



EXEC-2014-002947

Department of Energy

Washington, DC 20585

May 12, 2014

MEMORANDUM FOR THE SECRETARY

THROUGH: DANIEL B. PONEMAN
DEPUTY SECRETARY

FROM: PETER B. LYONS
ASSISTANT SECRETARY FOR NUCLEAR ENERGY

SUBJECT: Approve the Secretarial Determination Covering Proposed Transfers of Excess Depleted, Natural, Off-specification and Low-Enriched Uranium over the Period 2014 through 2033

ISSUE: Whether to sign a determination that proposed Department transfers from its excess uranium inventory for the purposes of funding 1) the Office of Environmental Management (EM) accelerated cleanup services at the Portsmouth or Paducah Gaseous Diffusion Plants and 2) the National Nuclear Security Administration's (NNSA) down-blending of highly-enriched uranium to low-enriched uranium for NNSA programs will not have an adverse material impact on the domestic uranium mining, conversion, or enrichment industry.

BACKGROUND: Section 3112(d) of the USEC Privatization Act requires that covered transfers of natural or low enriched uranium meet the following criteria:

- (1) the President must determine the material is not necessary for national security needs;
- (2) the Secretary must determine that covered transfers or sales of uranium from the Department of Energy's (DOE) inventory will not have an adverse material impact on the domestic uranium mining, conversion or enrichment industry, taking into account the sales of uranium under the Russian Highly Enriched Uranium Agreement and the Suspension Agreement (Secretarial Determination); and
- (3) the Department must receive fair market value for the material.

Section 306(a) of the Consolidated Appropriations Act, 2014 (Public Law No. 113-76) limits the validity of a Secretarial Determination, including prior determinations, to no more than two calendar years subsequent to such determination.

The EM and NNSA programs have been making their transfers pursuant to a Secretarial Determination dated May 15, 2012 (the 2012 Determination). Accordingly, because of the limitation imposed by section 306(a), a new Secretarial Determination must be



issued on or before May 15, 2014 to allow NNSA and EM to continue their respective transfers. The 2012 Determination covered up to 2,800 MTU per year of natural uranium (NU) or NU equivalent for transfers in calendar years (CY) 2012-2014. The proposed Secretarial Determination would cover the transfer or sale of up to 2,705 MTU per year of natural uranium or natural-uranium equivalent for transfers in CY 2014-2016 to support ongoing programs for accelerated cleanup services and the down-blending of excess highly enriched uranium. These proposed transactions are discussed in detail under attachment B.

DISCUSSION: Basis for Office of Nuclear Energy Recommendation

To ensure that this requested Secretarial Determination is fully informed, the Office of Nuclear Energy (NE) tasked Energy Resources International, Inc. (ERI), an experienced and well-regarded nuclear fuel consulting firm, to assess the potential impact on the domestic uranium mining, conversion and enrichment industries from DOE's transfers or sales of uranium being proposed or considered in 2014-2033, while also accounting for historical DOE transfers, some of which will continue to displace commercial supply into the future until it is used in a reactor. The ERI analysis provides information to NE to inform its estimate of the potential impact of DOE actions on the markets, to understand the positions of the affected industries, and to serve as a basis for NE's formulation of its recommendation for the Secretary. NE has analyzed the ERI analysis, reviewed other information, including information received by DOE from industry representatives in various forums and information regarding the uranium markets from other sources, and arrived at this recommendation based upon that review. An explanation of the NE review, including an assessment of the ERI analysis, and a more thorough accounting of the factors considered by NE in formulating this recommendation, is contained in Attachment C.

ERI Analysis Findings

ERI's analysis of the existing market conditions found that, as the Department was already aware, the uranium, conversion and enrichment industries are all challenged by market oversupply, with the uranium mining industry being the most imbalanced with respect to supply and demand. This oversupply has led to depressed prices in the three markets, which in turn have affected both employment and production levels. The ERI analysis pointed to a number of factors leading to this oversupply, including decreased demand due to reactor shutdowns in Japan and Germany following the earthquake and tsunami at Fukushima in March 2011 and increased secondary supply on the markets. ERI considered a number of other factors in its analysis, including employment, production levels, market capitalization, realized prices, production costs, sales volumes, and DOE inventory and plans relative to other market factors.

The planned annual DOE transfers in 2014 to 2016 of 2,705 MTU are roughly equivalent to 7.1 million pounds of U_3O_8 . For comparison, this amount is 4.5% of projected global production in 2014 and 15% of the projected U.S. reactor demand. The ERI analysis found that the introduction of DOE material in the markets is estimated to decrease

market prices by approximately \$3 per pound of U_3O_8 for uranium (9% of the current spot market price and 6% of the term market price), \$1 per kilogram of UF_6 for conversion (12.5 % of the current spot market price and 6.25% of the term market price), and \$4 per separative work unit, or SWU (4 % of both the current spot and term market prices). The ERI analysis estimated that a decrease in the quantity of DOE transfers would do little to improve the market condition or reduce other impacts on the industry. ERI's analysis supports a conclusion that although DOE's actions will necessarily have some impact on the market, and that this impact is greater now than it was in 2012, DOE's actions are not the driver of the current negative states on the domestic uranium production, conversion, or enrichment industries. NE agrees with this assessment and believes that the markets will adjust to the major drivers of the depressed markets over time and that the DOE transfers will not harm this adjustment.

The ERI report contains input from the affected industries, and the information mirrors that presented to DOE during meetings with industry. All industry participants note the importance of DOE predictability in supporting more stable markets and a strong domestic industry. In fact, most identify predictability as the single most important factor. Given this, the offices engaged in uranium transactions strongly believe that it is necessary to continue to adhere to the 2013 Excess Uranium Management Plan (the 2013 Plan), which is consistent with the 2012 Determination. The ERI analysis notes that the proposed transfers for CY 2014-2016 are consistent with both the 2013 Plan and the 2012 Determination with respect to the total quantity of ongoing NU equivalent the Department is transferring.

It should be noted that although the proposed transfers differ from the 2012 Determination with respect to the quantities the two individual programs plan to transfer, the overall NU equivalent volume proposed to be transferred by the Department is actually lower than that contained in the 2012 Determination. The change in the programs' proposed quantities arises from the requirement in the NNSA down-blending contract that NNSA transfer LEU equivalent to the invoiced monetary value for services, which results in higher quantities needing to be delivered to meet the same monetary values in a depressed market. Thus the proposed NNSA transfers have increased from 400 MTU NU equivalent per year to 650 MTU NU equivalent per year. The proposed EM transfers have accordingly been decreased to maintain a consistent annual level of transfers for the Department as a whole. The EM proposed transfers are thus now 2055 MTU of natural uranium per year, with up to 600 MTU per quarter, down from the 2012 Determination's 2,400 MTU per year for accelerated cleanup services. If the NNSA transfers are less than 650 MTU, then EM will transfer the remainder quantity for cleanup, keeping the combined total to 2,705 MTU annually.

Compliance with Remaining Provisions of Section 3112(d)

The Department has historically treated material not included in the Nuclear Weapons Stockpile Plan, a memorandum signed by the President that identifies uranium necessary for defense needs, as having been determined by the President as not being

necessary for national security needs. None of the material included in the proposed transactions was included in the Nuclear Weapons Stockpile Plan currently in effect.

✓ The programs have mechanisms in place to determine the value they receive for their transferred uranium, and both ensure that the Department receives a fair market value in services in exchange for the material transferred. These actions satisfy the remaining requirements of Section 3112(d).

NE Conclusion and Recommendation

✓ NE believes that factors indicated above, and the ERI analysis, support a conclusion that the Department's proposed transfers will not have an adverse material impact on the domestic uranium mining, conversion, or enrichment industry. NE acknowledges that the markets are depressed, and thus recommends that they be monitored during the two-year lifespan of this Determination.

SENSITIVITIES:

Stakeholder Criticism of Transfers

Many stakeholders, including the Uranium Producers of America (UPA), ConverDyn, and other companies, as well as these stakeholders' respective Congressional delegations, are expected to be concerned about the impact of the planned transfers on the domestic uranium industries. The Department, at multiple levels, has met with members of the uranium, conversion and enrichment industries. In addition to less formal interaction at industry events and conferences, formal meetings in the last year have involved the UPA, ConverDyn, Fluor, USEC Inc., and URENCO USA. The nuclear fuel industries are concerned with the current state of the markets. However, uranium production and conversion industry representatives generally provide anecdotal evidence that inaccurately represents the impact of the DOE transfers on these industries.

✓ It is likely that some of the stakeholders discussed above will disagree with the ERI market impact analysis and the DOE conclusions supporting the transfers. It is worth noting, however, that these stakeholders have noted that their own projections and analysis have been no more accurate than that conducted by ERI in the past. This is an unavoidable fact of forward-looking projections. The improved transparency and thoroughness of the current ERI analysis may allay some of these criticisms.


Past ERI analysis reports have included a statement of whether the planned transactions constitute an adverse material impact on the domestic industries. This practice has contributed a perception that the Department "rubber stamps" ERI's report, adopting their conclusion as our own. NE clarified to ERI prior to initiating their analysis that the Department was not seeking such a determination from ERI, only quantification of potential impacts, as the Determination is the Secretary's alone. NE has documented its

review of ERI's analysis and a number of other factors considered (Attachment C) to support this Determination package and demonstrate independent analysis.

Government Accountability Office Scrutiny

The Government Accountability Office (GAO) recently completed an audit of certain DOE uranium transactions, and its draft report contained criticisms of the thoroughness of prior ERI analyses and the robustness of DOE's own internal review of the impact of its transactions. DOE has worked with ERI for this analysis to be more transparent and clear regarding ERI's assumptions and analytical process. In addition, ERI clearly engaged with the affected industries and took their views into account in its analysis. Finally, DOE has worked to more thoroughly document its internal review process to demonstrate the robustness of this review and the foundation for its recommendation for the Determination. GAO is frequently tasked with review of DOE uranium transactions and frequently critical of the manner in which they are conducted.

Prior NNSA Transfers

 The NNSA down-blending program inadvertently exceeded in 2013 the 400 MTU per year transfers covered by the 2012 Determination in CY 2013. The NNSA transfers totaled 452 MTU in CY 2013. NNSA notes that the first transfer of the year of 52 MTU, covering a December 2012 invoice, could have been paid in 2012, when NNSA's transfers for the year were 189 MTU NU equivalent for that calendar year, well below the 400 MTU allowed. This is not highlighted in the ERI report, but it will not be viewed favorably by the stakeholders or Congressional critics of these transactions. DOE has taken steps to ensure this will not occur in the future, including training for the program staff involved with the transfers and improved tracking and reporting including setting up a process whereby transfers are reported to NE for tracking the actual amounts against the amounts covered in Secretarial Determinations. In addition, NNSA is now required to send notifications to Congress of its upcoming transfers (EM has been required to send these letters for two years), which will increase the transparency of the program and the accountability of the Department to maintain its transfers within the bounds approved by the applicable Secretarial Determination.

Decreased Annual Levels of Uranium Transfers

The 2012 Determination covered up to 2,800 MTU per year of natural uranium NU and/or NU equivalent for transfers in CY 2012-2014. The Department has reduced its planned transfers slightly and proposes to transfer or sell up to 2,705 MTU per year of NU and/or NU equivalent for transfers in CY 2014-2016. The planned annual levels of uranium transfers are consistent with amounts analyzed in ERI's 2012 report and the current 2014 report.

Impact on Portsmouth/Paducah Project Office (PPPO) Funding

Uranium transfers currently constitute 46% of Portsmouth's total site budget. The price of uranium has fallen more than 25% since fiscal year 2012, resulting in decreased cleanup activities and impacts to opportunities to accelerate work. There may be an

additional reduction in MTU transferred due to increased NNSA requirements (worst case reduction from 2,400 MTU/year to 2,055 MTU/year for EM). A workforce reduction in fiscal year 2015 at Portsmouth will largely be driven by the reduction in uranium prices, along with skills mix adjustments. Increasing the Department's Budget request for Portsmouth and Paducah cleanup activities in future years would reduce this impact and demonstrate to industry that the Department is pursuing all avenues, not just relying on barter.

RECOMMENDATION: Approve the Secretarial Determination authorizing the transfers of the EM GDP Cleanup Program, and the NNSA Down-blending Contracts.

APPROVE:  DISAPPROVE: _____ DATE: 5/14/14

CONCURRENCES:	NNSA/NA-1	05/02/14
	Environmental Management/EM-1	05/05/14
	General Counsel/GC-1	05/07/14
	Chief Financial Officer/CF-1	05/02/14
	Congressional Affairs/CI-1	05/12/14
	Public Affairs/PA-1	05/02/14

ATTACHMENTS