STATEMENT OF

DENNIS R. SPURGEON

ASSISTANT SECRETARY FOR NUCLEAR ENERGY

BEFORE THE

SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

COMMITTEE ON ENERGY AND COMMERCE

U.S. HOUSE OF REPRESENTATIVES

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Chairman Stupak, Congressman Shimkus, and Members of the Subcommittee, I would like to thank you for the opportunity to discuss the Department of Energy's inventory of depleted uranium (DU) and its potential sale.

DOE is custodian of the federal government's inventory of uranium considered excess to national security needs, which is equivalent to about 60,000 metric tons of uranium (MTU) of natural uranium (NU) contained in a variety of forms, most of which are not readily usable. This inventory is expensive to manage and to secure. In light of the significant increases in market prices for uranium in recent years, the uranium in this inventory is a valuable commodity both in terms of monetary value and the role it could play in achieving vital Departmental missions and maintaining a healthy domestic infrastructure.

A portion of this inventory is about 75,000 MTU[1] of DU, which is equivalent to about 26,000 MTU of NU[2]. I would like to devote my time today to discussing the origin of this resource and

[1] UF_6 having an assay equal to or greater than 0.35% but less than 0.711% ^{235}U.
[2] NU equivalent based on 0.20% ^{235}U tails assay

outlining the precepts the Department uses to determine how best to manage our excess inventory.

Large-scale uranium enrichment in the United States began as part of atomic bomb development during World War II. Uranium enrichment activities were subsequently continued under the U.S. Atomic Energy Commission and its successor agencies including DOE. At that time uranium enrichment was carried out at three locations: the K–25 Plant (now called the East Tennessee Technology Park or ETTP) at Oak Ridge, Tennessee, the Paducah Site in Kentucky and the Portsmouth Site in Ohio.

Depleted Uranium Hexafluoride (DUF_6) results from the process of making uranium suitable for use as fuel for nuclear power plants or for defense applications. The use of uranium in these applications requires increasing the proportion of the ^{235}U isotope found in natural uranium through an isotopic separation process called uranium enrichment. Gaseous diffusion is the enrichment process currently used in the United States. The DUF_6 currently produced as a result of enrichment typically contains from 0.20 percent to 0.30 percent ^{235}U and is stored as solid in large metal cylinders located at the gaseous diffusion facility. Overall, DOE maintains approximately 700,000 metric tons of DUF_6 in about 58,000 cylinders stored at the Paducah and Portsmouth sites.

As the price of uranium has fluctuated through the years, enrichment plant operators have varied the amount of the useful isotope ^{235}U (the assay) remaining in the waste (called operating tails) to

meet customer requirements and operating parameters. As a result, DOE's inventory of depleted uranium contains varying assays of ^{235}U.

Until recently, the entire inventory of DU was considered a financial liability to the Department that required its safe storage and security until it is converted to a uranium oxide and disposed. However, the recent increases in the price of natural uranium relative to its enrichment costs have changed the economic options for DOE. As the uranium spot market price increased above $75 per kgU as UF_6[3], the .35% ^{235}U assay DU became economically attractive to the commercial nuclear industry for purchase and enrichment.

Information published by Ux Weekly, show the spot market price for NU was $73 per pound U_3O_8 or $179.74 per kgU as of March 24, 2008. Five years ago, natural uranium was quoted at $10.10 per pound. While the spot market for commodities are volatile, and these prices are somewhat below the highest levels recorded a few months ago, this increase in the value of uranium presents new options for DOE in managing its excess uranium inventory.

The Department has broad authority under the Atomic Energy Act of 1954 (AEA) to loan, sell, transfer or otherwise utilize its inventories of depleted, natural and enriched uranium. In exercising this authority, the Department must act consistently with other relevant statutory provisions, such as § 3112 of the USEC Privatization Act which imposes limitations on certain specified transactions.

[3] The spot market price of uranium reached $74.75 per kgU as UF6 in April 2005, ref. Uranium Exchange (Ux) Price Indicator

DOE intends to maintain sufficient uranium inventories at all times to meet the current and reasonably foreseeable needs of its missions. The National Nuclear Security Administration, the Office of Environmental Management, and my Office of Nuclear Energy are working together to ensure these needs are identified, the needed amounts and forms of uranium quantified, and the Department's uranium inventory appropriately maintained. The Department will only sell or transfer, after proper procedures are followed, uranium that is excess to those needs.

Transactions involving non-U.S. Government entities will only be undertaken in a transparent and competitive manner, unless the Secretary of Energy determines in writing that overriding Departmental mission needs dictate otherwise. All transactions involving excess uranium transfers or sales to non-U.S. Government entities must result in the Department's receipt of reasonable value for any uranium sold or transferred to such entities.

As a general matter, DOE has determined that the introduction into the domestic market of uranium from DOE inventories in amounts that do not exceed ten percent of the total annual domestic fuel requirements should not have an adverse material impact on the domestic uranium industry. Consistent with applicable law, DOE will conduct analyses of the impacts of particular sales or transfers on the market and the domestic uranium industry, prior to entering into particular sales or transfers.

Additionally, DOE will consider using its uranium inventory to address prolonged severe disruptions in the supply of uranium that cannot be addressed practically through the

marketplace and that threaten to cause the shutdown of commercial nuclear reactors in the United States.

As the market price of NU increases, the value of the relatively high assay DU (having greater than 0.35% ^{235}U) makes it attractive for re-enrichment. The material between 0.30% ^{235}U and 0.35% ^{235}U may also become economically attractive for re-enrichment. This material provides an additional 100,500 MT DU which is equivalent to about 25,075 MTU of NU[4]. The exact amounts and the economic attractiveness of the DUF_6 depend on many variables, including assumed re-enrichment tails assay, the cost of re-enrichment, the quantity of the material, and the market price of NU.

Making this DU useable as LEU would require considerable processing, depending on the uranium's form, assay level, and degree of contamination. In light of the significant increases in market prices for uranium over the past three years, however, some of the depleted uranium in DOE's inventory, especially that with higher assay levels, has become a potentially valuable commodity. The Department has initiated the process of identifying categories of depleted uranium that have the greatest potential market value and/or use to the Department, on the basis of assay level, degree of contamination and other relevant factors and then conducting appropriate cost-benefit analyses to determine what circumstances would justify enriching and/or selling potentially valuable depleted uranium rather than pursuing current plans to store, process and ultimately dispose of it. If a change in current plans is warranted, DOE will seek to obtain the best economic value for the taxpayers, in light of the Administration's identified objectives and needs.

[4] Assumes an average DU assay of 0.325% ^{235}U based on a tails assay of 0.20% ^{235}U.

DOE is currently taking actions with respect to the excess uranium inventory. The National Nuclear Security Administration is continuing its efforts to downblend HEU surplus to national security needs to meet its nonproliferation objectives. Additionally, DOE is conducting the necessary National Environmental Policy Act (NEPA) analysis on the re-enriching of DU in the Department's inventory. As DOE completes necessary analysis with respect to specific types of DU, NU, and LEU, we expect to undertake specific transactions on the basis of these determinations.

This concludes my prepared statement and I would be pleased to answer any questions the Committee may have.

The Secretary of Energy
Washington, DC 20585

Secretary of Energy's Policy Statement on Management of the Department of Energy's Excess Uranium Inventory

INTRODUCTION

The Department of Energy has a significant inventory of uranium that is excess to United States defense needs. This inventory is expensive to manage and to secure, and consists of uranium in various forms, most of which are not readily usable. However, in light of the significant increases in market prices for uranium in recent years, the uranium in this inventory is a valuable commodity both in terms of monetary value and the role it could play in achieving vital Departmental missions and maintaining a healthy domestic nuclear infrastructure. This Policy sets forth the general framework within which the Department prudently will manage its excess uranium inventory.

MANAGEMENT PRINCIPLES

Legal. The Department has broad authority under the Atomic Energy Act of 1954 (AEA) to loan, sell, transfer or otherwise utilize its inventories of depleted, natural and enriched uranium. In exercising this authority, the Department must act consistently with other relevant statutory provisions, such as section 3112 of the USEC Privatization Act which imposes limitations on certain specified transactions.

In the absence of otherwise applicable statutory authority, the Department may not retain any money it receives from the sale of uranium and use that money for Departmental programs. Instead, money received normally will be deposited into the miscellaneous receipts account in the United States Treasury. However, the Department does have authority under the AEA to engage in barter transactions, where it transfers uranium and receives services or another form of uranium as compensation. Under this statutory authority, the Department has structured several arrangements so that some uranium can be used to offset the costs of certain services that have been provided to the Department such as downblending, enrichment, decontamination or storage. The Department will consider using this approach in the future where it determines such an approach is reasonable, furthers the interests of the Department and results in the receipt of reasonable value for the material exchanged for services.

Before making any final decision on a particular action, the Department must comply with applicable requirements of the National Environmental Policy Act of 1969 (NEPA). This may include the preparation of an environmental assessment, an environmental impact statement, or other analyses, as appropriate.

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Department of Energy Needs. The Department should maintain sufficient uranium inventories at all times to meet the current and reasonably foreseeable needs of Departmental missions. The National Nuclear Security Administration, the Office of Nuclear Energy, the Office of Environmental Management and other relevant Departmental offices will work together to ensure these needs are identified, the needed amounts and forms of uranium quantified, and the Department's uranium inventory appropriately maintained. The Department will only sell or transfer uranium that is excess to those needs.

Transparency and Competitive Procedures. Transactions involving non-U.S. Government entities will be undertaken in a transparent and competitive manner, unless the Secretary of Energy determines in writing that overriding Departmental mission needs dictate otherwise. All transactions involving excess uranium transfers or sales to non-U.S. Government entities must result in the Department's receipt of reasonable value for any uranium sold or transferred to such entities. Reasonable value takes into account market value, as well as other factors such as the relationship of a particular transaction to overall Departmental objectives and the extent to which costs to the Department have been or will be incurred or avoided.

Energy Security. To the extent practicable, the Department will manage its uranium inventories in a manner that is consistent with and supportive of the maintenance of a strong domestic nuclear industry. Consistent with this principle, the Department believes that, 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. The Department anticipates that it may introduce into the domestic market, in any given year, less than that amount, or, in some years for certain special purposes such as the provision of initial core loads for new reactors, more than that amount. Consistent with applicable law, the Department will conduct analyses of the impacts of particular sales or transfers on the market and the domestic uranium industry, prior to entering into particular sales or transfers.

The Department also has determined that, in some cases, it may be feasible to manage its uranium inventories by entering into arrangements with existing and potential operators of nuclear fuel cycle facilities in a manner that supports the maintenance and expansion of domestic nuclear fuel cycle infrastructure. The Department believes that it is in the energy security interests of the United States to maintain and expand this infrastructure. Any such arrangement, however, must contain reasonable terms and conditions, be competitive to the extent practicable, and be otherwise consistent with this Policy. Further, and if the Department determines appropriate on a case by case basis, the Department would consider using its uranium inventory to address prolonged severe

disruptions in the supply of uranium that cannot be addressed practically through the marketplace and that threaten to cause the shutdown of commercial nuclear reactors in the United States.

CONVERSION OF URANIUM INVENTORY INTO LEU

The Department uranium inventory contains uranium in various forms. These forms include highly enriched uranium (HEU), low enriched uranium (LEU), natural uranium and depleted uranium. For many purposes, uranium is not readily usable unless it has been converted into LEU. In addition, the conversion of HEU, natural uranium and depleted uranium into LEU would, in many cases, reduce inventory levels, minimize inventory management, surveillance and maintenance costs, provide the Department with increased flexibility for meeting potential future programmatic needs, enhance the value of the converted uranium, and, if sales occur and the Department was able to retain the proceeds from those sales, result in the need for fewer appropriated dollars to meet the Department's mission needs. Furthermore, the conversion of HEU into LEU promotes nuclear non-proliferation objectives by reducing the amount of HEU available.

Accordingly, the Department is considering conversion into LEU of a portion of its uranium inventory, and retaining that LEU in the Department's uranium inventory. The Department will base any decisions to engage in such transactions on cost-benefit analyses and other relevant factors.

For non-proliferation reasons, the Department already has an active program for downblending much of its excess HEU into LEU, and has issued a Record of Decision under NEPA concerning that activity and the use of the LEU in commercial reactors. Over the coming years, the Department expects to downblend most of its excess HEU into LEU. The Department will continue the downblending of HEU to promote non-proliferation objectives and to assure a supply of LEU to meet various Departmental programmatic needs.

The Department's current excess uranium inventory also contains a considerable amount of natural uranium, primarily in the form of uranium hexafluoride. Much of this uranium meets commercial-grade specifications but cannot be sold until after March 2009 because of a prior agreement between the United States and Russia. While this natural uranium already has value in its current form, conversion into LEU would minimize management costs to the Department while enhancing the usability and value of the uranium. Accordingly, the Department is evaluating the desirability of enriching a portion of this natural uranium into LEU, taking into account costs, market conditions, programmatic priorities and potential uses. As part of this evaluation, the Department will initiate work on cost-benefit and environmental analyses that will support a decision on how to proceed.

Most of the remaining excess uranium in the Department's inventory consists of depleted uranium. Making this depleted uranium useable would require considerable processing, depending on the uranium's form, assay level, and degree of contamination. In light of the significant increases in market prices for uranium over the past three years, however, some of this depleted uranium, especially that with higher assay levels, has become a potentially valuable commodity. The Department will identify categories of depleted uranium that have the greatest potential market value and/or use to the Department, on the basis of assay level, degree of contamination and other relevant factors. The Department then will conduct appropriate cost-benefit analyses to determine what circumstances would justify enriching and/or selling potentially valuable depleted uranium rather than pursuing current plans to store, process and ultimately dispose of it. The Department will seek to obtain the best economic value for the Department, in light of the Department's identified objectives and needs, and will proceed with this effort in the near future.

Samuel W. Bodman
Secretary of Energy

March 11, 2008
Date