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September 14, 1995  
Fort St. Vrain  
P-95081

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

Docket No. 50-267

**SUBJECT: QUARTERLY SUBMITTAL OF THE 10 CFR 50.59 REPORT OF  
CHANGES, TESTS AND EXPERIMENTS FOR FORT ST. VRAIN  
DECOMMISSIONING**

REFERENCE: NRC Letter dated November 23, 1992, Erickson to  
Crawford (G-92244)

Gentlemen:

This letter transmits the quarterly 10 CFR 50.59 Report of Changes, Tests, and Experiments affecting Decommissioning of the Fort St. Vrain (FSV) Nuclear Station. The attached report includes a description of each change, test and experiment as well as a summary of the safety evaluation. This report covers the period of May 16, 1995 through August 15, 1995.

This report is being submitted pursuant to Condition (b)(2) of the "Order Approving Decommissioning Plan and Authorizing Decommissioning of Facility", transmitted in the referenced letter, which states the following:

"The licensee shall submit, as specified in 10 CFR 50.4, a report containing a brief description of any changes, tests and experiments, including a summary of the safety evaluation of each. The report must be submitted quarterly."

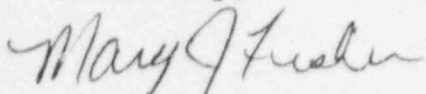
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If you have any questions concerning this report, please contact  
Mr. M. H. Holmes at (303) 620-1701.

Sincerely,



M. J. Fisher  
Decommissioning Program Director

MJF/JRJ

Attachment

cc: Mr. Michael F. Weber, Chief  
Decommissioning and Regulatory  
Issues Branch

Regional Administrator, Region IV

Mr. Robert M. Quillin, Director  
Radiation Control Division  
Colorado Department of Public Health and Environment

SEPTEMBER 1995  
QUARTERLY 10 CFR 50.59 REPORT OF CHANGES, TESTS AND EXPERIMENTS  
FOR FSV DECOMMISSIONING

Background:

The following is a brief discussion of 10 CFR 50.59 changes to the Fort St. Vrain (FSV) facility or procedures as described in the Decommissioning Plan (DP) and tests and experiments not described in the DP, in the time period from May 16, 1995 through August 15, 1995.

While this report is similar to past reports of changes, tests and experiments submitted in accordance with 10 CFR 50.59, the quarterly decommissioning reports are submitted pursuant to Paragraph (b)(2) of the FSV Decommissioning Order (issued in NRC letter dated November 23, 1992, Erickson to Crawford), which states:

"The licensee shall submit, as specified in 10 CFR 50.4, a report containing a brief description of any changes, tests and experiments, including a summary of the safety evaluation of each. The report must be submitted quarterly."

Changes to the FSV Facility or its Procedures as Described in the Decommissioning Plan

**1. Operation and Maintenance of the Westinghouse Mobile Respirator Cleaning Trailer**

As decommissioning proceeds, it is necessary to cease respirator cleaning operations in the Reactor Building so that those areas can be decommissioned. This requires that temporary respirator cleaning facilities be established. The Westinghouse Mobile Respirator Cleaning System trailer has been located adjacent to the Westinghouse Wet Wash Laundry trailer, east of the Reactor Building, approximately 100 meters from the Emergency Planning Zone. The respirator cleaning trailer is a self-contained wet wash respirator cleaning facility that recycles its water through filters, resin and charcoal. The air discharge from the dryer is routed through a HEPA filter. The contaminated respirator sorting area has a hood that maintains negative air flow for the area and is vented via a HEPA filter.

For the purpose of accident analyses, it was conservatively assumed that the respirator cleaning trailer contains a total activity of 4 curies, which was the same quantity assumed in the safety evaluation for the laundry cleaning trailer. The procedure for

respirator cleaning trailer operations, SEG Procedure FSV-RP-RPE-I-109, does not permit the filters and resin to accumulate this level of activity. The only credible initiating events for potential accidents involving the respirator cleaning trailer are environmental disturbances and a fire. The Decommissioning Plan assesses the effects of severe environmental disturbances, with the worst case event involving a tornado-driven missile impacting 46 graphite side spacer blocks containing 741 curies, with 1% of the activity postulated to be released to atmosphere. Doses 100 meters from the Reactor Building are evaluated for this event in DP Section 3.4.9, and determined to be acceptable. The Decommissioning Plan also assesses a fire involving graphite blocks containing 3,706 curies of activity. Dose consequences at the emergency planning zone from environmental disturbances or a fire postulated to impact the respirator cleaning trailer would be well below those previously evaluated in the DP. It was determined that the probability of accidents or malfunctions previously evaluated in the DP is not increased by operation and maintenance of the respirator cleaning trailer. The slight increase in combustible material coupled with the trailer's metal construction does not increase the probability of a fire.

No new types of accidents or malfunctions are created by the respirator cleaning trailer. There are no items associated with the respirator cleaning trailer that are designated important to safety. The consequences of malfunctions of equipment in the respirator cleaning trailer will be self-contained, or of little consequence to nuclear safety, such as a spill of radioactive liquids. There are no technical specifications applicable to the respirator cleaning trailer, and no margins of safety in the basis for any technical specification are being reduced.

Based on the above, it was concluded that this activity does not constitute an unreviewed safety question.

## **2. Installation of the PCRV Lower Plenum and Penetration Drain System**

The PCRV shield water system, described in DP Section 2.3.3.6 and shown in DP Fig. 2.3-4, was not designed or installed to provide the capability to drain and process water from all the PCRV bottom head penetrations. With PCRV water levels near the lower plenum floor, the shield water system has fulfilled its intended purpose and the requirements for this system no longer exist. It is planned to remove the shield water system to allow the final radiation survey to proceed in areas occupied by this system.

In place of the shield water system, a lower plenum and penetration drain system ("drain system") will be installed to filter and provide a flow path for draining the remaining PCRV water. This water will gravity drain from the penetrations, through a sock

filter arrangement, then to the System 62 radioactive liquid waste sump (T-6201). The water will be pumped from the liquid waste sump through demineralizers that were previously installed in the shield water system polishing demineralizers' drain line (these additional demineralizers were the subject of an earlier safety evaluation, described in Reference 1), and into the bladder in the Reactor Building keyway. From the bladder, the water will be further processed or sent to the Reactor Building sump (RBS) for discharge. The 17 penetrations in the PCRV bottom head are estimated to contain approximately 30,000 gallons of water, and up to 20,000 gallons will also need to be drained from the lower plenum area. Installation of this drain system will allow the water remaining in the PCRV to be drained and the shield water system to be removed.

The probability of a loss of PCRV shield water accident (evaluated in DP Section 3.4.7) is not being increased since fewer draining evolutions will be needed than considered in the DP, and the new drain components will have a nominal pressure rating in excess of the exposed pressure during draining of the PCRV. Redundant isolation valves on the existing drain lines leading from each PCRV bottom head penetration closure provide the capability to isolate leakage from the new drain system. The consequences of a loss of PCRV shield water accident are not increased since accidental spillage of the entire contents of water in the PCRV lower plenum and bottom head penetrations to the Reactor Building sump/keyway would result in lower offsite doses than those presented in DP Section 3.4.7, due to the lower tritium concentrations and smaller quantity of water.

No new types of accidents or malfunctions are created. No new failure modes are generated for equipment important to safety. This activity does not create the potential for an uncontrolled release of liquid effluent, since the same release path and equipment will be used for these discharges as is used for normal RBS and radioactive liquid waste system (System 62) discharges in accordance with the requirements of the Offsite Dose Calculation Manual (ODCM). The automatic monitoring and protective features which have governed releases from the RBS and System 62 during decommissioning will continue to govern any future releases of radioactive water. Failure of components of the drain system could result in spillage of water containing radioactivity on level 1 of the Reactor Building. This water would drain back into the RBS, no different from a leak of the shield water system, previously evaluated, and would not result in an uncontrolled release to the environment.

Decommissioning Technical Specification 5.4.4(a), "Radioactive Effluent Controls Program" requires FSV to have a program conforming with 10 CFR 50.36a to assure doses to members of the public from radioactive effluents are as low as reasonably achievable. This program, contained in the ODCM, continues to be the primary administrative control over effluent releases, and is

not impacted by this activity. No margin of safety defined in the basis of any Technical Specification is reduced by the drain system.

Based on the above, it was concluded that the lower plenum and penetration drain system does not constitute an unreviewed safety question.

### **3. Revision to the FSV Final Survey Plan for Site Release Involving Documentation Packages for Survey Areas**

The NRC approved the FSV Final Survey Plan for Site Release (FSP), as modified by PSCo responses to NRC requests for additional information (RAI), on January 26, 1995 (Reference 2). PSCo provided the updated FSP in Reference 3, which incorporated these RAI responses into the FSP. This approved FSP supercedes and replaces Section 4 of the DP, "Final Radiation Survey Plan". The preface to the updated FSP contains criteria that permit implementation of certain revisions to the FSP without prior NRC approval. A safety evaluation was performed on recently proposed FSP revisions which determined these criteria were met, as discussed below.

The FSP does not clearly identify the process of dividing and subdividing the site into survey groups, survey areas and survey units. The FSP states that survey packages will be prepared for each survey unit. This is being revised to require survey packages for survey areas, which may contain one or more survey units. Survey units normally consist of a contiguous area with similar characteristics and contamination potential.

Preparation of survey packages for survey areas, in lieu of each survey unit, will result in an improved management process for survey design and implementation, and utilize resources more efficiently. Since survey requirements (i.e., measurement locations, type and frequency) are defined for each survey unit, this FSP change does not reduce or alter the survey requirements presently specified in the FSP. Changing the administrative controls associated with the final site survey has no effect on any of the decommissioning accidents analyzed in DP Section 3.4 or any equipment specified as important to decommissioning safety. This FSP change will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the DP, since no new accident initiators are introduced. Changing the administrative controls associated with the final site survey has no effect on the basis for any Decommissioning Technical Specification, and no margins of safety are reduced.

The FSP revisions were determined to meet the following additional criteria defined in the FSP that authorize PSC to make changes to

the FSP without prior NRC approval:

- The proposed revisions do not require changes to the Decommissioning Technical Specifications.
- The proposed revisions do not reduce the required survey frequency for the classification of a survey unit.
- The proposed revisions do not increase the action levels for conducting investigation and followup surveys.
- The proposed revisions do not affect the statistical treatment of survey data in a manner which could reduce the confidence that the site meets the criteria for unrestricted use.

Based on the above, it was concluded that the FSP revisions which permit preparation of survey packages for survey areas instead of survey units do not constitute an unreviewed safety question, and may be implemented without prior NRC approval in accordance with the FSP requirements.

#### Tests or Experiments Not Described in the Decommissioning Plan

No tests or experiments were conducted this reporting period that are not described in the DP.

#### References

1. PSC letter, Fisher to NRC Document Control Desk, dated June 8, 1995 (P-95057)
2. NRC letter, Pittiglio to Crawford, dated January 26, 1995 (G-95020)
3. PSC letter, Fisher to NRC Document Control Desk, dated May 25, 1995 (P-95050)