January 17, 2008

Mrs. Elizabeth Southerland, Director
Division of Assessment and Remediation
Office of Superfund Remediation
and Technology Innovation
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N. W.
Mail Code: 5204P
Washington, DC 20460

SUBJECT: NOTIFICATION OF THE PARTIAL DECOMMISSIONING OF THE NUCLEAR FUEL SERVICES SITE IN ERWIN, TENNESSEE

Dear Mrs. Southerland:

This letter notifies you of the decommissioning oversight actions that the U.S. Nuclear Regulatory Commission (NRC) has taken and intends to take, for the partial decommissioning of the Nuclear Fuel Services site in Erwin, Tennessee.

On October 9, 2002, the NRC and the U.S. Environmental Protection Agency (EPA) entered into a Memorandum of Understanding (MOU) on "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites." Under the MOU, EPA agreed to continue its Comprehensive Environmental Response, Compensation, and Liability Act deferral policy of not listing sites on the National Priorities List that are subject to NRC's licensing authority. The MOU provides that, unless an NRC-licensed site exceeds any of three trigger criteria contained in the MOU, EPA agrees to a policy of deferral to NRC decision-making on decommissioning without the need for consultation.

For sites that trigger the criteria in the MOU, NRC will consult with EPA at two points in the decommissioning process: (1) prior to NRC approval of the license termination plan or decommissioning plan (DP), which NRC terms Level 1 consultation; and (2) following completion of the Final Status Survey (FSS), which NRC terms Level 2 consultation. Although the NRC's plan for consulting with EPA calls for the initial Level 1 consultation to occur early in the decommissioning process, at the time the MOU was signed, NRC had several sites that were in the latter stages of the decommissioning process. Since these sites were further along in the decommissioning process, the next opportunity to consult with EPA would be a Level 2 consultation following the completion of the FSS.

This letter is to notify you of the existence of one of these sites. This letter is not considered a Level 1 consultation because this site already has an approved DP. However, the NRC believes it is in the spirit of the MOU to notify the EPA of sites which could possibly require a Level 2 consultation in the future, and were already well into the decommissioning process at the time the MOU was signed. The licensee's derived concentration guideline levels (DCGLs) for certain radionuclides, for this site, exceed the soil concentration values in Table 1 of the MOU.

The Nuclear Fuel Services (NFS) site, owned by NFS and located in Erwin, Tennessee, began operations in 1957 primarily involving the processing of uranium, thorium, and plutonium bearing materials. Currently, only the northern portion of the NFS site, known as the North Site, is undergoing decommissioning. The North Site dealt primarily with waste storage and disposal activities and did not involve process activities. In 1999, NFS submitted a DP for the site to address the decommissioning of the North Site. The licensee intends to continue licensed activities on the remainder of the site.

The licensee is decontaminating the North Site to meet the requirements in Title 10 of the Code of Federal Regulations (CFR), Part 20.1402 for unrestricted use. The licensee evaluated four exposure scenarios, including: suburban resident; industrial; recreational; and construction uses of the site. The licensee chose to meet the lowest surface soil DCGL for each radionuclide from the four different exposure scenarios. The surface soil DCGLs were selected from the suburban resident or the recreational scenarios, while the most realistic land use was determined by NFS to be an industrial use site. The licensee has committed to demonstrate that the overall average concentration (i.e., for all depths combined) in each survey unit will meet the surface soil DCGLs. NFS currently plans to remove and dispose of contaminated waste, soil, sediment, and debris at an off-site facility. Structures and equipment located in the North Site will be surveyed and either re-used, released or disposed of at a licensed facility.

Assessments performed by the licensee, and approved by NRC, indicate that the most likely drinking water source obtained from a domestic well on site would not be radiologically impacted over the next 1,000 years. Also, it is expected that most residences in the area will obtain their drinking water from a local utility. Therefore, it is unlikely that facility-generated radionuclides will affect the drinking water during the compliance period.

The DCGLs, which the staff has approved, are provided in the enclosure. Four of the twelve radionuclides exceed the MOU soil concentration levels for the residential land use scenario. Before the NRC releases the site for unrestricted use, the dose to the average member of the critical group at the North Site will be in compliance with NRC's criteria in 10 CFR Part 20, Subpart E that provides an all-pathways dose criterion of 0.25 millisieverts per year (25 millirem per year) to an average member of the critical group and is as low as is reasonably achievable (ALARA). The dose criteria in 10 CFR Part 20, Subpart E are fully protective of the public health and safety, and were the result of a comprehensive rulemaking, including an accompanying generic environmental impact statement. Individuals at a decommissioned site are expected to receive doses below the criterion level because of the application of the ALARA principle, and the nature of the cleanup process itself, which often reduces residual contamination levels significantly below the DCGLs. Additionally, the residual radioactivity at the site is expected to generally be lower than the approved DCGL values because meeting the 25 millirem per year criterion must be demonstrated using an all pathways, sum of the fractions approach. The DCGLs in the DP represent the maximum levels for each radionuclide without considering the existence of other radionuclides. Thus, in applying the sum of the fraction requirement, the actual cleanup values will be reduced to ensure that the potential dose from all residual radioactivity at the site from all media is less than 25 millirem per year.

However, in view of the extent to which the cleanup values exceed the MOU trigger levels, and based on NRC's decommissioning experience, a Level 2 consultation may be necessary because the levels of residual radioactivity remaining after remediation may still exceed the

MOU trigger levels. If this is the case, NRC will consult with the EPA in accordance with the MOU.

Following site remediation activities, NFS will submit FSS reports. NRC staff will review information contained in these survey reports and will compare the remaining levels of residual radioactivity to the MOU trigger levels. If the FSS measurements exceed the MOU values, a consultation between the agencies will occur to identify and resolve any remaining issues. Additionally, prior to termination of the NFS license, residual radioactivity in the entire NFS site, including that in the North Site, will be evaluated for compliance with the license termination criteria. In the meantime, if you have any questions regarding this letter or the decommissioning activities at the Nuclear Fuels Services site, please contact Mr. Keith I. McConnell, Deputy Director, Decommissioning and Uranium Recovery Licensing Directorate, at (301) 415-7295.

Sincerely,

/RA/

Larry W. Camper, Director
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Enclosure:
Nuclear Fuels Services Cleanup
Values

cc: Nuclear Fuels Services Service List

Docket No.: 70-143
License No.: SNM-124

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Date	1/14/08	1/17/08			

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Nuclear Fuel Services Cleanup Values (pCi/g)

Radionuclide	Cleanup Value	EPA MOU*
U-238	306	74
U-235	74	20
U-234**	642	401
Th-232	3.7	5
Th-230	17	-
Am-241	130	187
Pu-242	148	-
Pu-241	4,365	40,600
Pu-240	141	-
Pu-239	140	259
Pu-238	155	297
Tc-99	414	25

* Residential Land Use Scenario
** Licensee DCGL value is for U-233 and U-234

Enclosure