

Via Electronic Submission
Non-confidential

September 15, 2016

Ms. Cheryl Moss Herman
U.S. Department of Energy
Office of Nuclear Energy
Mailstop B-409
19901 Germantown Road
Germantown, Maryland 20874-1290

- Ref: (1) Excess Uranium Management: Effects of DOE Transfers of Excess Uranium on Domestic Uranium Mining, Conversion, and Enrichment Industries; Request for Information, Federal Register, Vol. 81, July 19, 2016;
- (2) Excess Uranium Management: Effects of DOE Transfers of Excess Uranium on Domestic Uranium Mining, Conversion, and Enrichment Industries; Request for Information, Federal Register, Vol. 81, August 5, 2016.

Dear Ms. Moss Herman:

URENCO USA, Inc. ("UUSA") appreciates the Department of Energy's ("DOE" or "the Department") outreach to the domestic nuclear fuel cycle industry in preparing for a potential new Secretarial Determination to guide appropriate management of its excess uranium inventories as outlined in DOE's Request for Information (RFI) published in the Federal Register of July 19, 2016. These comments are timely filed pursuant to the extension of the comment period noticed in the August 5, 2016 Federal Register.

UUSA, Inc. is the corporate parent of Louisiana Energy Services, LLC, the licensee and operator of the nation's only producer of low enriched uranium. The UUSA enrichment facility in southeast New Mexico, which began operating in 2010, is the first new nuclear facility to enter service in the United States in more than 30 years and reflects an investment of more than \$4.5 billion in U.S. manufacturing.

The UUSA enrichment facility is currently capable of meeting roughly one-third of annual demand for uranium enrichment services from U.S. utilities based on present capacity of 4.8 million SWU/year.¹

Uranium enrichment is a key intermediate step in the nuclear fuel cycle in which natural uranium is first mined then converted to uranium hexafluoride, then enriched to increase the concentration of the fissionable ²³⁵U isotope, and finally converted into uranium dioxide and fabricated into fuel assemblies. Along with our domestic mining and conversion colleagues, UUSA is among a small handful of companies representing the front-end of the American commercial nuclear fuel cycle. As such, we have a significant interest in the manner in which DOE manages its uranium inventories and introduces such materials into commercial markets. We commend DOE for seeking input from our companies and urge the Department to maintain a formal and public dialogue for this and future assessments of adverse material impact on the domestic fuel cycle members. As DOE moves forward with analyses intended to underpin a new Secretarial Determination, we strongly urge the Department to seek further public comment on the underlying methodology and draft conclusions before enshrining them in a formal Determination.

As advised in previous public comments, UUSA adheres to a straight-forward reading of the language in Section 3112(d) of the USEC Privatization Act which reads, "...the sale of the material will not have an adverse material impact on the domestic mining, conversion or enrichment industry." This language is clear: the test is whether there is an adverse material impact, not whether DOE transfers represent the primary or most significant impacts on these domestic companies.

In January 2015, we provided the Department with an overview of the challenging enrichment market. In the intervening eighteen months, we have seen further erosion of global demand for enrichment services. In 2015 and 2016, six reactors have either already permanently ceased operation or will do so by year-end. Announcements regarding early closures (to be effected in the post-2016 period) have been made for another sixteen reactors. Even taking into account reactors under construction and plant life extensions, demand remains modest – on the order of roughly three percent worldwide - through the end of the next decade and is essentially flat if anticipated Chinese growth is removed.²

¹ Capacity in enrichment services is typically measured in terms of separative work units, or SWU, which is a standard measure of the effort required to increase the concentration of the fissionable ²³⁵U isotope.

² By its own reports, China intends to fulfill its SWU needs in their entirety from domestic Chinese enrichment production, reducing export opportunities available to the US enricher.

Against this moribund outlook, near-term demand is exceedingly limited. In September 2016, The Ux Consulting Company estimated uncovered SWU demand in the US and internationally over the expected period of an updated Secretarial Determination as follows:

The Ux Consulting Company Uncovered Enrichment Requirements Estimate (Quantities in million SWU)³

	2017	2018	2019
US Utilities	0.25	0.35	0.72
Non-US Utilities	0.34	0.84	2.49
Total uncovered demand	0.59	1.19	3.21

In its 2015 Secretarial Determination the Department noted that, “Together, the natural uranium and LEU to be transferred each year are the equivalent of 2,100 MTU contained in uranium concentrates, 2,100 MTU as UF₆ in conversion services, and 520,000 SWU of enrichment services.” If the Department continues to introduce similar volumes of material into the market, its releases likewise will continue to compete for these limited pools of open SWU demand.

Moreover, DOE releases will be taking place in a market that is already oversupplied and one in which significant volumes of inventories are being held. URENCO’s internal estimates suggest that global SWU inventories represent nearly two-year’s worth of 2016 global SWU requirements.⁴ The combination of low demand and excess supply is placing downward pressure on prices for uranium enrichment services. When DOE issued its May 2015 Secretarial Determination, the market price for spot SWU was \$79/SWU and the long-term price was \$90/SWU. As of today, the spot price stands at \$55/SWU and the long-term price at \$63/SWU. This drop in prices has deleterious impacts on UUSA as a primary producer – and likewise reduces the value to DOE of its SWU barter.

In previous requests for comments, DOE has solicited questions about potential means of mitigating negative impacts like this fall in SWU prices. While not formally part of DOE’s July 19, 2016 questions, UUSA again proposes that DOE actively evaluate down-blending surplus highly enriched uranium stocks to the level of roughly 19.75% ²³⁵U instead of to enrichment levels below 5.0% ²³⁵U. This would allow DOE to meet non-proliferation objectives by reducing the material to a low enriched assay and would allow the contractor to continue this significant work. Further, it would provide a valuable tranche of material to support the near- to mid-term needs of companies progressing designs for advanced reactors and accident tolerant fuels as well as continuing enrichment supply for research reactors while reducing pressure on demands for DOE’s existing stocks of 19.75%-enriched uranium metal.

³ Based on The Ux Consulting Company’s Q3 2016 *Enrichment Market Outlook*.

⁴ This estimate accounts for inventories held by primary enrichers; by brokers, traders and fabricators; and by utilities themselves.

In a July 19, 2016 presentation to the Nuclear Energy Institute's Fuel Cycle Forum, Mr. Craig Welling, DOE Deputy Director for Advanced Reactor Technologies, underscored the Department's vision for the future: "By 2050, advanced reactors will provide a significant and growing component of the nuclear energy mix both domestically and globally, due to their advantages in terms of improved safety, cost, performance, sustainability, and reduced proliferation risks." In working toward this vision, Mr. Welling further noted that one of DOE's strategic objectives is to "support the development of fuel cycle pathways for advanced reactors." An active campaign to create a near-term supply of high assay LEU, serving as a bridge to development of a commercial capability, would directly serve the needs of the advanced reactor and research reactor communities – in line with the Department's own objectives – while also helping to mitigate the impacts of DOE SWU barter on the nation's only enrichment facility, a clear win for the Department and the domestic industry.

Thank you for your consideration. Please do not hesitate to contact me at by email at Melissa.mann@urencocom or by phone at 703-682-5208.

Best regards,

A handwritten signature in black ink, appearing to read "Melissa Mann", is positioned above the typed name.

Melissa Mann
President