



## Comment on New Joint Commission Decision to Address Iran's Hold Up Material at the EUPP

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The process outlined in a new Joint Commission [decision](#) dated January 10, 2017 is in theory going to downblend the reportedly 100 kilograms (kg) of low enriched uranium (LEU) held up in Iran's Enriched UO<sub>2</sub> Powder Plant (EUPP) into natural uranium or even depleted uranium. However, the devil is in the details, and understanding the actual situation requires more information.

On the surface, the process appears to describe mixing depleted uranium and enriched uranium inside the plant, ideally resulting in a mixture that would not be enriched uranium. However, the wording implies that the mixing is not ideal and thus the downblending may be incomplete and reversible, e.g. the LEU would be recoverable if Iran built a facility to do so.

According to the decision: "Low enriched uranium (LEU) hold up in the EUPP equipment, which is deemed unrecoverable in accordance with the process described below [the mixing of depleted and enriched uranium], is not part of Iran's enriched uranium stockpile as specified in the JCPOA provided that Iran does not build or operate any facility capable of recovering LEU from such hold up for 15 years starting from Implementation Day."

The decision clearly states that Iran must not build a plant able to recover the LEU. However, this would imply that mixing process is not truly downblending, as typically defined where the resulting mixture cannot be chemically separated into an enriched and depleted portion. In this case, perhaps the output is not a uniform mixture of powders but has "chunks" or aggregations of LEU that could be identified and separated from the depleted uranium. Thus, there is a need to ban a recovery plant. If the process results in identifiable LEU, this would weaken the approach's effectiveness.

However, the decision adds: "Any enriched uranium in the resulting output material does not count against Iran's enriched uranium stockpile as specified in the JCPOA, provided that Iran downblends such material to the level of natural uranium or less within the timeframe specified below [120 days]. So, does this mean that the International Atomic Energy Agency (IAEA) (or Iran) will scrutinize the output material for LEU, then Iran will separate that material and separately downblend it? If this process of isolating and downblending any leftover LEU is

effective, why ban the construction of a recovery plant? Perhaps, the process is not as effective as desired?

In any case, striving for downblending is an improvement. Downblending of any type was not done in the case of the LEU waste, which was previously exempted. Someone may have objected to proposals that would allow chemical recovery of the LEU and insisted that the EUPP LEU in effect be downblended, even if that cannot be done perfectly.

On another issue raised by the decision is why it includes the phrase: "If, in the *future (emphasis added)*, Iran introduces enriched uranium into the EUPP equipment," the same process of mixing in depleted uranium could be used to render the LEU "unrecoverable." Why is there a discussion of future activities? Is Iran planning on restarting the EUPP to convert more LEU hexafluoride into oxide? That would certainly be concerning.