



September 19, 2016

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

**VIA ELECTRONIC MAIL**

Subject: DOE Excess Uranium Management: Effects of DOE Transfers of Excess Uranium on Domestic Uranium Mining, Conversion, and Enrichment Industries; Request for Information – 81 Fed. Reg. 46917 (July 19, 2016)

Dear Ms. Herman,

ConverDyn appreciates the opportunity to provide our views in the attached response to the U.S. Department of Energy (DOE) Request for Information, dated July 19, 2016, on the effects of DOE's transfers of excess uranium on the domestic conversion industry. The Metropolis Works (MTW) facility, operated by Honeywell International, is the only domestic provider of uranium hexafluoride (UF<sub>6</sub>) conversion services. Those conversion services are marketed exclusively through ConverDyn. MTW has the capability to produce more than 80% of annual U.S. nuclear reactor requirements. However, the domestic conversion industry's continued existence is threatened by DOE's ongoing excess uranium sales. DOE's transfers continue to cause adverse impacts on the domestic conversion industry, including reduced sales (which lead to higher production costs) and suppressed prices, as well as detrimental changes in customer practices. Moreover, the USEC Privatization Act does not authorize DOE to transfer the conversion services component in UF<sub>6</sub> or enriched uranium.

Responses to DOE's specific questions are included in Enclosure 1, along with a recommendation for improving the transparency, objectivity, and effectiveness of DOE's excess uranium transfer program while maintaining revenue for DOE's programs. Enclosure 2 contains proprietary information that is exempt from public disclosure under 10 C.F.R. § 1004.10(b)(4). The proprietary information is confidential to ConverDyn, is of the type customarily held in confidence, is being transmitted to DOE in confidence, and is unavailable in public sources. Disclosure of the information in the report would cause substantial harm to ConverDyn's competitive position.

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Please do not hesitate to contact me should you have any questions.

Sincerely,



Malcolm Critchley

ConverDyn  
President & CEO

cc: [RFI-UraniumTransfers@hq.doe.gov](mailto:RFI-UraniumTransfers@hq.doe.gov)

Enclosures:

- Enclosure 1 – ConverDyn Response to DOE RFI
- Enclosure 2 – Cost of Production Information (Proprietary)

**CONVERDYN RESPONSE TO DOE REQUEST FOR INFORMATION*****Excess Uranium Management: Effects of DOE Transfers of Excess Uranium on Domestic Uranium Mining, Conversion, and Enrichment Industries*****81 Fed. Reg. 46917 (July 19, 2016)**

In response to the Request for Information (RFI), dated July 19, 2016, ConverDyn provides the following information and comments regarding the effects of DOE's transfers of excess uranium on the domestic uranium industries. In addition to addressing DOE's specific questions, ConverDyn is recommending a simpler, more transparent, and objective approach to structuring DOE's excess uranium transfers. Although not discussed in detail below, ConverDyn also continues to maintain, for the reasons discussed previously, that the USEC Privatization Act does not authorize DOE to transfer the conversion services component in UF<sub>6</sub> or enriched uranium.

Although DOE improved the transparency of its decisionmaking for the most recent Secretarial Determination, the program still suffers from the absence of a definition and associated criteria against which DOE measures the effects of its transfers — that is, the Department has never defined the term “material adverse impact” as used in the USEC Privatization Act.

In the past, DOE has asserted that “the *meaning* of the phrase is likely to depend in part on the factual context in which it is to be applied.” 80 Fed. Reg. at 14109 (emphasis added). While it is apparent that the eventual determination of whether certain transfers will have an adverse material impact depends on the surrounding factual circumstances at that time, there is no support for the proposition that the very definition of the phrase itself changes. Indeed, the United States District Court for the District of Columbia has criticized DOE in the past for using a relative standard:

The Department's analysis on this point may be correct, but it is the answer to the wrong question. Rather than assessing the evidence to determine whether the planned transfers would have an adverse material impact on the domestic uranium production, conversion, or enrichment industries as directed by [42 U.S.C.] Section 2297h-10(d), the Department instead reviewed the evidence to determine whether the planned transfers are the primary cause of the current depressed state of the uranium market or whether altering the amount of the transfers would alleviate negative market conditions. And whether the Department's transfers are “the driver” of market conditions is not the inquiry set forth in Section 2297h-10(d). The Department's transfers may have an adverse material impact on ConverDyn even if the transfers are not the primary cause of ConverDyn's total losses.<sup>1</sup>

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<sup>1</sup> ConverDyn v. Moniz, Civil Action No. 14-1012 (RBW), slip. op. at 21-22 (D.C. Sept. 12, 2014).

The absence of a clear definition of the term's meaning hinders the ability of both DOE and the domestic uranium industry to effectively assess whether the effects of DOE's uranium transfers on the uranium markets exceed the "material adverse impact" threshold. DOE has, in the past, considered a range of "factors", such as the quantity of material transfers, effects on price, effects on production costs, impacts on jobs, and profits/losses, but has not established any qualitative—much less quantitative—criteria that stakeholders can use to assess the impacts of DOE transfers. This creates substantial uncertainty in the market regarding the quantity and price at which DOE will transfers its uranium. This uncertainty only adds to the difficult conditions facing the domestic uranium industry from the ongoing shutdown of most of Japan's nuclear generation and the recent and planned closures of U.S. reactors.

To address this uncertainty, ConverDyn is proposing an approach to assessing adverse material impacts that maintains revenue streams for DOE programs funded by excess uranium transfers and supports market prices for the domestic uranium industry. The approach is based on objective data and would avoid the need for DOE to contract for market analyses for each Secretarial Determination. The approach outlined below would bring clarity and transparency to DOE's excess uranium transfers and therefore help reduce the adverse impacts from DOE transfers.

### **ConverDyn Proposal: Establish Discrete Pricing "Bands"**

ConverDyn proposes that the "adverse material impact" standard be directly linked to the average cost of production for primary producers in each of the three domestic uranium industry sectors: mining, conversion, and enrichment. This cost represents the full cost of production, delivery, and required investment to maintain necessary facilities. The average cost of production is an objective value and one that can be ascertained or calculated for each domestic uranium market segment. For the uranium mining industry, average costs of production are available from the Energy Information Administration. The average production cost for the domestic conversion industry is addressed in the proprietary enclosure (Enclosure 2).

DOE transfers of materials valued below the average cost of production for the domestic uranium, conversion, and enrichment industries represent an adverse impact. Industry participants cannot sell material below their cost of production without incurring a loss. DOE transfers valued below the domestic cost of production, if maintained, would force domestic producers to drop out of the market and prevent new producers from entering the market. The further the price accepted by DOE is below industry's cost of production, the greater the adverse impact. Limiting the quantities of excess uranium that DOE could transfer at prices significantly below the cost of production would create a stable pricing "floor" that would provide consistency and enhanced transparency regarding the program to primary producers and other market participants, while still allowing DOE to transfer uranium at prices below domestic production costs in certain circumstances.

DOE could establish limits on the quantities of material transferred that is a function of the value obtained relative to the domestic cost of production. The value obtained relative to the domestic cost of production would reflect the magnitude of the adverse impact from DOE transfers. Under this approach, DOE could transfer greater quantities of material valued at or above the average cost of production, with increasingly stringent limits on the quantities to be

transferred as the value obtained falls farther below the domestic cost of production. A proposed structure for transfers linked to price and impact is shown in the following table.

<b>Average Excess Uranium Transfer Values</b>	<b>Domestic Industry Impact</b>	<b>DOE Transfer Limits</b>
Above Average Cost of Domestic Production	Not Adverse	No more than 20% of annual domestic requirements
At Average Cost of Domestic Production		
Up to 3% Below Average Cost of Domestic Production	Negligible Adverse	No more than 15% of annual domestic requirements
Between 3% and 5% Below Average Cost of Domestic Production	Low Adverse	No more than 10% of annual domestic requirements
Between 5% and 10% Below Average Cost of Domestic Production	Moderate Adverse	No more than 5% of annual domestic requirements
More Than 10% Below Average Cost of Domestic Production	High Adverse	Transfers Prohibited

This approach would allow DOE to maintain (and perhaps even increase) revenue, while limiting the adverse impacts to primary producers. Use of objective data on the average cost of production would also increase the reproducibility of the analysis and eliminate the need for DOE to engage consultants to prepare market analysis, thereby streamlining the overall excess uranium transfer program.

Below, ConverDyn provides responses to the specific questions posed by DOE in the RFI.

**1. What are current and projected conditions in the uranium markets, and the domestic uranium mining, conversion and enrichment industries?**

The conversion industry has continued to experience challenging conditions since the last Secretarial Determination was issued in May 2015. In addition to the adverse impacts associated with previous DOE excess uranium transfers, demand for conversion services has remained depressed as a result of the continuing negative impact of the very slow return to service of the Japanese reactor fleet and associated legal challenges following the Fukushima accident, coupled with recent and planned plant closures in the U.S. In the last several months, U.S. operators have announced the planned or actual retirement of six reactors within the next nine years. They join five reactors that have already retired in the last four years as well as three reactors that plan to retire in the next four years. This means that nearly 12 GW of U.S. nuclear generation capacity either has been retired or will be retired in the next few years, representing approximately 12% of U.S. nuclear capacity at the beginning of 2011. Some of those retiring reactors also have excess fuel that they will no longer be using. This material is likely to return to the marketplace in the near- to mid-term.

These conditions result in a difficult economic environment for the domestic conversion industry, including oversupply.<sup>2</sup> Just last year, MTW voluntarily ceased production for approximately three months. Historically, annual maintenance shutdowns only lasted for about one month. But the continued depressed state of the conversion market, combined with the ongoing displacement of conversion sales by DOE's transfers, necessitated an extended shutdown — corresponding to a two-month decrease in annual production. This was needed, in part, to reduce expenses and minimize losses caused by DOE's uranium transfers and better align production with contracted sales.

**2. What market effects and industry consequences could DOE expect from continued transfers at annual rates comparable to the transfers described in the 2015 Secretarial Determination?**

DOE's past and ongoing transfers have resulted in significant and unmitigated adverse impacts to the domestic conversion industry.<sup>3</sup> For example, DOE transfers have displaced substantial quantities of conversion services sales that could otherwise have been made by ConverDyn and also have played a major role in depressing market price for conversion services. DOE's actions have also caused detrimental changes in customer practices, such as increased purchases on the spot market and the emergence of the "Buy and Hold" or "Carry Trade" market. The combined annual impact from lost sales and lower prices is in the tens of millions of dollars per year. These harms from DOE transfers are in addition to the impacts of other factors affecting the domestic conversion industry, such as ongoing shutdowns in Japan and retirements of U.S. reactors.

ConverDyn expects that continued DOE transfers at rates comparable to those in the 2015 Secretarial Determination would lead to adverse impacts no less than those resulting from the transfers covered by the 2015 Secretarial Determination. Indeed, the impacts likely would be even greater than in the past due to the effects of announced closures of additional reactors in the U.S. made during the past two years. Additional transfers would continue to depress prices and, more importantly, displace sales. So long as DOE's excess uranium transfers continue to introduce essentially "no cost" conversion services into the supply, DOE transfers will displace a substantial percentage of ConverDyn's sales. This results in lost sales proceeds, underutilization of MTW, and increased unit production costs.

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<sup>2</sup> This excess of conversion supply has an oversized impact on primary producers, like ConverDyn, who must account for the costs of raw materials and production in making sales, and gives a market advantage to secondary suppliers, like DOE, which has essentially no costs to recoup and therefore no lower price below which it would not make transfers.

<sup>3</sup> Because MTW is the only domestic provider of conversion services, transferring conversion services has a disproportionately larger impact on the domestic conversion industry compared to the impacts on the other segments of the domestic uranium industry.

**3. Would transfers at a lower annual rate or a higher annual rate significantly change these effects, and if so, how?**

Lowering the annual rate of the transfers would lessen the adverse impacts on the domestic conversion industry by reducing the volume of displaced sales. It also would lessen the magnitude of the effects on pricing. In the current depressed market environment, eliminating adverse impacts on the domestic conversion industry would require a substantial reduction in transfer volume or increase in the price of the conversion services transferred.

Raising the transfer rate at this time could have devastating effects on the domestic conversion industry. As noted above, the industry is facing strong headwinds on multiple fronts, including depressed demand due to the ongoing shutdown of most reactors in Japan, planned closures of a number of U.S. reactors, and the effects of DOE uranium transfers. These conditions already have forced MTW to take drastic action, such as extended work stoppages and workforce reductions, and have caused ConverDyn to challenge the DOE excess uranium transfer program in Federal court — all in an effort to maintain ongoing operations. Any increase in the transfer rate at this time would exacerbate the already-severe adverse impacts from DOE's past and ongoing uranium transfers.

**4. Are there any anticipated changes in these markets that may significantly change how DOE transfers affect the domestic uranium industries?**

Yes. At a May 19, 2016 DOE event, *Summit on Improving the Economics of America's Nuclear Power Plants*, the CEO of the Nuclear Energy Institute, Marv Fertel, noted that the announcements of premature closure of well-performing nuclear units were not isolated events, but rather evidence of a larger systemic problem.<sup>4</sup> He noted that there are another 15 to 20 plants at risk of premature shutdown over the next five to ten years. This could result in loss of demand totaling nearly 25% of domestic demand for conversion services. Closures of this many reactors would devastate the domestic conversion industry, which as noted above is already in a weakened state due to events over the past five years. Stopping or significantly reducing excess uranium transfers now would improve the resiliency of the domestic uranium industry in the face of more U.S. reactor retirements.

ConverDyn does not foresee any changes to the domestic conversion market that would significantly lessen the effects of DOE's transfers on the domestic conversion industry. While the restart of nuclear reactors in Japan could lead to some improvement in market conditions, this change is speculative at this time and may not occur (if at all) for several years, if and when inventories are reduced sufficiently. Since any Secretarial Determination is only valid for two years, changed circumstances in Japan are unlikely to have a positive impact on the global

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<sup>4</sup> At the same summit, Secretary Moniz spoke about the need to recognize the full value of nuclear power generation, such as carbon-free electricity, reliability, and diversity of fuel supply. One way for the Department to recognize the contributions of the domestic uranium industry to meeting those objectives is through substantially reduced quantities of uranium transfers.

conversion market during the timeframe covered by the Determination, particularly since Japanese operators can rely on existing fuel inventories for any near term operations.

**Conclusion**

The domestic conversion industry's existence and the related jobs are threatened by DOE's ongoing excess uranium sales, including through reduced sales, suppressed prices, higher production costs, and detrimental changes in customer practices. Increased DOE transfers at this time of extreme market weakness and uncertainty would exacerbate an already tenuous situation for the domestic conversion industry. ConverDyn therefore urges DOE to adopt the proposed framework for making its transfers in its forthcoming Secretarial Determination.