

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

MAY 13 1988

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of) Docket Nos. 50-327
Tennessee Valley Authority) 50-328

SEQUOYAH NUCLEAR PLANT (SQN) - NRC INSPECTION REPORT NOS. 50-327, 50-328/87-56
- ADDITIONAL INFORMATION FOR VIOLATION 50-327, 50-328/87-56-02

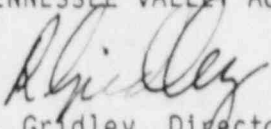
Enclosed is the information requested by Joe Brady, NRC, during a telephone conversation with G. B. Kirk, Site Licensing Staff, on April 13, 1988, concerning violation 50-327, 50-328/87-56-02.

Enclosure 1 provides the additional information to the referenced item.
Enclosure 2 contains a list of commitments contained in this letter.

If you have any questions, please telephone M. R. Harding at (615) 870-6422.

Very truly yours,

TENNESSEE VALLEY AUTHORITY


R. Gridley, Director
Nuclear Licensing and
Regulatory Affairs

Enclosures
cc: See page 2

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U.S. Nuclear Regulatory Commission

MAY 13 1988

cc (Enclosures):

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ENCLOSURE 1

Event Description

"Waste Solidification

(1) Background

The licensee solidified radioactive waste under a process control program (PCP) to meet the waste stability requirements of 10 CFR 61.56 and certain disposal site criteria. The licensee used a vendor, Chem-Nuclear Systems, Inc., to perform the solidification services.

During May 1987, problems were experienced during the solidification of two liners containing CDWE bottoms. The contents of the liners started a rising process after quantities of the vendor stabilization, solidification and defoaming agents were added to the waste bottoms in the liner. The mixture slowly flowed through the liner fill head and out the fill head inspection plate, leaving a solidified mass outside the confines of the liner. The excess material was successfully chipped away by the licensee and the liners were shipped to the disposal site without incident.

Licensee investigation into the event revealed that the swelling in the waste liners was caused by an exothermic reaction between chemical contaminants in the waste and vendor stabilization/solidification agents causing the waste to exceed a temperature of 240°F. This temperature was above the boiling point of the mixture and this, in addition to the gases released during reaction, caused the swelling of the contents of the liner.

The licensee and vendor representatives were still investigating this problem at the conclusion of the inspection, but several interim measures had been taken to preclude future liner overflows. These measures included reducing the amount of waste introduced into a liner and restrictions on the use of a laundry detergent (Turco 4324 NP) which was found to be especially reactive with the vendor agents and was concentrated in the waste as a residue from the processing of the laundry and hot shower drain tank through the CDWE."

Corrective Actions

As immediate corrective action, SQN issued a memorandum to suspend the use of the cleaning agent "Turco." The memorandum also required that other chemicals used by SQN personnel for cleaning will not be purchased by Power Stores or issued from Power Stores until the product can be analyzed by the Rad Materials Shipping section and approved for use. The memorandum further required that, if cleaning agents are needed, a sample shall be sent to SQN Rad Materials Shipping section for testing and approval before being purchased by Power Stores.

As long-term corrective action, SQN is revising SQA160, "Materials Which May Come In Contact With Reactor Coolant," to include the Rad Materials Shipping Section in the approval cycle for materials authorized for use in the power block area and any materials that could be introduced into the radwaste treatment systems. This revision will include provisions for testing of those materials to ensure exothermic reactions do not occur during the solidification of radwaste. SQA181, "Hazardous Material Control," is being reviewed to determine what controls need to be incorporated to preclude hazardous waste materials being combined with radioactive waste materials.

In addition to the revisions to the site procedures, the Corporate Chemistry Group is developing a "Chemical Control Program." This program will further define the control of materials that may come into contact with radwaste treatment systems and will include control of hazardous materials. This program will include review and approval by the Rad Materials Shipping Section of materials that have the potential for coming in contact with radwaste treatment systems.

The revision to SQA160 will be completed by July 1, 1988, and revision to SQA181 and development of the Corporate Chemical Control Program will be complete by May 3, 1989.

Enclosure 2

List of Commitments

1. Revise SQA160 to require Rad Materials Shipping Section review and approval of materials that may come in contact with radwaste systems by July 1, 1988.
2. Revise SQA181 to be in agreement with Corporate Chemical Control Program by May 3, 1989.
3. Develop Corporate Chemical Control Program for control of materials that may come into contact with radwaste systems by May 3, 1989.