

MAR 31 1993

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

THRU: John O. Thoma, Section Leader
 Technical and Special Issues Section
 Low-Level Waste Management Branch
 Division of Low-Level Waste Management
 and Decommissioning, NMSS

FROM: Joseph D. Kane, Senior Civil Engineer
 Technical and Special Issues Section
 Low-Level Waste Management Branch
 Division of Low-Level Waste Management
 and Decommissioning, NMSS

SUBJECT: SUMMARY OF MEETING WITH ELECTRIC POWER RESEARCH
 INSTITUTE ON POTENTIAL VITRIFICATION OF
 LOW-LEVEL RADIOACTIVE WASTE

A summary of the discussions held at the meeting on March 4, 1993, with Electric Power Research Institute (EPRI) is enclosed as Enclosure 1. The meeting was held to discuss EPRI's plans for exploring the benefits and advantages of significantly reducing the volume of low-level radioactive waste through a vitrification process that would result in a small volume ceramic or glass waste product. Enclosure 2 provides a list of the attendees at the meeting on March 4, 1993.

ORIGINAL SIGNED BY

Joseph D. Kane, Senior Civil Engineer
 Technical and Special Issues Section
 Low-Level Waste Management Branch
 Division of Low-Level Waste Management
 and Decommissioning, NMSS

Enclosures: As stated

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SUMMARY OF MEETING WITH ELECTRIC POWER RESEARCH INSTITUTE
ON RESEARCH PROJECT FOR
POTENTIAL VITRIFICATION OF LOW-LEVEL RADIOACTIVE WASTE

A meeting was held in Rockville, MD, on March 4, 1993, between representatives of the Electric Power Research Institute (EPRI) and the Nuclear Regulatory Commission staff which included members from the Offices of the Commission (OCM), Executive Director for Operations (EDO), Nuclear Material Safety and Safeguards (NMSS), State Programs (OSP), Nuclear Reactor Regulation (NRR), and Policy Planning (OPP). A list of the attendees is attached. The meeting's discussions centered on EPRI's plans to explore the benefits and advantages of significantly reducing the volume of low-level radioactive waste (LLW) through a vitrification process that would result in a small volume ceramic or glass waste product. EPRI representatives indicated their proposed research was directed at technology development for advanced reactors, but also would have potential use at currently operated nuclear reactor plants.

Major considerations of the proposed research project by EPRI that were expressed included the very large reduction (in excess of 70 percent) in the volume of waste to be disposed of, possible on-site storage of the small volume of vitrified waste, reduced costs for disposal, and significant help in overcoming the problems resulting from today's delays in providing LLW disposal capacity. Types of LLW considered possible candidates for the vitrification process included dry active wastes (DAW), ion-exchange resins, and cartridge and air filtration filters.

Because of the small volume of the vitrified low-level waste it was indicated that the resulting waste product would readily lend itself to auger-hole type disposal. Presently it is felt that the vitrified waste product would classify as Class C waste and require remote handling and shielding to protect workers.

EPRI representatives indicated that the proposed research study would be approached as a multi-task project that would seek both national and international cooperation and financial support. The project is expected to run over a three to four year period.

In response to EPRI's questions, the NRC staff indicated the following:

1. It would appear that the vitrification process proposed by EPRI would have to be reviewed by the NRC staff and would not come under 10 CFR Part 50.59 requirements related to making changes at a licensed facility.
2. Discussions as to whether the EPRI vitrification process would be categorized as an incinerator or as a smelting process pointed out the need for a better understanding of the overall process and ultimately for an evaluation of the specific regulations that would be applicable. The NRC staff did indicate that all incinerators require licensing review and approval under 20.305 requirements. The NRC staff has approved an incinerator through its review of a submitted topical report.
3. Review of topical reports has a lower priority than the completion of specific licensing actions. Because of reduced NRC resources, a firm estimate for reviewing a topical report could not be made until the time of actual submittal, when priorities could be established. The review of waste form topical reports was indicated to typically run over a one to two year period and was dependent on the completeness and quality of the submitted report.

4. The NRC staff would need to reexamine specific regulatory requirements and consult with its Office of the General Counsel to address questions related to what specific hearing process would be followed in individual plant license actions that are involved with and dependent on NRC staff evaluation findings of a generic topical report.

5. If EPRI were to propose a centralized vitrification process facility that would accept and solidify waste from several nuclear power plants, it is likely that as a minimum, an Environmental Assessment (EA) would be required.

6. The NRC staff reminded EPRI of the Commission's policy covering on-site storage, particularly with respect to encouraging actual disposal to the maximum extent practicable.

Attendees EPRI/NERC Meeting March 5, 1983

Lodovico
 Brach
 d. BANGERT
 DON SEITWARTZ
 Stephen Salomon
 CUNNINGHAM
 Joseph Kane
 Jim Kennedy
 Craig Stabler
 Ernest Lambert
 Massey
 Dan Uleck
 Amy Haney
 Myr Dragnette
 W. R. MARTIN
 Bob Nelson
 Kathleen Schneider
 TIM JOHNSON
 Tom Essig
 Bill LAMS
 Jane Vance
 Pat Robinson

NMSS/LLWM/LLWB
 NMSS/LLWM
 NMSS/LLWM
 OSP
 OSP/SLIR
 NRR/PRPB
 NMSS/LLWM/LLWB
 NMSS/LLWM/LLWB
 OEDO
 OPP
 NRR/PRPB Low level waste tech. contract PRPB
 NMSS/LLWM/LLWB
 NMSS/INMS/IMOB
 OCM/SC
 OCM/IS
 NMSS/LLWM/LLWB
 OEDO
 LLWM/LLDR
 NRR (Rad. Prot. Br.)
 NMSS/LLWM/LLDR
 EPRI Contractor
 EPRI

301-504-2553
 301-504-3344
 (301) 504-354-
 (301) 504-2325
 301/504-2368
 301/504-1086
 301-504-3441
 301 504-3401
 301-504-1724
 301-504-3904
 301 504 1078
 301-504-2535
 301-504-2628
 301-504-1877
 301-504-1750
 301-504-2004
 301-504-1736
 301-504-3603
 301-504-1063
 (301) 504-2569
 (305) 336-4845
 (415) 812-2830