IRAN, P5+1 REACH HISTORIC FINAL AGREEMENT, FRUSTRATING OPPONENTS WHO PUSH FOR WAR

Iran Nuclear Deal Is Reached With World Powers

Partial screengrab of New York Times article announcing agreement. John Kerry and Ernest Moniz are on the right, while Javad Zarif and Ali Akbar Solehi are in the center of the photograph.

It has been nearly 20 months since the group of P5+1 countries (China, France, Germany, the Russian Federation, the United Kingdom and the United States) and Iran reached an interim agreement limiting Iran's work on nuclear technology. Progress since that interim agreement has been painfully slow (and obstructed as much as possible by Israel's Benjamin Netanyahu, neocons in Congress and United Against Nuclear Iran), with a number of "deadlines" for achieving the final agreement missed. Journalists covering the final phase of negotiations in Vienna over the last two weeks eventually got so exasperated with the process that they began reporting on the number of Twizzlers consumed by the negotiators.

Fortunately, the US, led by John Kerry, with technical support from Ernest Moniz (with the backing of Barack Obama) and Iran, led by Javad Zarif, with technical support from Ali Akbar

Salehi (with the backing of Hassan Rouhani) did not give up on the process. A final agreement (pdf) has now been published.

The following sentence appears in the agreement twice. It is the final sentence in the Preface and is the third point in the Preamble:

> Iran reaffirms that under no circumstances will Iran ever seek, develop or acquire any nuclear weapons.

That is the heart of what the entire process has been about. Iran's uranium enrichment work, which grew to over 18,000 centrifuges installed at two facilities, was viewed as a rapid route to a nuclear weapon. Even though no facility in Iran has been identified where enrichment was proceeding to the highly enriched levels needed for a bomb and Iran had demonstrated no ability to make a bomb from highly enriched material, "conventional wisdom" stated that Iran would only need a few months (as of the signing of the interim agreement) to produce a working bomb. Throughout the process, Iran has claimed the work was only for peaceful uses (electricity production and the production of medical isotopes). Things had gotten really ugly back in 2011 when the IAEA lent credence to claims that originated in the Laptop of Death, where Iran was accused of past work aiming at developing a bomb. By making the blanket statement that Iran will never seek a nuclear weapon, Iran is publicly acknowledging that the West will reinstate economy-crippling sanctions should evidence surface that it is seeking a weapon. Further, by saying it "reaffirms" as much, Iran is sticking to its previous claims that it has not sought a weapon in the past. Those dual points are important enough to be appear twice on the first page of the agreement.

On first blush, the final agreement looks quite robust. I intend to address only the technical aspects of the agreement and will leave to others analysis of the aspects of the plan relating to the removal of sanctions, although

it is interesting that it appears that the plan will be submitted for UN Security Council approval before Congress is expected to have a chance to chime in.

The plan is referred to as the Joint Comprehensive Plan of Action, or JCPOA. It establishes a Joint Commission of P5+1 and Iran that will monitor implementation of the agreement.

Enrichment

In order to achieve the primary aim of taking Iran's "breakout time" (the time estimated to produce enough highly enriched uranium for a bomb) from the range of just a few months at the time of the signing of the interim agreement to the stated goal of at least one year, Iran now agrees to stop all enrichment work with radioactive material at its Fordo site (the underground site that prompted the US to develop a new generation of bunker buster bombs) and to greatly reduce the number of centrifuges in use at Natanz. Further, Iran will no longer enrich uranium above 3.67%. Iran agrees to keep its stockpile of 3.67% enriched uranium at 300 kg or less. Here is the wording for the key part of that aspect of the agreement (from page 7):

> 5. Based on its long-term plan, for 15 years, Iran will carry out its uranium enrichment-related activities, including safeguarded R&D exclusively in the Natanz Enrichment facility, keep its level of uranium enrichment at up to 3.67%, and, at Fordow, refrain from any uranium enrichment and uranium enrichment R&D and from keeping any nuclear material.
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> 6. Iran will convert the Fordow facility into a nuclear, physics and technology centre. International collaboration including in the form of scientific joint partnerships will be established in agreed areas of research. 1044 IR-1 centrifuges in six cascades will remain

> in one wing at Fordow. Two of these cascades will spin without uranium and will be transitioned, including through appropriate infrastructure modification, for stable isotope production. The other four cascades with all associated infrastructure will remain idle. All other centrifuges and enrichment-related infrastructure will be removed and stored under IAEA continuous monitoring as specified in Annex I.

Heavy Water Reactor

Besides standard enrichment, the other concern for Iran producing material for a bomb was the Arak heavy water nuclear reactor. Such reactors are capable of producing weapons-grade plutonium, although a dedicated facility for reprocessing the spent fuel is needed to produce such material. Iran has agreed to a complete redesign of the Arak reactor (which had not yet been commissioned) so that it no longer is capable of producing weapons-grade plutonium (from page 8):

> 8. Iran will redesign and rebuild a modernised heavy water research reactor in Arak, based on an agreed conceptual design, using fuel enriched up to 3.67 %, in a form of an international partnership which will certify the final design. The reactor will support peaceful nuclear research and radioisotope production for medical and industrial purposes. The redesigned and rebuilt Arak reactor will not produce weapons grade plutonium. Except for the first core load, all of the activities for redesigning and manufacturing of the fuel assemblies for the redesigned reactor will be carried out in Iran. All spent fuel from Arak will be shipped out of Iran for the lifetime of the reactor. This international partnership will include participating E3/EU+3 parties, Iran and such other countries as may be

> mutually determined. Iran will take the leadership role as the owner and as the project manager and the E3/EU+3 and Iran will, before Implementation Day, conclude an official document which would define the responsibilities assumed by the E3/EU+3 participants.

Possible Military Dimensions

As mentioned above, the IAEA added credence to the Laptop of Death claims by repeating many of them in its November, 2011 report on Iran's nuclear program. Despite their shaky provenance, the West has insisted on Iran addressing the claims. The process of addressing them began under the interim agreement, and significant progress was made. The final agreement reads as a total capitulation by Iran on the topic:

> 14. Iran will fully implement the "Roadmap for Clarification of Past and Present Outstanding Issues" agreed with the IAEA, containing arrangements to address past and present issues of concern relating to its nuclear programme as raised in the annex to the IAEA report of 8 November 2011 (GOV/2011/65). Full implementation of activities undertaken under the Roadmap by Iran will be completed by 15 October 2015, and subsequently the Director General will provide by 15 December 2015 the final assessment on the resolution of all past and present outstanding issues to the Board of Governors, and the E3+3, in their capacity as members of the Board of Governors, will submit a resolution to the Board of Governors for taking necessary action, with a view to closing the issue, without prejudice to the competence of the Board of Governors.

I find it remarkable that Iran is saying that they will address the full set of "concerns"

according to the process laid out by the IAEA. Had I been negotiating on Iran's side, I would have insisted that such a move by Iran be accompanied by the US (and Israel) formally admitting to having released StuxNet. Further, I would have insisted that Israel and the US own up to the assassinations of Iranian nuclear scientists as part of the move to clarify PMD. At the very least, I would have called for these admissions to be part of a secret annex to the agreement.

A central part of all the posturing over PMD has been accusations of work toward a trigger device. Use of a high explosives blast chamber at Parchin has been a central part of accusations on that point. This bit from an annex, on page 45 of the agreement, seems aimed at resolving these (and some other PMD) questions in the future:

> T. ACTIVITIES WHICH COULD CONTRIBUTE TO THE DESIGN AND DEVELOPMENT OF A NUCLEAR EXPLOSIVE DEVICE 82. Iran will not engage in the following activities which could contribute to the development of a nuclear explosive device: 82. Designing, developing, acquiring, or using computer models to simulate nuclear explosive devices. 82. 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. 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. Designing, developing, fabricating, acquiring, or using explosively driven neutron sources or specialized materials for explosively

> driven neutron sources.

Conclusion

As this agreement is debated in the press, the starting point for Netanyahu and the neocons in Congress will be that once the agreement ends (ten or fifteen years, depending on the part under consideration), Iran immediately vaults back to being only months away from a bomb. That argument is based on the false assumption that their preferred approach of bombing Iranian nuclear facilities now would permanently end Iran's quest for a nuclear weapon.

The reality is that under the scenario where the West bombs Iran's facilities, the first response by Iran would be to end all of the current agreements and kick out the IAEA inspectors. Facilities would be reconstructed quickly, and work would proceed at a much faster pace with no inspectors present. Only prolonged war, and prolonged bombing, would provide assurance that work toward a weapon isn't going on.

Rather than bombing the facilities, this agreement provides for Fordo (which it's not really clear we could destroy anyway) to be redirected, under close supervision, to work that excludes any radioactive material. Natanz is allowed only to produce 3.67% uranium, rather than the 20% enrichment it was producing before the interim agreement. Again, this is under very close supervision by IAEA. Arak is converted into something that can never produce weapons grade plutonium.

This historic agreement gives the world a much-needed ten year break in the madness over Iran's nuclear technology. Given this wonderful, unprecedented step, I can't help thinking that Iran and the West will find a way to extend this peace rather than rush to war once the terms of today's agreement run their course.