uranium oxide enriched up to 20 % U-235 back to uranium hexafluoride UF<sub>6</sub>. With the access provided currently by Iran and the Joint Plan of Action, the IAEA can confirm Iran's statements only at facilities and buildings to which the IAEA currently has access.

## **IAEA inspections**

Will the IAEA be able to establish in a timely manner if production of higher enrichments of uranium commences in Natanz and Fordow? The agreement provides IAEA inspectors daily access to these installations, but only to surveillance records, and not to anywhere else at the facilities. The surveillance measures are designed to cover only certain activities such as removal of large objects from the cascade areas. Any changes to the actual cascade structures can be physically witnessed only during inspection visits into the cascade halls. To counteract these limitations, the IAEA carries out unannounced inspections. Increased unannounced inspections would increase the ratio of possible detection.

Additionally, to decrease detection time, the IAEA has to enhance its verification measures for both the 5% as well as 20 % enriched uranium, not only in Natanz, but also at the facilities in Isfahan. Understanding the actual parameters of what the IAEA does is important when addressing the issue of timely detection under the present revised system.

To strengthen timely detection, IAEA access to uranium mines and milling facilities should be another factor subject to verification, with information provided to include Iran's current and past production of uranium, and the whereabouts of the current stocks.

According to the Joint Plan of Action, Iran commits itself not to construct new enrichment locations. With the access provided currently by Iran and the Joint Plan of Action, the IAEA remains limited in its capabilities to confirm the statements made to this end by Iran regardless whether it is do with centrifuge or laser enrichment.

Iran has also stated, as required by the Joint Plan of Action, that it will not engage in reprocessing activities or construction of facility capable for reprocessing. With the access provided currently by Iran and the Joint Plan of Action, the IAEA can confirm the statement at the facilities and buildings to which it currently has access.

## **Dealing with the possible military dimensions of Iran's nuclear program**

The preamble of the Joint Plan of Action refers to additional steps between the initial measures and the final step, which include addressing UN Security Council

resolutions<sup>3</sup>. The 2010 UN Security Council resolution reaffirmed “that Iran shall cooperate fully with the IAEA on all outstanding issues, particularly those which give rise to concerns about the possible military dimensions of the Iranian nuclear program, including by providing access without delay to all sites, equipment, persons and documents requested by the IAEA...”<sup>4</sup>. As pointed out in the IAEA reports in May 2008<sup>5</sup> and November 2011<sup>6</sup>, this is essential for the IAEA to provide assurances regarding the absence of undeclared nuclear material and activities in Iran. Iran needs to, *inter alia*: resolve questions related to the alleged studies (missile re-entry vehicle, high-explosive studies); provide more information on the circumstances of the acquisition of the uranium metal document describing production of high enriched uranium components for a nuclear explosive device; clarify procurement and R&D activities of military related institutes and companies that could be nuclear related; and clarify the production of nuclear equipment and components by companies belonging to defense industries.

Without addressing those questions, the IAEA Secretariat will not be able to come to any conclusion that *all* nuclear material in Iran is in peaceful use, which is essential in building confidence of the international community over Iran's nuclear program.

Tackling the military concerns of Iran’s nuclear program has been just as difficult as it is necessary. Justification that such queries would never be admitted by Iran and serve to hinder negotiations and therefore be set aside, is actually contrary to its logic. A comprehensive deal can only be reached if uncertainties over Iran’s military nuclear capability are addressed. Such concerns, however, can be approached in a forward-looking way. For instance, the IAEA can establish, which of the past activities have been terminated, confirm that all nuclear material and facilities are subject to the IAEA safeguards, and activities contradicting the letter and spirit of the NPT have ceased. These findings will then serve as a baseline for a monitoring scheme<sup>7</sup>, which starts with a grace period where the IAEA

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<sup>3</sup> Communication dated 27 November 2013 received from the EU High Representative concerning the text of the Joint Plan of Action, INFCIRC/855, IAEA, 27 November 2013.

<sup>4</sup> United Nations Security Council Resolution 1929, 2010.

<sup>5</sup> Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions 1737 (2006), 1747 (2007) and 1803 (2008) in the Islamic Republic of Iran, IAEA, GOV/2008/15, 26 May 2008.

<sup>6</sup> Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran, IAEA, GOV/2011/65, 8 November 2011.

<sup>7</sup> Olli Heinonen, The verification of the peaceful nature of Iran's nuclear program, in S.H. Chang and J. Kang, Assessment of the Nuclear Programs of Iran and North Korea: Technical Aspects, 2012.

verification access go beyond the safeguards agreement and the Additional Protocol. Such a stepwise process will be useful in building gradually confidence about the peaceful nature and content of Iran's nuclear program. What kind of uranium enrichment capacity - "mutually defined enrichment programs with mutually agreed parameters consistent with practical needs." - is in line with the actual needs of the nuclear program of Iran? Which kind of research reactor meets best Iran's training, R&D and isotope production needs? Working on a viable solution to replace the Arak heavy water reactor with a smaller modern up-to-date light water reactor?<sup>8</sup> To allow for a negotiated contour of some civilian nuclear power in Iran that would likely be envisaged in a final deal, Iran should outline, at an early stage, a comprehensive energy and nuclear energy plan - a white paper - which explains rationally its needs and vision for the future in a transparent way.

### **In summary**

The current agreement between the P5+1 and Iran is a small first step that tests the ground for the possibility of a comprehensive deal. In this sense, this agreement is important, insofar as it forms part of the route to what can constitute as a consequential final accord. This is not going to be easy as the most difficult parts lie ahead: agreement on the scope of uranium enrichment and heavy water program, and Iran's seriousness in addressing questions and concerns related to its nuclear program's military dimension, which go well beyond access to one particular building at Parchin.

Since this agreement serves an interim stage, it should not be either an end in itself or be sustained indefinitely beyond the allotted time period of up to a year without an end game in sight. Further extensions may also run the risk of proliferation consequences in the region, when states see Iran not only maintaining its current nuclear break-out capabilities, but slowly advancing them, in particular, in areas, which remain inaccessible to the IAEA during the interim phase.

The IAEA Director General Mr. Amano stated in the IAEA Board meeting on 24 January that he plans to report the progress in monthly intervals in addition to his quarterly reports. It is recommended that the IAEA Board makes them public as it has done with its quarterly reports.

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<sup>8</sup> Olli Heinonen, The 20 Percent Solution, Foreign Policy, 11 January 2012.