



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

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A. Clegg Crawford
Vice President
Nuclear Operations

November 29, 1990
Fort St. Vrain
Unit No. 1
P-90344

LETTER DISTRIBUION

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

Docket No. 50-267

SUBJECT: RESPONSE TO NOTICE OF VIOLATION (NUCLEAR
REGULATORY COMMISSION INSPECTION REPORT 90-16)

REFERENCE: NRC Letter, Martin to Crawford,
dated October 30, 1990 (G-9025A)

Dear Sirs:

On September 28, 1990, Mr. Blaine Murray conducted NRC inspection 90-16 to evaluate a potential overexposure at Fort St. Vrain. On October 18, 1990, an enforcement conference was conducted to provide Public Service Company of Colorado the opportunity to respond to this inspection. The following is our response to the items contained in the Notices of Violation and addresses actions we have taken to address the areas of systematic weaknesses and management involvement in the Radiation Protection Program.

A. SURVEYS

"10 CFR Part 20.201(b) requires that each licensee shall make or cause to be made such surveys as may be necessary to evaluate the extent of radiation hazards that may be present.

Contrary to the above, on September 19, 1990, the licensee did not perform radiation and airborne surveys before allowing a Special Senior Licensed Operator (SSLO) to enter the Hot Service Facility (HSF) to remove five unshielded radioactive samples. Subsequent surveys performed on September 20, 1990, revealed that the samples had contact radiation levels of about 65 Rads/hr."

This is a Severity Level IV violation. (Supplement IV)
(267/9016-01)

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The Reason for the Violation if Admitted

The violation is admitted. A Health Physics Technician covering the work in the Hot Service Facility did not perform a survey prior to allowing an SSLO to enter the Hot Service Facility to obtain some irradiated samples. A survey should have been obtained because conditions could reasonably have been expected to have changed in the HSF due to additional irradiated samples being obtained in the HSF since the previous survey. No overexposure was received as a result of this work but the potential for an overexposure did exist. The Health Physics Technician was mistakenly relying on previous day survey information.

The Corrective Steps Which Have Been Taken and the Results Achieved

A thorough investigation of the event was performed to determine the root causes. The following corrective actions have been taken based on the conclusions and recommendations of the evaluation.

- a) Counselling/Disciplinary action has been taken with the Health Physics Technician involved in the job.
- b) All Radiation Work Permits now require a review by Radiation Protection management to provide a better overall review of the work to be performed and the radiation protection requirements for the jobs.
- c) The event has been reviewed with all the Health Physics Technicians and SSLOs. The need to utilize current survey information and not rely on previous data was stressed.

No further incidence of failure to perform surveys or inadequate surveys has been noted.

Corrective Steps Which Will be Taken to Avoid Further Violations

Corrective steps which will be taken to avoid further violations include the following:

- a) The Radiation Work Permit review requirements will be reviewed and Administrative Procedure changes made, as necessary, to assure adequate surveys are performed.

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b) A review will be performed of Health Physics Procedures specifying survey requirements, and changes will be made as necessary to assure compliance with 10 CFR 20 Part 20.201(b).

The Date When Full Compliance Will Be Achieved

Interim administrative controls for review of RWPs have been implemented. Formal administrative procedural revisions will be achieved by December 31, 1990.

B. PROCEDURES

"Fort St. Vrain (FSV) Technical Specification 7.4.d states that "Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20, and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure."

FSV Procedure HPP-125 titled "Establishing and Posting Controlled Areas," Section 4.3, "Hot Service Facility Control," Subsection 4.3.5 states: "Write a Radiation Work Permit (RWP) for the job to be performed in the HSF."

FSV Procedure NPAP-10 titled "Radiation Work Permit Program," Section 3.2.2 states that "A special RWP is normally issued for a specific task for a period of time not to exceed 1 week."

Procedure NPAP-10, Section 4.2.3 stated that "During work in an area controlled by an RWP, health physics personnel shall: conduct radiation, contamination, and airborne radioactive surveys as necessary to determine changing radiological conditions."

Contrary to the above, an adequate specific RWP was not issued to cover the collection and removal of five radioactive samples from the HSF on September 19, 1990. The RWP used for the job, RWP No. 11377 titled, "Manipulator Testing and Modify RCD" did not reference any sample collection or removal activities. For example, RWP No. 11377 did not include radiation levels, continuous health physics coverage, extremity monitoring, respiratory protection equipment, or special instructions for handling the radioactive samples.

This is a Severity Level IV violation. (Supplement IV)
(267/9016-02)"

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The Reason for the Violation if Admitted

The violation is admitted. The Radiation Work Permit did not adequately address the job scope for the work being performed in the Hot Service Facility. It was written to allow general access to the area for set-up and testing work in preparation for obtaining the samples, instead of addressing the specific job.

The Corrective Steps Which Have Been Taken and the Results Achieved

All Radiation Work Permits are now required to be reviewed by Radiation Protection management prior to being issued. This has resulted in more consistency in RWFs and provides better overall control of the RWP program.

Counselling/Disciplinary action has been taken with the Health Physics Technician involved in the job.

All Health Physics Technicians have been instructed in the proper use and requirements of Radiation Work Permits.

No further incidence of failure to follow procedures with respect to RWP use has taken place.

Corrective Steps Which Will be Taken to Avoid Further Violations

The Radiation Work Permit review requirements will be reviewed and Administrative Procedure changes made, as necessary, to assure adequate RWPs are prepared and used, and to assure that all radiological concerns are addressed. Also, procedures addressing RWP requirements will be reviewed to assure they address the need for preparation and use of adequate RWPs.

The Date When Full Compliance Will be Achieved

Interim administrative control for review of RWPs have been implemented. Formal administrative procedural revisions will be achieved by December 31, 1990.

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C. INSTRUCTIONS TO WORKERS

"10 CFR Part 19.12 requires that individuals working in a restricted area shall be kept informed of radioactive material in the restricted area and shall be instructed in precautions or procedures to minimize exposure.

Contrary to the above, the SSLO that collected and removed five unshielded radioactive samples from the HSF on September 19, 1990, was not informed that the samples had contact radiation levels of up to about 65 Rads/hr nor did the SSLO receive special instructions on proper procedures for handling the samples.

This is a Severity Level IV violation. (Supplement IV) (267/9016-03)"

The Reason for the Violation if Admitted

The violation is admitted. The SSLO entering the Hot Service Facility was not fully aware of the radiological conditions because the Health Physics Technician did not perform a survey prior to his entry, no specific job briefing was provided, and the procedure for obtaining the samples did not include specific steps for retrieving the radioactive samples. The Health Physics Technician mistakenly concluded that ALARA considerations justified the entry by the SSLO alone.

The Corrective Steps Which Have Been Taken and the Results Achieved

This incident, and its potential consequences, has been reviewed with all the Health Physics Technician, and SSLOs. All Radiation Work Permits are being reviewed by Radiation Protection management to assure that adequate instructions are provided for the work to be performed.

Counselling/Disciplinary action has been taken with the Health Physics Technician involved in the job.

The Health Physics Supervisor or his designee is required to attend the daily planning meeting to be better informed of the work schedules affecting Health Physics.

No further incidence of inadequate instructions to workers has taken place.

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Corrective Steps Which Will be Taken to Avoid Further Violations

The Radiation Work Permit procedural requirements will be reviewed and Administrative Procedure changes will be made, as necessary, to assure adequate RWP reviews are performed and to assure that all radiological concerns are addressed in personnel briefings. Also, the procedures addressing work performed in the Hot Service Facility will be reviewed to assure that proper work instructions are provided for all work in that area.

The Date When Full Compliance Will be Achieved

Interim administrative controls for review of RWPs have been implemented. Formal administrative procedural revisions will be achieved by December 31, 1990.

D. RADIOACTIVE MATERIAL CONTAINERS

"10 CFR Part 20.203(f)(2) requires that each container of licensed material shall bear a durable, clearly visible label identifying the radioactive contents. The label shall also provide sufficient information to permit individuals handling or working in the vicinity to take precautions to avoid or minimize exposure.

FSU Procedure HPP-630, "Radioactive Material Control and Handling," states:

Section 4.3.1, "Identify all radioactive material, or their containers, with a Radioactive Materials Identification (RMI) Tag."

Section 4.3.3, "Perform radiation and contamination surveys inside and outside of the container or bag, as practicable."

Section 4.3.4, "Record information on the tag as necessary."

Section 4.3.5, "Record information in Radioactive Material Accountability Log."

Section 4.3.6, "Attach the hard copy of the tag to the material or container to be tagged."

Contrary to the above, the five bags containing radioactive samples removed from the HSF on September 19, 1990, were not tagged or identified as containing radioactive material.

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This is a Severity Level IV violation. (Supplement IV)
(267/9016-04)"

The Reason for the Violation if Admitted

The violation is admitted. The samples, although located in a locked control area, did not have each individual bag marked as containing radioactive materials.

The Corrective Steps Which Have Been Taken and the Results Achieved

The requirements for marking radioactive materials have been reviewed with all the Health Physics Technicians. Hot Spot identification is being utilized to identify those areas/equipment which present a radiological concern inside control areas so that workers are made aware of the hazards.

No further incidence of inadequate radioactive material identification has taken place.

Corrective Steps Which Will be Taken to Avoid Further Violations

A comprehensive review of the Radioactive Materials Control program is being performed to assure full compliance with 10 CFR 20.203(f)(2).

The Date When Full Compliance Will be Achieved

Procedural changes, if required, will be achieved by December 31, 1990.

E. PERSONNEL MONITORING

"10 CFR Part 20.202 requires that each licensee shall supply appropriate personnel monitoring equipment to each individual who enters a restricted area under such circumstances that he is likely to receive a dose in any calendar quarter in excess of 25 percent of the applicable value specified in paragraph (a) of 10 CFR Part 20.101.

Contrary to the above, on September 19, 1990, an SSLO collected and hand-carried five unshielded samples in plastic bags, with contact radiation levels of up to about 65 Rads/hr, from the HSF into the HSF access area without wearing extremity monitoring devices.

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This is a Severity Level IV violation. (Supplement IV) (267/9016-05)".

The Reason for the Violation if Admitted

The violation is admitted. The SSLO was not provided with the proper dosimetry for the radiation levels encountered because no survey was performed prior to him accessing the Hot Service Facility and consequently the Radiation Work Permit did not adequately address the radiological conditions in the area.

The Corrective Steps Which Have Been Taken and the Results Achieved

The requirements for dosimetry have been reviewed by all the Health Physics staff. All Radiation Work Permits are being reviewed by Radiation Protection management to assure that adequate dosimetry is provided for the work to be performed. A followup evaluation determined the SSLO received 0 millirem whole body exposure and a whole body count indicated no uptake of radioactive material.

Counselling/Disciplinary action has been taken with the Health Physics Technician involved in the job.

No further incidence of inadequate dosimetry being issued to workers has taken place.

Corrective Steps Which Will be Taken to Avoid Further Violations

The Radiation Work Permit procedural requirements will be reviewed and Administrative Procedure changes will be made to assure adequate dosimetry is provided for the work to be performed.

The Date When Full Compliance Will be Achieved

Interim administrative controls for review of RWPs have been implemented. Formal administrative procedural revisions will be achieved by December 31, 1991.

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Systematic Weaknesses and Inadequate Management Involvement

Public Service Company of Colorado is improving the ability of the Radiation Protection staff to provide for the health and safety of the workers and the public. In addition to the items addressed in the prior sections, which specifically address the violations, the following actions have been taken:

- 1) A second Health Physicist has been selected to reduce the work load on the Health Physics Supervisor and allow him to refocus his efforts on inplant work activities.
- 2) The Health Physics Supervisor has increased his participation in daily planning meetings. The Radiation Protection Manager, Health Physics Supervisor or Health Physicist is required to attend.
- 3) Service Excellence "regrouping" meetings are being conducted with the Health Physics staff to improve communications between management and staff.
- 4) ALARA Committee review requirements are being evaluated and changes are being implemented to increase its effectiveness.
- 5) The access controls to the Hot Service Facility have been upgraded to provide more effective control over this area including proceduralized key control and requiring an RWP to enter the HSF.
- 6) A Certified Health Physicist who is qualified in accordance with Regulatory Guide 1.8 as a Radiation Protection Manager has assumed responsibility for the Radiation Protection Program.
- 7) Public Service Company of Colorado has obtained the services of several individuals with exceptional decommissioning and Health Physics experience to assist on the Oversight Committee for spent fuel shipping and decommissioning activities.
- 8) This event was reviewed with senior management and the Oversight Committee. A followup report will be made to the Oversight Committee in February, 1991.
- 9) The event reporting philosophy has been reviewed with the Radiation Protection staff and management.

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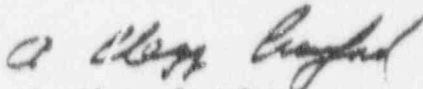
- 10) Public Service Company of Colorado is working closely with the contractor for decommissioning to ensure that a comprehensive Radiation Protection Program is developed for decommissioning. This particular event has been discussed with the contractor and will be incorporated into their program.

Public Service Company of Colorado acknowledges that a problem existed and that there was a potential for an overexposure. We are confident that the root cause has been identified and the actions taken and future actions will prevent recurrence. Public Service Company of Colorado is committed to an excellent Radiological Protection Program and recognizes its importance as we proceed with defueling and decommissioning. Public Service Company will continue to comply with license and regulatory requirements and continue to pursue our core values of safety, excellence, and finding the better way.

These actions are responsive to your concerns and provide reasonable assurance that similar events will not occur in the future.

Please call Mr. M. H. Holmes at (303) 480-6960 if you have any questions.

Very truly yours,



A. Clegg Crawford
Vice President, Nuclear Operations

ACC:WEW/bh

cc: Regional Administrator, Region IV
ATTN: Mr. G. L. Constable, Chief
Technical Support Section
Division of Reactor Projects

Mr. J. B. Baird
Senior Resident Inspector
Fort St. Vrain

Licensing Review By: 

Date: 11/27/90