Iran's Inflexibility on Enrichment a Barrier to Progress on Nuclear Deal

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By Daryl G. Kimball

Officials involved in the high-stakes negotiations aimed at reaching a comprehensive agreement on Iran's nuclear program report limited progress after the latest round of meetings in New York.

Both sides, the P5+1 (China, France, Germany, Russia, the United Kingdom, and the United States) and Iran, say that the most significant disagreement is over how to define Iran's uranium enrichment capacity over the course of the multiyear deal.

Iran's Foreign Minister Javad Zarif and President Hassan Rouhani came to New York expressing hope for a deal, but, unfortunately, they say it's up to the P5+1 to change its position on the uranium-enrichment issue.

While the P5+1 have put forward creative proposals, to this point, the Iranian negotiating team has resisted meaningful proposals to curtail Iran's current uranium-enrichment capacity.

If Iran's leaders really want to get "yes" on a comprehensive nuclear deal as they say the do, they will need to adjust their approach.

And adjust they can. Iran's current position on uranium enrichment is not shaped so much by a serious calculation of Iran's "practical nuclear energy needs" as it is based on their leaders' political calculus. And it appears to be a result of their impulse not to appear to compromise in any way—even if it is in Iran's interests to do so.

With less than two months to go before the Nov. 24 target date to reach a deal, it is past time for Iran to move beyond its well-worn talking points and begin bargaining on realistic options on the core issue of uranium enrichment.
Iranian Foreign Minister Javad Zarif, U.S. Secretary of State John Kerry, and European Union High Representative Catherine Ashton meet Sept. 25 at the Waldorf Astoria in New York.

**Limited Enrichment Needs**

Today, Iran has 10,200 first-generation IR-1 operating centrifuges with an enrichment capacity of about 9,400 separative work units (SWU). Iran also has approximately 9,000 more centrifuges that are installed but are not yet operating, including some 1,000 more advanced IR2-M machines.

Iran says it can't afford to reduce that number because it wants to increase its enrichment capacity significantly by the 2020s. Iran points to its hopes for building new nuclear power reactors and it says it wants to be able to eventually produce fuel for its one operating light-water reactor, which would require the equivalent of over 100,000 IR-1 machines.

For the next several years, however, Iran's practical needs for enrichment are very limited.

Iran already has enough fuel for its Tehran Research Reactor, which produces medical isotopes, for several years. If the Arak reactor heavy-water reactor project is, as expected, modified to use 3.5 percent enriched-uranium fuel, it might require no more than 1,000 IR-1 centrifuges to provide for its fuel requirements.

Iran's light-water reactor at Bushehr, which has a power-generation capacity of about 1,000 megawatts electric, uses fuel supplied by Russia under a 10-year deal that could be extended past its 2021 end date. In fact, Russia is obliged to supply fuel unless Iran chooses not to renew the contract--which would be a foolish move given the fact that Iran does not currently have the technical capacity to fabricate fuel for the reactor.

There is no practical reason for Iran not to be able to reduce its uranium-enrichment capacity in the near-term in order to build confidence it is not seeking an option to build nuclear weapons.

**A Solution Is Still Within Reach**
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The P5+1 understandably want Iran's uranium-enrichment capacity to be reduced for at least several years. The goal is to increase the time it would take for Iran to produce enough weapons grade material for one bomb (25kg of uranium hexafluoride enriched to 90% fissionable U-235).

With an even more robust international monitoring and inspections regime in place, a period of six to twelve months would provide more than enough time to detect any such effort and to mobilize the international community to disrupt any such attempt.

With sufficient political will, its is possible to develop a formula for Iran's uranium-enrichment capacity that significantly increases the time Iran would require to produce enough weapons-grade material for one bomb and still provide Iran with more than sufficient capacity for its civilian nuclear program over a period of 11 to 16 years--and give Iran the option to provide for substantially greater nuclear energy fuel needs if and when such needs materialize.

In August, the International Crisis Group and the Arms Control Association outlined an illustrative "win-win" solution on the uranium enrichment issue consisting of a balanced combination of elements to be implemented in three main phases over a period of 11 to 16 years.

Key elements of our independently-developed proposal include:

• Reducing Iran's current enrichment capacity by half for a period of three to five years. Combined with a reduction in the size of Iran's enriched-uranium stocks, this would increase the time it would take Iran to produce enough weapons-grade enriched-uranium gas to 9-12 months, or more. Iran's operating-enrichment capacity could return to current levels by 2021 and for the duration of any agreement, but only if Iran can demonstrate that it has discontinued any experiments with possible military dimensions.

• Limiting Iran's working stockpile of low-enriched uranium hexafluoride gas to less than 200 kilograms and converting any excess into an oxide powder, which is more proliferation resistant, for removal to a third country, conversion into fuel for the Arak reactor or a light-water reactor, or some combination of those options. Iran would be barred from building a reconversion line that could reverse the process.

• Removing and storing under IAEA seal most of Iran's IR-1 centrifuges and replacing some with a smaller number of IR2-M centrifuges. Research on machines that are even more advanced could continue on a limited and monitored basis over the course of any agreement. This would allow Iranian scientists to make the desired shift to more efficient, cost-effective machines in future years, but still constrain Iran's overall enrichment capacity over the duration of the agreement.

• Providing strong guarantees to Iran to help meet its future energy needs, including pre-delivery of fuel for operation of the Bushehr reactor beyond 2021. By that time, the International Atomic Energy Agency and Iran could begin a technical assistance project on reactor fuel fabrication.

After a week of very limited progress in New York, a win-win deal is still within reach, but only if both sides, particularly Iran, embrace reasonable compromises--and soon.

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