



September 19, 2016

Cheryl Moss Herman
U.S. Department of Energy
Office of Nuclear Energy
Mailstop NE-52
19901 Germantown Road
Germantown, MD 20874-1290

Re: Energy Fuels Resources (USA), Inc. response to DOE RFI; Excess Uranium Management: Effects of DOE Transfers of Excess Uranium on Domestic Uranium Mining, Conversion, and Enrichment Industries (81 Fed. Reg. 469170)

Dear Ms. Herman:

On behalf of Energy Fuels Resources (USA), Inc., (Energy Fuels), a domestic producer of uranium, we appreciate the opportunity to provide input regarding the Department's management of the federal excess uranium inventory. Energy Fuels is currently the second largest domestic uranium producer with uranium mining and in situ recovery operations and development projects in Arizona, Colorado, New Mexico, Texas, Utah and Wyoming. We remain concerned that the Secretarial Determination process is not transparent and any additional transfers, until market conditions recover, will continue to have an adverse material impact on our industry. The current Secretarial Determination process does not provide clear insight into the DOE decision-making process, which has resulted in significant market uncertainty regarding the quantity and price at which DOE will transfer the government's excess uranium.

Defining "Adverse Material Impact"

The results of the *ConverDyn* litigation require a change in the method that DOE has relied upon in making its determinations of material adverse impact. DOE's practice of balancing the benefits of its barter transfers to programs against the adverse impact of such transfers to the domestic fuel industry was found to be in violation of Section 2297h-10(d). DOE has improperly asserted that "the meaning of the phrase is likely to depend in part on the factual context in which it is to be applied." DOE's reliance on its this definition of material adverse impact was held to be arbitrary and capricious in the Court's review of the 2014 Secretarial Determination.

Energy Fuels believes the fundamental issue DOE must address is the definition of "adverse material impact." Under the USEC Privatization Act (P.L. 104-134), before making any uranium transfers, the Department must certify proposed transfers will not have "an adverse



material impact on the domestic uranium mining, conversion, or enrichment industry.” Prior to the most recent Secretarial Determination (May 2015), the DOE made this decision without any public input. We commend DOE for issuing the RFI and asking for public input, however in our opinion, the Secretarial Determination process will remain arbitrary until the DOE defines “adverse material impact.” Without a clear definition of the phrase’s meaning, neither the domestic uranium industry nor DOE have a yardstick by which we can measure the effect of barter transactions on the uranium markets.

While there are likely several ways to define “adverse material impact,” the most straightforward approach is to compare the value of the uranium being transferred to the average cost of producing uranium in the United States. Simply put, DOE should define “adverse material impact” as any proposed uranium transfer where the value of the uranium at the time of the transfer (as measured by the spot price) is below the total average cost of producing uranium in the U.S. Within the U.S., all of the domestic uranium producers are owned by private or public investors, and the disconnect between the spot price of uranium and the cost of production, makes attracting capital difficult. Our proposed approach would address that issue. As stated in previous Secretarial Determinations, DOE uranium barterers may not be the largest contributor to current market conditions, but when the price of uranium dropped following the Fukushima Daiichi nuclear incident, DOE increased barter amounts to meet arbitrary budget requirements. DOE actions have significantly contributed to the continued decline in the uranium price since 2011, and continue to be a source of supply entering what is considered to be an oversupplied market. While the domestic uranium production industry has dramatically lost market share in 2015 and into 2016, DOE continues injecting material into a saturated market. If one were to review mergers/acquisitions and equity financings, it becomes clear that the value of domestic mines and projects has consequently diminished. Based on share prices in recent months, it is clear that the domestic uranium industry is teetering on remaining viable. Meanwhile, we are losing market share to uranium production by sovereign-owned companies who are insensitive to market conditions.

According to the U.S. Energy Information Administration (EIA), the average total cost for U.S. uranium production was \$66.86 per pound in 2015.¹ The total average cost includes exploration, production, restoration, land, plant capital, wellfield capital, regulatory permitting, etc. EIA estimates average production costs alone at \$35.44 per pound. That is 144% of the current spot price of uranium reported on September 16, 2016 of less than \$25.00/lb U₃O₈.

The manner in which DOE uses barterers to place uranium into the market exasperates current market conditions and forces the domestic industry to participate in a market that favors foreign, sovereign-owned uranium producers. This places us at a competitive disadvantage. Energy Fuels recommends that DOE consider ceasing all transfers when the spot market price is below the EIA’s reported production cost (currently \$35.44 per pound) plus a modest margin (e.g. 10%)

¹ U.S. Energy Information Administration 2015 Domestic Uranium Production Report published May 2016 (\$223.5 M Total Expenditures in Table 8 / Total Uranium Concentrate Production @ 3.343 M pounds in Table 3).



and severely limit transfers when the spot price is below the total production cost (\$66.86 per pound). DOE should further consider limiting transfers to the levels that the U.S. uranium industry is producing. With the current uranium spot price below \$25.00 per pound, as of September 16, 2016, it is not unreasonable to expect DOE to halt any additional transfers in 2016 and postpone all future transfers until the market price recovers. When the spot market price recovers to levels above the total average costs and a modest margin, DOE should limit transfers to 10 percent of the total annual U.S. reactor requirements, consistent with DOE's 2008 uranium management plan.

Energy Fuels Response to RFI Questions

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

As noted above, the domestic uranium mining industry is struggling to survive. The spot price on July 15, 2016 was \$25.00/lb U₃O₈, the lowest price since 2005. Long Term prices have been impacted as well, dropping from \$70 to \$38 per pound U₃O₈. The uranium market continues to suffer with persistent oversupply from price insensitive sources and limited uncommitted demand. In response to these adverse market conditions, the U.S. industry has lost about half of its workforce since 2012 and halted production at various mine sites. As reported by the EIA, domestic uranium production has declined by 32 percent between 2014 and 2015.²

The trend of industry contraction continues. For the first half of 2016, U.S. uranium concentrate production totaled 1,372,828 pounds U₃O₈. This amount is 29% lower than the 1,944,388 pounds produced during the first half of 2015.³ The largest producer in the U.S., Cameco, recently announced plans to halt U.S. production until the market recovers.

The effects of the current market conditions and DOE transfers will be magnified as legacy contracts at higher prices continue to expire. We are on the verge of a national security crisis when it comes to ensuring we have a stable indigenous supply of uranium for U.S. reactors. The U.S. now imports about 93 percent of the uranium needed to fuel domestic nuclear reactors.

(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?

² EIA 2015 Domestic Uranium Production Report published May 2016 – Page 1 “Total production of U.S. uranium concentrate in 2015 was 3.3 million pounds U₃O₈, 32% less than in 2014”

³ U.S. Energy Information Administration - Domestic Uranium Production Report 2nd Quarter 2016, published August 2016 – Table 1. Total production of uranium concentrate in the United States, 1996 – 2nd Quarter 2016



The continued transfers at annual rates comparable to the transfers described in the 2015 Secretarial Determination can be reasonably expected to support a further weakening of the uranium market. As a result, the actions taken by the domestic uranium industry will likely reflect further contraction. This trend is confirmed in a recent article by Ux Consultants publication, UxC Weekly (September 16, 2016, Volume 30, issue 37) titled, "2016 Summer Uranium Survey: Continued Low Prices; Future Spike Unlikely," reflects the consensus of both suppliers and consumers of uranium. Without a significant change, there is no reason for one to expect the current steady price decline to cease without a change in supply or demand. The quantities provided in the 2015 Secretarial Determination are considered in this market consensus.

Energy Fuels is a member of the Uranium Producers of America (UPA), an industry trade association that represents the domestic uranium mining and conversion industry. UPA commissioned a report prepared by Tradetech, and is included in UPA's comments. Energy Fuels supports the conclusions of that report.

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

Continued transfers into the current market environment are very detrimental. Higher rates of transfers would be devastating. As discussed above, market conditions have deteriorated considerably since DOE issued its last Secretarial Determination in May 2015. A lower annual rate of transfers would certainly be an improvement.

DOE is statutorily required to ensure its transfers are not having an adverse material impact on the domestic industry. Before examining the impact of higher or lower rates of transfers, DOE must define what constitutes an adverse material impact. DOE's failure to articulate a clear metric has left the industry to conclude that DOE's decisions are driven by the level of funding needed to maintain the pace of cleanup projects as opposed to the impact the transfers are having on the domestic uranium mining, conversion, and enrichment industries.

(4) Are there any anticipated changes in these markets that may significantly change how DOE transfers affect the domestic uranium industry?

Based on current market news, one can expect continued reduced demand due to nuclear plant closures in the United States and slower than anticipated restarts in Japan, post Fukushima. Although several producers, both foreign and domestic, have announced production cutbacks, there has not been an apparent market change other than continued decline of the spot price for uranium secondary supplies, including DOE transfers, which continue to impact the market. The challenges facing the domestic uranium industry are expected to degrade with price-insensitive uranium, including DOE transfers, continuing to impact the market and limited uncommitted demand to absorb it. We expect market prices to remain under pressure until the market returns



to a production driven (instead of an inventory driven) market. As more reactors go offline and higher priced long-term pre-Fukushima legacy contracts expire, along with DOE material continuing to enter the market, conditions will continue to deteriorate for the production industry.

EIA data shows a 40% increase in inventory (34.5 M pounds in U.S. utility inventory from 86.5 M pounds U3O8 equivalent at EOY 2010 to 121 M pounds at the end of 2015).⁴ DOE material impacting the market over the same period totals 39.1 M pounds.⁵ The inventory will need to be absorbed into reactor requirement schedules before a market recovery has a reasonable chance to materialize.

The balance of DOE transfers for the 3rd and 4th quarter in 2016 are approximately 1300 MTU (3.4 M pounds) and completely overwhelm both the U.S. and the non U.S. uncommitted utility demand of only 0.3 M pounds for the remainder of 2016.⁶ In essence, DOE price insensitive material effectively consumes any available market for domestic producers. As long as the uncommitted demand in the uranium market is unable to absorb price insensitive supply, including DOE transfers, prices will continue to be severely impacted.

Knowing there is excess price insensitive material entering the market, the trading community will often sell material for future delivery periods below the existing spot price or forward price curve in order to entice a utility to purchase material they do not need in the near term. This translates into pricing pressure across the entire uranium market enabling acquisition at lower prices, often at later dates. In these cases, the excess supply is absorbed primarily by the trading community that then finances the material for forward sales. As a result, this delays the prospects for a price recovery by "stealing" future uncommitted demand that would otherwise be available in upcoming years. Reducing the quantity of price insensitive material, including DOE transfers, entering the fuel markets would be immensely constructive for the U.S. uranium and conversion markets. As opposed to current methods, working with stakeholders to help craft a more market friendly plan for disposition of DOE's excess inventory would yield better economics for the taxpayer and DOE, as well as the uranium and conversion industries.

Conclusion

Energy Fuels continues to maintain that the DOE has failed in previous Secretarial Determinations to recognize the importance of the domestic uranium industry to our nation's energy security and independence. Congress enacted Section 2297h-10(d) to ensure that the disposition of the government's excess uranium inventories would not adversely impact the domestic fuel industry. In past Determinations, DOE has valued the programs that benefit from its barter transactions more than the health of the domestic uranium producers. This action has

⁴ U.S. EIA 2015 and 2014 Uranium Marketing Annual Report – Table 23

⁵ UxC Uranium Market Outlook Q3 2016 and Q4 2013 – Table B-15

⁶ UxC Uranium Market Outlook 2016 Q3, Table B-10



been called into question by the Court, and DOE must now consider implementing an objective method by which to conduct its determinations. While it is unfortunate that the revenues from DOE's barter transactions may not be available using such a test, DOE, must recognize the market realities in which domestic companies are struggling to survive.

In closing, Energy Fuels appreciates the opportunity to respond to this RFI and we hope DOE takes these comments into consideration during the upcoming Secretarial Determination. We encourage DOE to consider the tenuous state of the domestic uranium mining industry, and reduce entry of DOE transfers into an oversupplied market. We also encourage DOE to define "adverse material impact" before proceeding with another Secretarial Determination, and work with industry to develop a more market friendly plan for disposition of DOE's excess inventory.

Sincerely,

A handwritten signature in black ink, appearing to read 'William Paul Goranson'.

William Paul Goranson, P.E.
Executive Vice President ISR Operations
Energy Fuels Resources (USA), Inc.