



# Public Service®

October 31, 1989  
Fort St. Vrain  
Unit No. 1  
P-89422

**Public Service  
Company of Colorado**  
P.O. Box 840  
Denver CO 80201-0840

A. Clegg Crawford  
Vice President  
Nuclear Operations

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

Docket No. 50-267

SUBJECT: Initiation of the Individual Plant  
Examination for Severe Accident  
Vulnerabilities - 10 CFR 50.54(f).

- REFERENCES:
- 1) NRC Generic Letter 88-20,  
Supplement 1, Dated August  
29, 1989 (G-89299).
  - 2) PSC Letter, Williams to the  
Document Control Desk, Dated  
January 20, 1989 (P-89026).
  - 3) NRC Letter, Heitner to  
Williams, Dated April 19,  
1989 (G-89137)
  - 4) PSC Letter, Crawford to  
Weiss, Dated September 1,  
1989 (P-89342).
  - 5) PSC Letter, Crawford to  
Weiss, Dated August 16, 1989  
(P-89287).

Gentlemen:

In accordance with Reference 1, Public Service Company of Colorado (PSC) is responding to the request to submit a proposed program for an Individual Plant Examination (IPE) for Fort St. Vrain (FSV).

## Background

In Reference 2, which was written prior to the permanent shutdown of FSV, PSC stated that FSV is prepared with analyses, equipment, procedures and training to both prevent and deal with any severe accident conditions during the short remaining operational period and that commitments related to performing an IPE for severe accident vulnerabilities would not be established. PSC also indicated that a response to Generic Letter 88-20, summarizing the justification for not completing an IPE, would be submitted within 60 days of receipt of the final IPE guidance documents.

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In Reference 3, the NRC stated acceptance of PSC's proposals relative to Issue III.C "Individual Plant Examination for Severe Accident Vulnerabilities."

Justification for Not Performing an IPE on FSV:

PSC shut down FSV on August 18, 1989 and notified the NRC of its decision not to restart the plant in Reference 4. In Reference 5, PSC submitted the Safety Analysis Report (SAR) for Reactor Defueling. This report provides a deterministic assessment of a number of accidents previously evaluated in the FSAR, which could potentially occur during reactor defueling. The SAR concluded that the FSAR analysis of these accidents remains valid or is bounding in all cases.

PSC plans to initiate reactor defueling on November 27, 1989, which is 100 days after reactor shutdown. The calculated core decay heat generation rate on November 27, 1989 will be below 0.3 MW. The prestressed concrete reactor vessel (PCRV) will be depressurized to atmospheric pressure, or slightly below, during defueling. Section 5.2.7 of the SAR for Reactor Defueling discusses the consequences of a permanent loss of forced circulation (LOFC) during defueling, conservatively assuming all of the fuel is in the core and core decay heat is 0.49 MW after 100 days shutdown, at LOFC initiation. Provided one loop of PCRV liner cooling operates with flow redistributed to the top head liner, the SAR concludes that the maximum temperatures of the fuel, PCRV liner, PCRV liner insulation cover plates and PCRV concrete remain within those experienced during normal operation. While this analysis conservatively assumed that PCRV liner cooling was initiated 24 hours into the LOFC, substantially greater delay could occur in establishing PCRV liner cooling flow with no change in accident consequences, since the temperature of the PCRV concrete immediately adjacent to the liner is not computed to reach its ASME Section 3 code allowable temperature limit for a faulted condition for 5 days into the LOFC. At this time, none of the other components mentioned above approach their thermal limits. PCRV liner cooling can be provided to either loop of the PCRV liner cooling tubes using the reactor plant cooling water system, firewater, service water or domestic water (FSAR Section D.2.3.2).

Since the reactor will be depressurized during defueling conditions, the safety concerns associated with a primary coolant leak are essentially eliminated. Due to the low primary coolant activity levels which currently exist, diffusion of all the helium in the PCRV out to atmosphere over a 24 hour period would not produce concentrations of radioisotopes in excess of 10 CFR 20 limits.

Section 3 of the SAR for Reactor Defueling demonstrates that the reactor shutdown margin will be greater than 0.01 delta k throughout the defueling sequence, including credible accidental control rod withdrawals during the performance of shutdown margin verification testing.

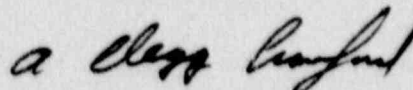
Conclusion

Based on the minor consequences of postulated defueling accident scenarios, such as permanent loss of forced circulation, breach of the reactor coolant pressure boundary and containment boundary, and accidental control rod withdrawal, as discussed above, and the time available to mitigate loss of cooling accidents, PSC concludes that very little safety benefit would be gained by performance of an IPE for severe accident vulnerability at FSV.

Based on the NRC's acceptance of PSC's proposed deletion of any commitments to perform an IPE for FSV (Reference 3) and in light of the fact that FSV will no longer be operated at power, PSC does not plan to establish a program for performance of an IPE.

Should you have any questions on this matter, please contact Mr. M. H. Holmes at (303) 480-6960.

Very truly yours,



A. Clegg Crawford  
Vice President  
Nuclear Operations

ACC/JRJ:tmk

cc: Regional Administrator, Region IV  
Attn: Mr. T. F. Westerman, Chief  
Projects Section B

Mr. R. E. Farrell  
Senior Resident Inspector  
Fort St. Vrain

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter

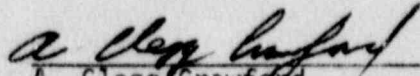
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Fort St. Vrain Unit No. 1

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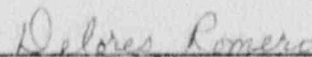
AFFIDAVIT

A. Clegg Crawford being first duly sworn, deposes and says: That he is Vice President, Nuclear Operations, of Public Service Company of Colorado, the Licensee herein, that he has read the information presented in the attached letter and knows the contents thereof, and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

  
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A. Clegg Crawford  
Vice President  
Nuclear Operations

STATE OF COLORADO )  
COUNTY OF DENVER )

Subscribe and sworn to before me, a Notary Public on this  
31st day of October, 1989.

  
\_\_\_\_\_  
Notary Public

My commission expires January 6, 1993.