



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

JAN 31 1991

MEMORANDUM FOR: Paul H. Lohaus, Chief  
Low-Level Waste Management Branch  
Division of Low-Level Waste Management  
and Decommissioning, NMSS

THRU: Michael Tokar, Section Leader  
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and Decommissioning, NMSS

FROM: Mary Thoma Adams, Civil Engineer  
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SUBJECT: WESTINGHOUSE FULL REACTOR COOLANT SYSTEM DECONTAMINATION  
PROGRAM TOPICAL REPORT PRESENTATIONS TO THE NUCLEAR  
REGULATORY COMMISSION, DECEMBER 5-6, 1990

*Michael Tokar*

Wednesday, December 5, 1990

The meeting on the first day discussed the coolant system decon program. Phillip Miller described the plan for Topical Report (TR) preparation and presentation to NRC, including the subjects to be covered in the TR and the anticipated dates of submittal. The completed TR will be provided to NRC in February or March of 1991. The program is divided into three phases:

- Phase 1 - Initial parametric studies (completed in 1988);
- Phase 2 - Decon process qualification, engineering evaluations, and safety analyses (where we are now);
- Phase 3 - Detail design and implementation (to be done by individual utilities)

Phase 2 is divided into seven tasks defined in the draft report. Today's meeting covered Tasks 1, 3, and 6. Those tasks of the Draft Generic Program Report that were not included will be complete in the Feb/March submittal.

Cynthia Pezze, metallurgist, described the testing program used to determine corrosion of the plant coolant system components. This is part of Task 1, the process qualification test program. The process chemicals are aggressive toward chromium; this is why the rigorous component testing program was necessary. (This indicates to me that there could be a problem with chromium in the waste resins - TCLP mixed waste. This issue has not been resolved to my satisfaction yet).

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The Program assumes that the nuclear fuel will be removed from the reactor during coolant system decontamination; however, the system qualification program assumes both fuel-in and fuel-out scenarios.

Since all three low-level waste disposal facilities will be closed in 1992, and it is expected that new sites will not be ready to receive waste when this FRCS Decon Program is implemented, spent resins will be stored indefinitely on the sites where they are generated. Storage buildings will store 4000 or so cubic feet of resins, either stabilized or not, in 53 containers in a "Butler Building". Westinghouse anticipates beginning this process in 1993; they are currently looking for funding from EPRI and other sources for a demonstration project at a PWR and a BWR.

There was concern over whether NRC would expend resources reviewing a program that is not for a specified user.

All discussions of waste management were deferred until the Thursday meeting.

Thursday, December 6, 1990

Waste Stabilization Meeting

John Remark of Applied Radiological Control described the amounts and types of ion exchange resins that would be generated during the decon program under the fuel-in and fuel-out conditions. With fuel-in, the decon solutions can have as much as 650 ppm of boron; this requires the addition of extra sodium hydroxide and increases the amount of AP (alkaline permanganate) resins needed.

The Program requires 94,500 gallons (each - oxidation and reduction?) of decontamination solutions. The waste storage capacity is for one decontamination event. These events can be repeated every ten years or so up to three times, based on the corrosion qualification testing. 10 CFR 50.59 allows a licensee to store the resins for up to 5 years without a license amendment. If amendments become necessary for extended storage, they will be obtained.

The waste stabilization Topical Report will be an enclosure to the Westinghouse FRCS Decon Program TR, and will use a Chem-Nuclear cement stabilization technology. It is completely separate from the other Chem-Nuclear cement stabilization TRs that are under review.

Westinghouse is looking for \$27 Million for the demonstration project, of which \$10 million is for the buildings.

Westinghouse is also concerned about the status of the Technical Position on Waste form (TP). They are questioning the definitions of "batch" and "waste stream" as used in the TP. John Greeves stated that the TP is still in internal review and that comments will be accepted, but that changes as a result of comments would be likely to delay its finalization.

ORIGINAL SIGNED BY

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Enclosures: Attendees lists

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SUBJECT ABSTRACT: WESTINGHOUSE FULL REACTOR COOLANT SYSTEM DECONTAMINATION PROGRAM TR PRESENTATIONS TO NRC DECEMBER 5-6, 1990

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PWR FULL RCS CHEMICAL DECONTAMINATION  
 WHITE FLINT BLDG.  
 DECEMBER 5, 1990

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PWR FULL RCS CHEMICAL DECONTAMINATION  
 WHITE FLINT BLDG.  
 DECEMBER 6, 1990

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