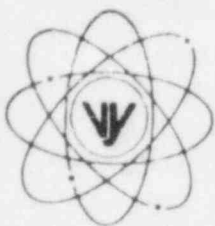


VERMONT YANKEE NUCLEAR POWER CORPORATION



WM DOCKET CONTROL
CENTER

FVY 83-130

RD 5, Box 169, Ferry Road, Brattleboro, VT 05301

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REPLY TO
ENGINEERING OFFICE

1671 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701

December 29, 1983
TELEPHONE 617-872-8100

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. L.B. Higginbotham
Branch Chief
Low Level Waste Licensing

Reference: a) License No. DPR-28 (Docket No. 50-271)

Dear Sir:

Subject: Request for Review of 10 CFR 61 Implementation Program

Vermont Yankee Nuclear Power Corporation herewith submits its program for 10 CFR 61 implementation for review and concurrence as an adequate means of implementation of the 10 CFR 61 requirements on waste form and waste classification, effective December 27, 1983.

Process waste at Vermont Yankee consists of exhausted bead and powdered resins and bulk filter media. Wastes are processed through a centrifuge to remove water and placed in cask liners for disposal without solidification. This process results in a waste product with no measurable free water. Waste form requirements will be met, when required, by the use of approved high integrity containers. Should modification be selected at a future date, it is anticipated that the system supplier will provide the necessary documentation to meet waste form criteria.

We trust this material is sufficient for your needs. Please do not hesitate to contact us should you require clarification or additional information.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

Warren P. Murphy
Warren P. Murphy
Vice President and
Manager of Operations

WPM/dm

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X PDR

VERMONT YANKEE

10 CFR 61 IMPLEMENTATION PROGRAM

A. SOLID WASTE STEAMS

1. Exhausted Resins and Filter Media
2. Compactible and Non-Compactible Dry Active Waste (DAW's)

B. WASTE FORMS

1. Stable Waste

Waste Stability, when required, will be provided by a High Integrity Container (HIC) approved by the USNRC and/or the state of the applicable burial site. Waste solidification is not currently anticipated. The current process system will produce a product meeting the free water criteria of both 10 CFR 61 and the disposal site license. Should a solidified product be produced in the future, the equipment supplier will be required to provide an approved Process Control Program (PCP) meeting the stability requirements then applicable.

2. Other Wastes

Waste meeting the Class A waste classification need not meet the stability requirements of 10 CFR 61 so long as they are segregated upon disposal. All such wastes shall meet the free water criteria and shall be packaged in strong, tight containers for disposal. Compactible DAW will be processed with a hydraulic box compactor to reduce volume and increase density to the maximum extent practicable.

Class A liquids will be solidified in environstone, a product of US Gypsum, and also will meet the free standing liquid criteria.

All waste processing and packaging will be performed in full compliance with approved plant procedures.

C. WASTE CLASSIFICATION

1. As a minimum, all radionuclides required by 10 CFR 20.311 and 10 CFR 61.55 will be reported.
2. A sample of each resin batch will be analyzed for gamma emitters. The quantity of all significant contributors will be reported for each container.

DAW solidified liquids will be analyzed by a dose rate to curie content method. Isotopic makeup of this waste stream will be based on results of gamma spectral analyses of smear samples from 6 below.

3. Non-gamma emitters required to be reported will be reported using correlation factors, where applicable. These correlation factors will be based upon a data base developed from waste streams analyzed by SAI, Teledyne and/or another qualified lab in the future.
4. All non-gamma emitters required to be reported, which exist at levels of less than 1% of the Class A limit, will be reported as zero on the waste manifest.
5. Radioisotopes requiring reporting, not easily measured or correlatable, will be reported based upon the methods described in the AIF NESP Report, "Methodologies for Classification of LLW From Nuclear Power Plant", November 1983, or another generally accepted method.
6. One sample, typical of each waste stream, will be fully analyzed annually and the appropriate correlation factors calculated until it is demonstrated to be unnecessary to ensure the validity of the correlation factors being utilized.
7. Gross changes in waste stream radionuclide concentrations and/or ratios (due to any increase in reactor vessel activity by a factor of 10) will require an evaluation of the classification methods and will be addressed as the situation arises.
8. Separate procedures will be written for waste streams not compiled into the data base (control rods, other activated core components, etc.)