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November 29, 1995
Fort St. Vrain
P-95104

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

Docket No. 50-267

SUBJECT: **Reply to a Notice of Violation (NRC Inspection Report 50-267/94-03 and Office of Investigations Reports 4-94-010 and 4-95-015, EA 95-110 and EA 95-185)**

REFERENCE: NRC Letter, Callan to Crawford, dated October 30, 1995 (G-95181)

Gentlemen:

This provides Public Service Company of Colorado's (PSCo) response to the Notice of Violation transmitted by the referenced letter, regarding activities at the Fort St. Vrain (FSV) Nuclear Station. This Notice of Violation involved radiation survey documentation irregularities that were discovered during an independent investigation initiated by PSCo and conducted from March 1994 to March 1995, by the law firm of Stier, Anderson, and Malone. NRC's Office of Investigations reviewed the Stier, Anderson, and Malone report and completed their investigation in May 1995.

During these investigations, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600 (60 FR 34381, June 30, 1995), the violations are set forth below:

Falsification of Radiation Protection Survey Documentation

10 CFR 50.9 requires, in part, that information required to be maintained by the licensee shall be complete and accurate in all material respects.

Contrary to the above, in February, March, and September 1993, records of radiation surveys were created which were not complete and accurate in all

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material respects. Specifically, during February and March, 1993, 14 records which were required to support the release of material from the facility, and 20 records, which were required to support work conducted under various radiation work permits were dated and signed to falsely indicate that they had been created substantially earlier. These records also contained false information regarding survey instrument usage and calibration dates. In September 1993, a survey record supporting release of the hot service facility plug was created to indicate that the survey had been completed when in fact it had not. These records were material to the NRC because they were required to ensure compliance with the regulations in 10 CFR Part 20.

This is a Severity Level III violation (Supplement VII).

This violation involves actions on the part of both PSCo and the Scientific Ecology Group (SEG), a major contractor on the Fort St. Vrain decommissioning project. As the licensee for the Fort St. Vrain Nuclear Station, PSCo assumes responsibility for the violation, and this letter addresses PSCo's reasons for the violation and corrective actions taken by PSCo in response. Scientific Ecology Group actions are being addressed via separate correspondence, in response to the Notice of Violation issued to them on October 30, 1995 (EA 95-164).

1) **Reason for the Violation**

This violation is admitted. PSCo concurs with the independent assessment conducted by the law firm of Stier, Anderson, and Malone that there were three instances of radiation protection survey records falsifications:

- In February 1993, 14 radiation protection survey records documenting the unconditional release of material from September to December of 1992 were backdated;

- In March 1993, 28 radiation protection records documenting surveys conducted to support work in Radiation Work Permit (RWP) controlled areas in the first quarter of 1993 were or appeared to have been backdated; although the NRC cited 20 RWP survey records as being backdated, the Stier, Anderson, and Malone report identified that 9 RWP survey forms were admittedly backdated and 19 RWP survey forms appeared to have been backdated; and

- In September 1993, one radiation protection survey documenting the unconditional release of a hot service facility plug was falsified.

There are numerous contributing causal factors for this violation which will be addressed in this response letter. The underlying reason why PSCo did not prevent or identify these records falsifications at an earlier time is that our management oversight over contractor activities was more focused on project and task performance than on documentation requirements; in addition, based on strong performance indicators in the radiation protection area, we had developed an inappropriate sense of satisfaction and complacency in this area.

At the beginning of the decommissioning project, PSCo and the Westinghouse Team developed a comprehensive system of work controls to ensure that dismantlement work activities were carried out as described in the Decommissioning Plan. As the Westinghouse Team was aggressively removing components and interferences from the Fort St. Vrain Reactor Building, PSCo's oversight personnel were working closely to ensure compliance with our work control requirements and with good industrial safety practices. With regards to radiation protection, PSCo focused on ensuring that personnel used appropriate monitoring instrumentation and dosimetry, wore protective clothing where required, followed RWP requirements, surveyed areas where work was being performed, and surveyed material prior to release. The focus was on performance of required tasks, and not on recordkeeping and documentation of completed tasks.

PSCo's oversight of records and documents was conducted during Quality Assurance audits. Records were reviewed on a sample basis, after they were approved by Radiation Protection supervision and considered as completed records. This type of review checks for completeness of records, but would not likely detect a survey record that had been created after the fact and then backdated to appear correct. Parenthetically, PSCo was only made aware of the survey records discrepancies because a survey technician came forward and volunteered the information; even the Stier, Anderson, and Malone investigation had difficulty determining whether a record had been falsified if the preparer did not admit it. A Quality Assurance audit in June 1993 did detect errors in documentation for radioactive waste shipping and instrument calibrations. In hindsight, this deficiency was an indication that radiation protection records should have been examined more closely, but this was the first critical observation of a radiation protection program that, by all other measures, had been considered strong.

The strong performance of the radiation protection program was a significant factor behind PSCo's inadequate management oversight in this area. Based on low worker exposures, a low number of individual contaminations, numerous worker suggestions in the ALARA suggestion program, and, at the time, zero positive bioassay results, PSCo felt that there was a strong ALARA program in effect. Also, the NRC's Resident Inspector, who was a certified health physicist, and subsequent Region IV inspectors provided positive reports in the radiation protection area, at one time stating that we were "maintaining good radiological control" of the facility. All of these strong positive

indicators contributed to a false sense of security and an inappropriate complacency about the radiation protection program and the amount of oversight required in this area.

Another contributing cause factor was that PSCo did not establish a cohesive team between all of the decommissioning contractors and PSCo at the beginning of the project. This failure to build a team attitude contributed to a lack of open communications that may have permitted an identification of radiation protection records concerns at an earlier time.

2) **Corrective Steps That Have Been Taken And The Results Achieved**

PSCo's immediate and long term corrective actions have been comprehensive and extensive, as described during a briefing to NRC Region IV on August 4, 1994, and during the predecisional enforcement conference on August 29, 1995. The August 4, 1994 meeting presentation materials were entered onto the docket as part of the NRC's meeting summary letter dated August 17, 1994, from S. J. Collins (NRC) to A. C. Crawford (PSCo). The presentation materials from the predecisional enforcement conference were entered onto the docket as part of the meeting summary letter dated September 1, 1995, from R. A. Scarano (NRC) to A. C. Crawford (PSCo).

PSCo's corrective actions and the results achieved are summarized below:

- **Third Party Investigation**

The Stier, Anderson, and Malone independent assessment was a comprehensive and thorough review wherein the investigators were not restricted in any manner. This investigation also dealt with workforce problems regarding discrimination for engaging in protected activities, which has been addressed separately with the NRC [see NRC letter dated September 25, 1995, from R. A. Scarano to A. C. Crawford, EA 95-045]. The Stier, Anderson, and Malone assessment required over one year before the final report was issued, at a cost to PSCo of approximately $1 million. Over a nine month period of time, more than 100 individuals were interviewed, which represented approximately 50% of the workforce at the time, and 15,000 pages of documentation were reviewed. PSCo also committed one full time radiation protection professional to assist the investigation team.

This investigation first identified the problem of potentially falsified radiation protection records and also provided a documented, independent definition of the extent of the problem. This investigation also allowed PSCo to review SEG's corrective actions in

their Radiation Improvement Program and to confirm with a large degree of confidence that all identified problem areas were addressed.

- **Work Stoppage**

Upon confirmation that radiation protection survey records had apparently been falsified, the Westinghouse Team stopped physical work on decommissioning activities, with PSCo's endorsement. The work stoppage occurred on March 25, 1994, and on March 28, the following Monday, PSCo issued a written stop work order that identified numerous provisions that needed to be addressed prior to restart. During the 16 day work stoppage, PSCo met with senior executives and all site management of SEG and Westinghouse, to discuss management responsibilities and core values. High standards of business ethics were stressed, including open communications, procedure compliance, and teamwork.

One of the requirements identified by PSCo was for the Westinghouse Team to prepare an assessment of the safety significance of the radiation protection survey records discrepancies. Prior to resuming physical work activities, the Fort St. Vrain Decommissioning Safety Review Committee reviewed and approved the Westinghouse Team's safety assessment and, in addition, the status and appropriateness of their corrective actions. The safety assessment concluded that there were no significant safety implications, that materials released from the FSV site had been surveyed prior to release and no radioactive material was inappropriately released from the site, and that workers and members of the public did not receive unexpected radiation exposures.

- **Enhanced Oversight of Material Releases**

PSCo enhanced its oversight of material release activities with three additional actions: PSCo's radiation protection oversight personnel perform independent surveys of material being released, on a sample basis; they observe material release surveys being performed by SEG technicians, also on a sample basis; and they review all material release records and survey data prior to release of the material for unrestricted use. In addition to activities undertaken by SEG to enhance the material release program, these actions have provided PSCo with total confidence that material is released in accordance with procedure requirements.

- **Enhanced Communications and Oversight**

PSCo site management met with all oversight personnel to emphasize the importance of the oversight function and to explain management expectations. This effort was also part of oversight enhancement activities that were implemented in response to the workforce discrimination problem identified earlier. In conjunction with those activities, PSCo increased the presence of all oversight personnel in the field, not just in the radiation protection area. Although many PSCo personnel had been observing project performance in the field, a group of radiation protection professionals, engineers, quality assurance personnel, and PSCo's safety advisor were tasked with performing monitoring and other field observations, and reporting to management at least twice per month. Management emphasized to this oversight group the importance of maintaining open communications and of reviewing field documentation on a day to day basis, instead of waiting for the final record review. Oversight personnel have established relationships with SEG radiation protection personnel and emphasized teamwork, so that concerns can be identified at an early stage and brought to appropriate management attention. The enhanced oversight effort has permitted a more directed oversight effort in all disciplines, and has provided greater management awareness of project concerns.

PSCo has also initiated meetings between management of PSCo and the WT on a weekly basis, which provide an opportunity to discuss various concerns, including any regarding the radiation protection program. In addition, PSCo has implemented an exit interview program for PSCo and contractor employees whereby employees who are terminated or released from the project may identify any concerns.

- **Expanded Formal Monitoring Program**

In radiation protection and all project disciplines, PSCo has instituted a program to conduct documented monitorings. In areas such as material releases, respiratory protection, or access control, checklists are prepared based on procedure requirements to ensure complete and directed observations by oversight personnel, and to ensure that day to day documentation is reviewed in addition to final records. Monitoring reports document specific tasks observed, individuals contacted, procedures used, and comments or concerns identified by the oversight individual. These reports are then provided to the quality assurance manager and the manager of the area being monitored; problem reports are initiated for violations or serious concerns. The expanded monitoring program has provided a more consistent, organized, methodical, comprehensive, procedure based oversight effort that also highlights concerns so that they receive appropriate management attention.

- **Review of SEG Radiation Improvement Program**

PSCo management and oversight personnel have reviewed the Management Oversight Risk Tree (MORT) analysis of SEG's radiation protection program, and the Radiation Improvement Program that SEG instituted in response. All improvement items that were incorporated into their revised procedures were approved by PSCo, and some have been included in monitoring checklists as mentioned above. In addition, in February 1995, PSCo retained an independent consulting firm to perform a special audit for the FSV Decommissioning Safety Review Committee. This special audit reviewed the MORT findings and the 339 corrective actions in SEG's Radiation Improvement Program. In July 1995, PSCo's Quality Assurance audit of radiation protection activities followed up on the special audit observations. These efforts have provided PSCo with confidence that the identified deficiencies in the radiation protection program have been adequately addressed.

- **Hot Line**

In conjunction with our response to the workforce discrimination problem noted previously, PSCo established a telephone line whereby individuals can identify radiation protection or other concerns in a manner which is independent of the supervisory chain. The hot line is an off-site, monitored telephone line, and is identified on various site-wide bulletin boards. Individuals using the hot line may remain anonymous, if desired, and concerns are addressed to appropriate corporate management. The hot line has been used on three occasions to date, although none of these calls has dealt with documentation irregularities.

3) **Corrective Steps That Will Be Taken To Avoid Further Violations**

PSCo and the Westinghouse Team will continue the programs and management involvement described above. PSCo will continue their oversight presence and will periodically monitor all aspects of the radiation protection program by personal observations, independent surveys, records reviews, and documented monitorings. The results of these oversight activities will be communicated to management and any identified problems will be documented through our corrective action system. This will maintain management awareness of field concerns and allow management to direct oversight emphasis.

4) **Date When Full Compliance Will Be Achieved**

PSCo considers that the Fort St. Vrain decommissioning project is currently in full compliance with the requirements of 10 CFR 50.9, and has been in full compliance since shortly after the concern was identified in early 1994.

PSCo considers that our corrective actions have been shown to be effective. No further indications of falsified records have been identified during subsequent records reviews, monitorings, or during the 1995 Quality Assurance audit of the radiation protection program. In addition, no allegations or indications of falsified documents have been received.

Our actions to promote open communications and ensure an atmosphere where workers feel comfortable raising concerns in the radiation protection area have also been shown effective. Concerns have been identified to management and have been effectively resolved, although none have involved falsified radiation protection records.

Closing

PSCo regrets the events and actions that resulted in the serious violation identified above. However, we consider that the extensive corrective actions undertaken by both PSCo and SEG, our corporate emphasis on quality and regulatory compliance, and our strong corporate team approach will ensure completion of the Fort St. Vrain decommissioning project in a manner that protects the radiological safety of our workforce and the general public.

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

Sincerely,

A. Clegg Crawford

A. Clegg Crawford
Vice President
Engineering and Operations Support

ACC/SWC

cc: Regional Administrator, NRC Region IV

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

Mr. H. W. Arrowsmith
President
Scientific Ecology Group

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter	)	
	)	
Public Service Company of Colorado	)	Docket No. 50-267
Fort St. Vrain	)	

AFFIDAVIT

A. Clegg Crawford, being first duly sworn, deposes and says: That he is Vice President, Engineering and Operations Support, 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.

A. Clegg Crawford
Vice President
Engineering and Operations Support

STATE OF Colorado)

COUNTY OF Denver)

Subscribed and sworn to before me, a Notary Public on this 29th day of November, 1995

Audrey L. Ketzman
Notary Public

My commission expires November 29, 1999