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January 20, 2012

The Honorable Steve Chu
Secretary, Department of Energy
1000 Independence Ave. S.W.
Washington, DC 20585

Dear Secretary Chu:

I write to convey my concerns and request information related to the Department of Energy's (DOE's) continued support of the United States Enrichment Corporation (USEC). I believe that this support is unlikely to result in the successful commercialization of USEC's domestic uranium enrichment technology, and is additionally unjustifiable using assertions of this project's importance to national security.

As you know, when Congress privatized USEC in the 1990s, the expectation was that "It will mean the elimination of the U.S. Government from the uranium enrichment business."¹ History has shown that the opposite has in fact occurred, with USEC apparently unable to avoid bankruptcy in the absence of continued government bailouts. Most recently, DOE took the extraordinary step of assuming a portion of USEC's liability in order to free up \$44 million for USEC to use to keep itself afloat. According to the January 13, 2012 letter you sent Congress, additional funds (and statutory authority that Congress has yet to grant) will be needed in order to avoid the demobilization of the project. It is my view that these funds should not be provided:

USEC's technology is highly problematic

The American Centrifuge Project (ACP), which you characterized in your January 13 letter as "an innovative technology approach to uranium enrichment" has suffered from serious problems. The Department requested that USEC withdraw its first \$2 billion loan guarantee application for this project in 2009² based on concerns about USEC's centrifuge technology. Yet the problems associated with the project were not resolved when USEC reapplied for the loan guarantee in 2010³. In fact, a July 2011 draft report⁴ that was prepared for the DOE in support of the USEC loan guarantee application noted that the June 11 crash of 6 of the 38 centrifuges that were in operation at ACP at the time were unlike earlier centrifuge crashes because they

¹ Statement by William Timbers, then-President of USEC, at a February 24, 1995 House Subcommittee on Energy and Power hearing entitled "Privatization of the United States Enrichment Corporation."

² <http://www.usec.com/NewsRoom/NewsReleases/USECInc/2009/2009-07-28-Department-Of-Energy-Denies.htm>
<http://www.usec.com/NewsRoom/NewsReleases/USECInc/2009/2009-07-29-USEC-To-Pursue-Discussions.htm>

³ <http://www.usec.com/NewsRoom/NewsReleases/USECInc/2011/2011-02-22-USEC-And-DOE-Making.htm>

⁴ Report Entitled "Independent Engineer's Interim June 11 2011 Incident Evaluation Report"

involved multiple problems ranging from electrical failure, backup diesel generator startup problems, and human error to an unexpected mode of centrifuge failure. The report noted that one centrifuge breached, something that had not been seen since 1977. It also concluded that these crashes had “significantly more implications for the future commercial plant.” As a result of this accident, the Nuclear Regulatory Commission (NRC) required USEC to commit to not using uranium hexafluoride into its system until NRC completed its remaining inspection activities⁵.

USEC’s financial condition is precarious

USEC has been rated a CCC+ bond rating, which is described⁶ as being “of poor standing. Such issues may be in default or there may be present elements of danger with respect to principal or interest.” Moreover, a January 13, 2012 filing to the Securities and Exchange Commission indicates that USEC “expects to expense approximately \$127 million of previously capitalized work in progress costs related to a number of earlier AC100 centrifuge machines used in the lead cascade test program.” Financial markets have steadily driven down the value of USEC to the point where its market capitalization is now below \$180 million. Achieving commercialization of USEC’s enrichment technology through the \$4.5 billion ACP project would overwhelm the company’s balance sheet, regardless of whether the company one day receives a \$2 billion DOE loan guarantee. Private markets would never provide a company with such a small capitalization and poor credit rating the financial backing to complete a project worth 25 times the value of the entire company.

USEC’s technology is not needed for national security purposes

In your January 13, 2012 letter to Congress, you noted that ACP’s success would “strengthen and protect America’s national security interests.” According to conversations your staff has had with my staff, the purported national security interests involved relate primarily to the ability to produce tritium for use in nuclear weapons and the requirement for the nuclear fuel used to do so to be made using domestic enrichment technology. This argument appears to be spurious when one considers 1) the ACP centrifuge design reportedly⁷ utilizes foreign parts, which would have to be replaced with domestic components at a higher cost if ACP-produced nuclear fuel were to be used for tritium production in order to not run afoul of nonproliferation agreements, 2) the U.S. has enough tritium to last several decades, 3) the U.S. has sufficient stores of highly enriched uranium that could be blended down to produce fuel that could be used to make tritium⁸, and 3) USEC’s existing facility at Paducah, KY could be quickly utilized to enrich enough fuel that could then be used to satisfy U.S. tritium needs for decades (in fact, on January 20, DOE announced⁹ its intent to award a sole source contract to USEC to do just that).

⁵ November 15, 2011 letter from NRC to USEC entitled “Acknowledgement of Commitment Related to the Reintroduction of Uranium Hexafluoride into the Lead Cascade.”

⁶ <http://www.bondpickers.com/?cmd=ratings>

⁷ Document entitled “The Department of Energy’s National Security and Nonproliferation Requirements for Uranium Enrichment Services”

⁸ For example, by Nuclear Fuel Services.

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Moreover, USEC's recent announcement¹⁰ to partner with the Russian company TENEX both for purposes of procuring low enriched uranium from Russia and "to conduct a feasibility study to explore the possible deployment of an enrichment plant in the United States employing Russian centrifuge technology" raises serious nonproliferation and national security concerns in and of itself. If Russian centrifuge technology were utilized by USEC in the U.S., it would no longer be legally possible to rely on USEC for tritium production purposes. But more importantly, TENEX is owned by Atomenergoprom, a 100%-state owned holding company that also owns Atomstroyexport, which is the company that is building and supplying the nuclear fuel for Iran's Bushehr reactor. Rather than enhancing national security, it seems to me that DOE's continued support of USEC could result in its indirect support of Iran's nuclear weapons program.

In light of these serious technological, financial and national security concerns related to USEC, I request that you provide me with responses to the following questions and requests for information no later than Friday February 17, 2012:

- 1) Please provide me with copies of all documents (including reports, emails, correspondence, memos, phone or meeting minutes or other materials) related to the analysis of the DOE's national security and nonproliferation needs for uranium enrichment services, including but not limited to 1) materials prepared during the consideration of USEC's loan guarantee applications or other mechanisms for financial support considered for provision or provided to USEC by DOE, 2) materials related to the existence of alternatives to ACP for the production of both short-term and long-term supply of tritium, 3) materials related to any non-proliferation or national security benefits associated with the continued existence of USEC and/or ACP that do not relate to tritium.
- 2) Does the Department agree that if USEC and Tenex pursue the construction of a domestic uranium enrichment facility using Russian technology that this facility could not be used to produce nuclear fuel that could then be used to make tritium? Has the Department conducted a non-proliferation analysis of its continued support of USEC's activities in light of the fact that it could result in the indirect support of USEC's partner Tenex, a company with ties to Iran's nuclear weapons program? If so, please provide copies of any such analysis. If not, why not?
- 3) Please provide me with copies of all documents (including reports, emails, correspondence, memos, phone or meeting minutes or other materials) produced or obtained by DOE since January 1, 2011 that relate to the consideration or award of all proposals to a) conditionally approve USEC's loan guarantee application, b) provide USEC's Paducah site with uranium tails that Paducah could subsequently enrich, c) reprogram funding from other unobligated DOE programs in order to fund USEC's research and development activities, d) assume liability for USEC's uranium tails.

¹⁰ <http://www.usec.com/NewsRoom/NewsReleases/USECInc/2011/2011-12-21-USECs-Supply-Agreement-With.htm>

- 4) Does DOE have a contractual right to terminate each of the Portsmouth and Paducah leases? Please provide copies of any documentation necessary to justify your response.
- 5) In your January 12 letter to Congress, you noted that DOE's assumption of \$44 million in USEC's liability occurred "while taking precautions to protect taxpayers." Exactly what precautions were you referring to? Please provide all necessary documentation to support your response.
- 6) On January 20, DOE announced¹¹ its intent to award a sole source contract "to enrich natural uranium to low-enriched uranium (LEU) to be used for DOE's tritium program." The announcement also stated that "DOE will acquire SWU [low enriched uranium] in exchange for DOE's accepting title to, and eventual disposal responsibility for, a quantity of depleted uranium tails (DUF6)." This announcement would appear to relate to DOE's assumption of \$44 million in USEC's liability that you announced on January 12. Your January 12 letter to Congress described this \$44 million as a "down payment" on USEC's ACP project research effort. Will USEC be required to utilize the entire \$44 million on this research and assume all costs of the activities contemplated in the January 20 contract announcement itself? If not, how much of the \$44 million that your letter asserted was intended for research on ACP will be diverted to this new contract activity? Please provide all necessary documentation to support your response.
- 7) How many years' worth of nuclear fuel needed to produce tritium will the January 20 contract enable? Will DOE provide additional sole source contracts for this activity in order to provide USEC with the full \$150 million it has requested for ACP research activities in the absence of additional Congressional authorization that provides an alternative funding mechanism?
- 8) Some legislative proposals pending in Congress call for DOE to enter into a contract with a uranium enrichment company (presumably USEC) to re-enrich uranium tails that DOE would transfer to it. The USEC Privatization Act¹² states that prior to the sale of natural or low enriched uranium, DOE must determine that the sale of the material will not have an adverse material impact on the domestic uranium mining, conversion, or enrichment industry". The DOE's March 11, 2008 Policy Statement¹³ on "Excess Uranium Inventory Management Plan" appears to be the implementing guidance for this requirement, stating that "the Department believes, as a general matter, the introduction into the domestic market of uranium from Departmental inventories in amounts that do not exceed ten percent of the total annual fuel requirements of all licensed nuclear power plants should not have an adverse material impact on the domestic uranium industry." For each of the past five years, please list the total introduction of uranium from Departmental inventories in terms of percent of the total annual fuel requirements of all licensed nuclear power plants. Would it be possible to enter into the sort of contract envisioned

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https://www.fbo.gov/index?s=opportunity&mode=form&id=ce526c3afafae620cd73511a957df634&tab=core&_cvie w=0

¹² <http://www.nps.gov/legal/laws/104th/104-134.pdf>

¹³ See Appendix A of http://www.ne.doe.gov/pdfFiles/inventory_plan_unclassified.pdf

by the uranium tails legislative proposals and remain in compliance with DOE's March 11, 2008 Policy Statement on its uranium inventory management plan without halting or altering other DOE uranium transfer activities? Please fully explain and document your response.

- 9) Please provide copies of any proposals submitted to DOE since January 1, 2006 that proposed alternative uses or missions for USEC's ACP facilities.

Thank you for your consideration of this request. Please have your staff contact Dr. Michal Freedhoff of my staff at 202-225-2836 if you have any questions or concerns.

Sincerely,



Edward J. Markey