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June 3, 2003

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Division of Waste Management  
Office of Nuclear Material Safety and Safeguards  
Mail Stop T-7J8  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20005-0001

L. Michael Blackmon    Re: Comments on the Draft Safety Analysis Long Term Hazard of Millstone Unit  
Larry R. Chewning, Jr., DMD    1's Missing Spent Fuel Rods Potentially Disposed at the Barnwell Commercial  
Low-Level Radioactive Waste Disposal Facility

Dear Mr. McKenney:

The Department has reviewed the above referenced safety analysis report and provides the following comments:

1. The current decay corrected inventory for the Barnwell site is approximately 103,600 TBq (2.8 million curies).
2. The estimated 17 TBq of activity in the fuel rods does not significantly increase the total activity at the Barnwell site, however the inventories of certain individual radionuclides (Pu-239, Pu-240, Pu-241, Am-241, and Am-243) are significantly increased if the fuel rods have been disposed of at Barnwell. We have required that Chem-Nuclear Systems, LLC. (CNS) evaluate the potential long-term impacts of the additional inventories using the recent performance assessment for the Barnwell Site. This assessment was recently provided to the Department and is under review.
3. We agree that the ceramic and activated steel waste forms of the fuel rods will limit the release rate of any radionuclides. However, the Department feels that it is important to evaluate whether there is any indication of migration of the radionuclides associated with the fuel rods. The Department has required CNS to sample and analyze monitoring wells that are downgradient of the trenches where the shipments, which may have contained the fuel rods, were disposed. This included installation of one additional monitoring well. Analytical results

from sampling these wells were recently provided to the Department and are under review.

4. The Department agrees that the inadvertent intruder scenario evaluation used as the basis for this part of the safety analysis adequately evaluated the risk to the inadvertent intruder and that any potential doses are well within those considered in the development of 10 CFR Part 61.
5. We recognize that the safety analysis does not address the jurisdictional issues raised by the potential disposal, but hope to continue to work closely with the NRC to resolve these issues.

The Department appreciates the opportunity to provide comments on the report. After we have completed our review of the performance assessment evaluation and the monitoring results we will provide the NRC a summary of the findings. If you have questions regarding these comments, please contact me at (803) 896-4245.

Sincerely,



Henry Porter, Assistant Director  
Division of Waste Management  
Bureau of Land and Waste Management