

APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-267/85-29

Docket: 50-267

License: DPR-34

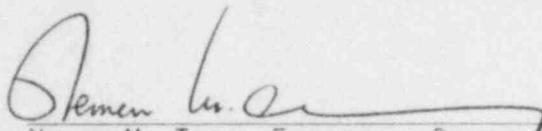
Licensee: Public Service Company of Colorado  
P. O. Box 840  
Denver, Colorado 80201-0840

Facility Name: Fort St. Vrain Nuclear Generating Station

Inspection At: Fort St. Vrain, Colorado

Inspection Conducted: September 23-27, 1985

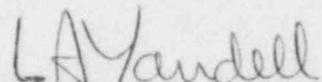
Inspector:

  
Nemen M. Terc, Emergency Preparedness  
Analyst, Emergency Preparedness and  
Safeguards Programs Section

1-08-86  
Date

Accompanying Personnel: W. Hansen, PNL, Comex

Approved:

  
L. A. Yandell, Chief, Emergency Preparedness  
and Safeguards Programs Section

1/8/86  
Date

Inspection Summary

Inspection Conducted: September 23-27, 1985 (Report 50-267/85-29)

Areas Inspected: Routine, unannounced inspection of the licensee's emergency preparedness program including followup of previously identified items, personnel proficiency, training, and audits. The inspection involved 90 hours by one NRC inspector and one NRC contractor.

Results: Within the three areas inspected, two violations were identified (failure to provide adequate training - paragraph 3; failure to perform adequate emergency program audit - paragraph 4). Eleven open items from previous inspections were closed.

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DETAILS1. Persons ContactedPublic Service Company of Colorado

- \*F. Borst, Support Services Manager
- P. Burck, Supervisor, Quality Assurance Auditing
- \*C. Clayton, Technical Services Engineer
- \*M. Deniston, Acting Supervisor of Operations
- D. Evans, Operations Supervisor
- \*C. Fuller, Station Manager
- \*J. Gahm, Manager, Nuclear Production Division
- \*M. Holmes, Nuclear Licensing Manager
- R. Moller, Instructor
- \*F. Novachek, Technical/Administrative Services Manager
- R. Rivera, Training Supervisor
- \*J. Sills, Technical Services Supervisor
- \*L. Singleton, Manager Quality Assurance
- J. Switzer, Supervisor Training Support
- S. Wilford, Technical Support Supervisor - Training
- R. Wadas, Fossil Quality Assurance Manager

During the inspection, the NRC inspectors also contacted other licensee personnel such as: shift supervisors, technical advisors, senior reactor operators, shift health physics technicians, and reactor operators.

\*Denotes those present during the exit interview.

2. Followup of Previously Identified Items

(Closed) Open Item (267/8313-10): The NRC inspectors noted that the status boards used during emergencies at the Forward Command Post had been enlarged. In addition, a Data Logger display was added.

(Closed) Open Item (267/8314-05): The NRC inspectors agreed with the licensee that reporting thyroid dose rates as zero instead of 0.0001 rem/hr would constitute no grounds for confusion.

(Closed) Open Item (267/8419-01): The NRC inspectors noted that procedures RERP-CR and RERP-PCC had been revised to prompt emergency response center supervisors so that they keep personnel informed of changes in plant status. In addition, new status boards were provided.

(Closed) Open Item (267/8419-02): The NRC inspectors noted that relevant procedures such as RERP-TSC, RERP-CP, and RERP-PCC were revised to direct

supervisory personnel to delegate certain administrative tasks during emergency conditions.

(Closed) Open Item (267/8419-03): The NRC inspectors noted that relevant procedures had been revised to incorporate checklists and that retraining was conducted to increase the certainty that emergency procedures will be followed.

(Closed) Open Item (267/8419-04): The NRC inspectors determined that RERP-TSC had been revised to include instructions for assigning personnel to updating status boards in the Technical Support Center. In addition, retraining of selected engineers and technicians for this task was accomplished.

(Closed) Open Item (267/8419-05): The NRC inspectors noted that procedure RERP-PCC was revised to instruct the Personnel Control Center director to delegate responsibilities for accountability of emergency workers and exposure control.

(Closed) Open Item (267/8419-06): The NRC inspectors verified that a study was conducted by a contractor to identify the needs for determining habitability conditions of the assembly areas for nonessential personnel. As a consequence of this study, frisker alarms will be set at 100 disintegrations per second and a portable air sampler will verify airborne concentrations.

(Closed) Open Item (267/8419-07): The NRC inspectors determined that the licensee conducted an evaluation of the Personnel Control Building and concluded that the present design was the only feasible one to adequately control ingress and egress of personnel while minimizing the spread of radioactive contamination.

(Closed) Open Item (267/8427-01): The NRC inspectors noted that the shift supervisor in question had been retrained.

(Closed) Open Item (267/8427-03): The NRC inspectors determined that the licensee had revised his retraining policy to minimize the use of self-study lesson plans.

### 3. Personnel Proficiency and Training

The NRC inspectors reviewed sections of the Radiological Emergency Response Plan (RERP) for Fort St. Vrain Nuclear Generating Station: RERP Implementing Procedures, Technical Specifications, the Training Procedures Administrative Manual (TPAM), and lesson plans. In addition, the NRC inspectors reviewed training records, and conducted interviews and walkthroughs with on-shift emergency response personnel such as: shift supervisors, reactor operators, technical advisors, health physics, and chemistry technicians.

The NRC inspectors tested the performance of four of the five available shift organizations by means of individual emergency response scenario walkthroughs conducted in the control room. Each walkthrough lasted about 2 hours, and the same accident scenario was used for each shift. The scenario required classification of emergency events, initial notifications, and dose projections. In addition, the NRC inspectors interviewed seven on-shift health physics technicians. These were presented with a scenario designed to test their performance in determining the habitability of the control room and the radioiodine content of a radioactive plume.

Based on above activities, the NRC inspectors made the following findings:

- a. Initial notification to State and local authorities and to NRC were made in an improper sequence. In six out of eight notifications, the NRC was notified prior to State and local authorities. With regard to timeliness, the initial notifications were outside the required time frame only once out of nine times. The NRC inspectors noted that the notifications procedure RERP-CR, issue 6, contained checklists that instructed the user to notify NRC before the Colorado State Department of Health. Other errors in the procedure made it ambiguous and difficult to follow.
- b. Health physics technicians that have on-shift assignments were unable to (1) determine the habitability of the control room and (2) determine the radioiodine content of a radioactive plume.
  - Six out of seven health physics technicians examined by the NRC inspectors failed to recognize existing procedural guidance necessary to ascertain habitability conditions in the control room and ignored whether a criterion of habitability existed. Three of seven technicians failed to recognize or acknowledge that one of their major responsibilities was the protection of emergency workers. Five out of seven indicated they did not know what actions they would take or how they would prioritize the same. One out of seven technicians indicated that if the shift supervisor was too busy to direct him, he would return to his routine work location and activities.
  - The NRC inspectors required some health physics technicians to explain the techniques to determine whether a radioactive plume contained radioiodine. All of six technicians tested were unable to carry out this task and could not properly interpret results. The NRC inspectors noted that the procedure offered no guidance for determining whether the individual taking the airborne sample in the field was immersed in a radioactive plume. Several technicians stated that they needed walkthroughs

on back shifts and more in-depth training on tasks involving their principal emergency duties.

- c. Training was not given to individuals according to their specific functional role during emergencies, but rather training lessons were structured to the various emergency response facilities as a whole. In addition, the NRC inspectors determined that corporate personnel having supervisory responsibilities in the emergency response organization were given only a 90-minute lecture every 12 to 15 months. Moreover, the licensee's training documents exempted corporate personnel from any written or oral examination.
- e. PSC training program failed to establish emergency preparedness training requirements for technical advisors and corporate personnel commensurate with their duties and responsibilities.

The above examples of insufficient training and an inadequate training program are an apparent violation against the requirements of 10 CFR 50.47(b)(15), which states that "Radiological emergency response training is provided to those who may be called on to assist in an emergency." (267/8529-01).

The NRC inspectors noted that the EPTM did not specify the applicability of emergency training to specific emergency organization positions, and as a consequence, a correlational matrix between emergency organization team titles and required training was not available. The overall emergency plan training program was discussed with the plant training staff and the NRC inspectors suggested that the licensee conduct a thorough review of the program and its implementation.

No other violations or deviations were identified.

#### 4. Audits

The NRC inspectors reviewed Technical Specifications, Amendment 36, Administrative Procedure Q-18, "Quality Assurance and Audit Program," Procedure QAAP-1, "Guidelines for Quality Assurance and Nuclear Facility Safety Committee Audits," and Nuclear Facility Safety Committee (NFSC) Audits Reports and Audit Plans for the years 1983-85. In addition, the NRC inspectors held interviews with PSC Quality Assurance supervisory personnel.

10 CFR 50.54(t) states that, as a condition of the license, all nuclear reactor licensees provide for the development, revision, implementation, and maintenance of their emergency preparedness program in order to provide with reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. To this end,

10 CFR 50.54(t) states that the licensee provide for an independent review of their emergency program every 12 months by persons who have no direct responsibility for implementation of the program. This review shall include an evaluation for adequacy of licensee drills, exercises, capabilities, procedures, and interfaces with State and local governments. The licensee is required to identify weak areas or deficiencies, to document the same in a report, and to make relevant findings available to State and local governments.

The NRC inspectors reviewed NFSC Audit Plans and Reports for the years 1983-85 and determined that the purpose of NFSC audits was to satisfy the requirements of Technical Specification AC 7.1.3, Section 7.b(5), which directed the licensee to perform an independent review of the Fort St. Vrain Emergency Plan and Implementing Procedures. The NRC inspectors noted that none of the reviewed documentation addressed the requirements of 10 CFR Part 50.

A review of the audit plans, reports, and associated documentation by the NRC inspectors indicated that independent reviews of emergency preparedness were limited to the observation of the annual exercise. The only exception was a review of emergency response training in the 1983 audit. The NRC inspectors noted that the licensee's audit program was thus designed to verify procedural adherence and not to evaluate procedural adequacy. The audit group made no additional effort to perform a systematic in-depth review of the various emergency areas and tasks associated with these areas. Furthermore, the NRC inspectors noted that PSC audit reports for the years 1983-1985 failed to identify deficiencies in personnel training and proficiency such as those identified in paragraph 3 of this report. As a result, the NRC inspectors concluded that the licensee's audit program lacked the necessary depth to ascertain weaknesses and deficiencies that could result in a degraded emergency response. The same conditions were true of the licensee's audit program used to evaluate the adequacy of interfaces with State and local governments.

The NRC inspectors noted that the NFSC Audit Report dated August 1984, had identified that excessive time was taken to staff and activate the emergency response centers. The Technical Support Center, Forward Command Post, and Executive Command Post were not fully manned and operational until 148, 134, and 126 minutes, respectively, after the emergency was declared. This situation failed to comply with procedure RERP-Plant, Section 5.2.1, which required full activation and staffing of emergency response centers within 90 minutes after classification of an Alert or higher level emergency.

As a consequence the NFSC auditors concluded that PSC could not effectively respond to emergencies occurring during off-hours shifts. The auditors issued Action Request CAR-080 on August 17, 1984, to address this matter. The licensee closed the item because a new call out procedure was used successfully during the June 1985 exercise. This did not fully address

the concern raised, because the June 1985 emergency exercise was conducted during the day shift. NRC finding 267/8314-06, directed the licensee to conduct a staff augmentation drill to ensure that emergency response personnel could in fact activate emergency response centers on a timely basis. The NRC inspectors determined in discussions with the licensee's quality assurance staff that the staff augmentation drill had not been conducted.

These failures to perform adequate audits of the emergency preparedness program and to resolve a deficiency and weakness identified in an audit performed constitute an apparent violation against the requirements of 10 CFR 50.54(t) (267/8529-02).

No other violations or deviations were identified.

5. Exit Interview

The exit interview was held on September 27, 1985. The interview was conducted by Mr. Nemen M. Terc, Emergency Preparedness Analyst, with Mr. R. Farrell, Senior NRC Resident Inspector at Fort St. Vrain Nuclear Generating Station in attendance. The licensee was represented by Mr. J. W. Gahm, Division Manager - Nuclear Production, and his staff. The licensee was given an oral summary of the NRC inspector's findings, observations, and comments. The NRC inspectors identified two violations described above (see paragraphs 3 and 4 of this report). The NRC inspectors stated that NRC Region IV management would review and determine the final status of the findings.