



On-Going Debate Over Iran's Newly Produced LEU Hexafluoride

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The controversy over the status of Iran's newly produced low enriched uranium (LEU) hexafluoride under the Joint Plan of Action (JPA) initially surprised us at ISIS. We have been monitoring the various provisions of the JPA since its inception, including Iran's pledge to convert its newly produced LEU hexafluoride stocks into uranium dioxide form during the JPA term and its extensions. We would have expected the public controversy to center on other issues, including the near 20 percent LEU stocks in Iran. These stocks are far too large, and if left in place, will undermine the administration's central case that Iran would need 12 months to break out, if it reneged on a long term deal. Yet, upon reflection, this issue of the newly produced LEU is a microcosm of the legal, technical, and political challenges in the on-going negotiations with Iran. It is also another indication that U.S. secrecy is excessive and contributing to problems on its own. Finally, it is necessary to state that this case is a lesson in how difficult it is to understand all the issues in these negotiations, even for those of us who spend enormous amount of time following and assessing provisions in these negotiations.

We are not alone in stating that the Joint Plan of Action's provision on the newly produced LEU is about converting it into a dioxide form. The Congressional Research Service (CRS) wrote in a report in December 2013 under a section on *LEU Stockpile Limits*: "Iran is also to, in effect, freeze its production of enriched uranium hexafluoride containing up to 5% uranium-235 by converting the material to *uranium dioxide (emphasis added)*. Tehran would take this step when it has completed the necessary facility, which is currently under construction."¹ It is also worth noting that this CRS report is taken from the State Department web site. Our conclusion comes from a straightforward interpretation of the JPA, and it is the interpretation the administration used originally, based on our briefings by senior U.S. officials. This interpretation was reported by others as well.

The public was late to the debate that there was a problem with this provision, partially due to the United States not revealing what it knew. The United States learned about problems with the Enriched UO₂ Powder Plant (EUPP) last fall. In particular, it knew that the plant was not producing low enriched uranium dioxide, as expected under the Joint Plan of Action. The

¹ Kenneth Katzman and Paul K. Kerr, *Interim Agreement on Iran's Nuclear Program*, December 11, 2013, <http://fpc.state.gov/documents/organization/219133.pdf>. In a version of our report disseminated earlier today to a few people, we provided the wrong CRS reference. This mistake was discovered in the editing process of this report.

process was stalling at the stage of ammonium diuranate (ADU), an intermediate chemical form in the process, one step from making LEU dioxide. The United States decided not to push the issue. It settled for the LEU form(s) that had been produced so far. Mistakenly, it also decided to try to keep this failure secret from the public.

In essence, when Iran could not do what it committed to do, the United States decided not to rock the boat and to try keeping the problem secret. By June, this policy was no longer possible, as it became obvious from International Atomic Energy Agency reports that LEU dioxide production was abysmal.

Now, the United States says that it does not matter that Iran is not making LEU dioxide. Officials state that the government is now satisfied that Iran has met its commitments under this provision and that the intermediate forms are "oxide." (Yet it is unclear if all intermediate forms are oxide but at least one of the forms, ADU, is an oxide.) However, that oxide is not the oxide intended under the JPA. Is this distinction unimportant, as U.S. officials state? Our conclusion keeps coming back to the opposite; it does matter.

The reason is not that somehow one form or other of LEU oxide is harder to turn back into hexafluoride form for use in a breakout. This is almost irrelevant to the debate. Unfortunately, these main forms of LEU oxide are straightforward to convert back and use during a breakout. That is a principal reason that in a final deal the United States wants all but 300 kilograms (kg) of Iran's near 10,000 kg of LEU shipped out of the country or blended down to natural uranium. The United States is now making a very narrow interpretation of this provision in the JPA, and an interpretation that is at odds with its previous positions and common sense. It is also an interpretation that appears to favor Iran and not the United States. Reaching this interpretation seems overly driven by the administration's fear of Congress. The administration appears to have lost sight of the true adversary in its on-going battle with Congress.

This weakening of interpretations is a bad precedent for the future. This case signals a U.S. willingness to legally reinterpret the deal when Iran cannot do what it said it would do, in order to justify that non-performance. The United States should have said, like we do, that Iran has not met its commitment in the JPA on this issue and fully explained the status of the stocks and what the future remedy will be. It should have used that position as leverage to gain additional concessions from Iran. Experts and Congress may have noted the discrepancy with concern but few would have advocated walking away from the JPA as a result of a frank discussion of this issue last winter or even now.

Another problem is that the United States should have been more careful in creating this provision in the first place. It should never have proposed or accepted an unproven technical method for converting the LEU hexafluoride. At the time, the EUPP was many months from being finished. Based on this experience and the U.S. actions to hide the problem, one has to ask whether other technical methods in the final deal will be unreliable. They certainly should be scrutinized more carefully now before a deal is sealed.