CONNECTICUT YANKEE ATOMIC POWER COMPANY

HADDAM NECK PLANT
362 INJUN HOLLOW ROAD • EAST HAMPTON, CT 06424-3099

JUN 23 2005

Docket No. 50-213
CY-05-158

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Haddam Neck Plant
Radiological Assessment Report for the West Section of the Excavation Associated with the Northeast Protected Area Grounds

In a letter dated February 24, 2005[1], Connecticut Yankee Atomic Power Company (CYAPCO) provided a characterization report for the west section of the excavation associated with the Northeast Protected Area Grounds. This Characterization Report captured data that were collected and evaluated up to February 2005. The purpose of this letter is to transmit the enclosed radiological field assessment report for the west section of the excavation associated with the Northeast Protected Area Grounds (Attachment 1). This report supplements the report submitted on February 24, 2005 and captures data collected and evaluated up to June 9, 2005 including the data that characterize the final state of this area prior to backfill. This report describes the methodology and means used to perform radiological characterization of soil, subsurface structures and exposed bedrock in the area of interest. The discussion includes an evaluation of survey and sampling results to date relative to the expectations established during survey design. The radiological assessment establishes the final radiological condition of the area prior to backfill as described in the License Termination Plan. The results of this evaluation will be used to determine the nature and extent of contamination in this area. Finally, this document provides data for input to the radiological dose assessment.

The characterization effort in this area has identified residual activity on exposed surfaces of concrete and footings. Strontium-90 and tritium have been identified in and on concrete surfaces. An exposure of clayey material was observed in localized fractures during assessment of exposed bedrock conditions following excavation of contaminated soil in the vicinity of the former Primary Auxiliary Building (PAB). Although the material exhibited an elevated Sr-90 concentration relative to surrounding fill soil, extraction testing performed on the clayey material indicated the Sr-90 is tightly bound and that the material is not, therefore, expected to be a significant continuing source of groundwater contamination. Details of the characterization of this material are described in Attachment 2. Co-60 and Cs-137 are the principal radionuclides identified in soil.

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[1] G. P. van Noordennen (CYAPCO) letter to US NRC, "Characterization Report for the West Section of the Excavation Associated with the Northeast Protected Area Grounds", dated February 24, 2005.

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If you should have any questions, please contact me at (860) 267-3938.

Sincerely,

Gerard van Noordennen 6-23-05

Gerard P. van Noordennen Date
Regulatory Affairs Manager

Attachments:

1 Radiological Assessment Report for the Western Section of the Excavation Associated with the Northeast Protected Area Grounds, CY-HP-0206, Revision 0.
2 Observations, Sampling and Analysis of Clayey Secondary Mineral Deposits Observed in Bedrock Fractures in the Primary Auxiliary Building, dated June 16, 2005.

cc: S. J. Collins, NRC Region I, Administrator
T. B. Smith, NRC, Project Manager
M. T. Miller, NRC Region 1, Chief, Decommissioning Branch
W. C. Adams, Oak Ridge Institute for Science and Education
E. L. Wilds, Jr., Director, CT DEP, Monitoring and Radiation Division