



# Illinois Department of Nuclear Safety

1035 Outer Park Drive  
Philip F. Gustafson  
Director

Springfield, Illinois 62704

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Jane A. Bolin  
Deputy Director

August 3, 1982

Mr. R. Dale Smith, Branch Chief  
Low Level Waste Licensing Branch  
MS 623 SS  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Smith:

Pursuant to discussions of July 21, 1982, the Department requests that the Commission contract with Battelle Pacific Northwest Laboratories to conduct certain environmental studies at the Sheffield, Illinois Low Level Nuclear Waste Disposal Site. The ideal program would include the following:

1. In-situ subterranean gamma-ray spectroscopy exploring many, if not all, accessible borings on and near the site;
2. Utilization of data from said spectral analyses to estimate the presence of Sr-90 employing bremsstrahlung stripping techniques;
3. In-situ subterranean tritium measurements (liquid and vapor) utilizing PNL designed equipment;
4. Measurement of isotopic uptake by several key vegetative species growing on and around the site;
5. Training of state personnel in the calibration and use of equipment and/or techniques to accomplish the above described program.

The Department further requests that documentation detailing the specifics of such a program be prepared and submitted for review and approval prior to actual implementation.

We appreciate your willingness to assist us in our endeavors to better understand the behavior of the Sheffield site.

Sincerely,

David D. Ed, Manager  
Office of Technical  
Support

DDE/dmm

cc: Director Gustafson  
J. Shaffner  
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