



Iran's Stock of Less than Five Percent Low Enriched Uranium

June 2015 Update

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June 2, 2015

From January 20, 2014 and into May 2015 Iran produced about 4,000 kilograms of 3.5 percent low enriched uranium (LEU) hexafluoride. Under the Joint Plan of Action (JPA), Iran has committed to convert all newly produced 3.5 percent LEU hexafluoride into oxide form. As of May 2015, it has fed a total of 2,720 kilograms of this type of LEU into the conversion process at the Enriched UO₂ Powder Plant (EUPP) and produced only about 150 kilograms of LEU dioxide. It has not fed any LEU hexafluoride into the plant since November 2014. Thus, Iran has fallen behind in its pledge to convert its newly produced LEU hexafluoride into oxide form. There are legitimate questions about whether Iran can produce all the requisite LEU oxide.

Since the start of the implementation of the Joint Plan of Action in January 2014, Iran has produced about 4,000 kg of 3.5 percent LEU hexafluoride. Under the conditions of the JPA, Iran must convert this newly produced LEU to oxide by June 30, 2015. Since Iran started making LEU, it has produced a total of 14,937 kg of 3.5 percent LEU, according to the [May 2015 IAEA safeguards report](#), where over one quarter of this total has been produced while the JPA has been in force.

As of May 23, 2015, the Enriched UO₂ Powder Plant had only produced about 151 kg of 3.5 percent LEU dioxide (uranium mass) or an equivalent of about 225 kg of LEU hexafluoride, a mere five percent of what was expected. Iran has fed a total of 2,720 kilograms of 3.5 percent LEU hexafluoride into the EUPP, but it has not fed any 3.5 percent LEU hexafluoride into the plant since November 2014. By the end of June, in order to meet its commitment under the JPA, Iran must finish converting the 2,720 kg of LEU into oxide and introduce into the EUPP, and convert into oxide, 1,106 kg of 3.5 percent LEU hexafluoride produced over the last several months (plus the few hundred kilograms of LEU to be produced in late May and June 2015). Thus, Iran has clearly fallen behind in its pledge under the JPA.

According to the latest IAEA report, Iran has just started to process newly produced 3.5 percent LEU into a final oxide form. The reason for the delay in making LEU dioxide is unknown. During the negotiations, Iranians blamed the delay on the West, stating that valves used in the last section of the plant dedicated to converting ammonium diuranate (ADU) to uranium dioxide had been sabotaged. When it was asked who would have an interest in sabotaging a LEU uranium conversion plant, the Iranians said that the valves were procured for a different, unidentified plant. But is Iran's story true? Iran clearly has had to buy many valves from abroad, and illegally in many cases. Moreover, several illegally gained goods have no doubt been sabotaged by suppliers, as is legitimate when dealing with criminals' contraband, or in this case Iranian or Iranian-recruited dual-use goods traffickers. So, sabotage is possible. On the other hand, sabotaging goods is not common and not easy to accomplish in practice. Iran may be willing to overplay the sabotage card as it seeks to explain its shortcomings under its JPA obligations.

Iran’s nuclear programs have faced many technical problems and delays. Recently, Iran has been unable to convert but a fraction of its near 20 percent LEU into fuel for the Tehran Research Reactor, creating additional problems for the negotiations. So, on balance we cannot determine if sabotage happened but we would recommend caution in accepting that story. The story may just be an excuse to cover another type of technical failing that is embarrassing to admit. The [impact](#) of these shortcomings in meeting its obligations on the long-term negotiations and implementation of a comprehensive deal have yet to play out.

Iran agreed in the Framework deal negotiated in early April to reduce its stock of 3.5 percent LEU to no more than 300 kilograms. But, will problems in the EUPP plant complicate Iran achieving this goal? Will the partially converted LEU be shipped out of Iran, blended down to natural uranium, or left in Iran to be dealt with later? These issues also show the risk posed by relying on technical solutions that have not yet been demonstrated by Iran.

Figure 1. 3.5 percent LEU hexafluoride stocks in Iran, as of May 2015, showing the increase in stocks during the period of the Joint Plan of Action.

