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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/85

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## EVENT DESCRIPTION:

On Thursday, July 19, 1984, at approximately 0200 hours, with the reactor shutdown and depressurized for internal maintenance, the daily sample was taken from the Reactor Building Sump (T-7202). Surveillance ESR-8.1.3a-W, "Reactor Building Sump Sampling and Analysis", requires samples be taken from the reactor building sump daily if the continuous sampler is inoperable. The sample is analyzed for gross alpha activity, gross beta activity, principle gamma emitters, Iodine-131, tritium, and dissolved and entrained gases (gamma emitters). The final results of the analysis are generally available two to four days following the date of the sample.

On Friday, July 20, 1984, at 0244 hours, the daily sample was taken, and the day shift initial analysis indicated an abnormal level (but below MPC) of tritium. The Radiochemistry Supervisor informed the Shift Supervisor that the releases from the Reactor Building Sump should be terminated until the tritium levels were investigated. The switches for the Reactor Building Sump Pumps (P-7201 and P-7201S) were placed in the "pull to lock" position at 1600 hours on July 20, 1984. On Saturday, July 21, 1984, a direct Reactor Building Sump sample was taken at 0830 hours and analyses indicated that tritium, gamma, and gross beta activities were below MPC; the Shift Supervisor was informed and the Reactor Building Sump Pumps were placed back in service at 1055 hours.

On Thursday, July 26, 1984, the sample results from July 20, 1984, were evaluated using existing methodology and it was determined that the concentration of unknown beta emitters was 2.24 times the MPC (for unknown radionuclides) at the time the sample was taken on July 20, 1984, at 0244 hours. It was concluded that sometime between approximately 0200 hours on July 19, 1984, and 0244 hours of July 20, 1984, a liquid release into the Reactor Building Sump occurred from an unknown origin that increased the radionuclide concentration in the sump. The Reactor Building Sump Pumps were not placed in the "pull-to-lock" position until 1600 hours on July 20, 1984. A decision was made that this occurrence constituted an Unusual Event, and State and Nuclear Regulatory Commission authorities were notified on July 26, 1984.

#### ANALYSIS OF EVENT:

Initial radiochemical analysis of the sample taken July 20, from the Reactor Building Sump, indicated a beta concentration of  $4.79E-05 \ \mu ci/ml$ . Based on the release rate of eight gallons per minute and the average cooling tower blowdown of 1632 gallons per minute, the calculated unknown beta concentration released would be  $6.72E-08 \ \mu ci/ml$ . The MPC for unidentified gross beta is  $3.0E-8 \ \mu ci/ml$ , resulting in a concentration 2.24 times the MPC for unidentified beta.

Two aliquots of the July 20, 1984, sump sample were immediately sent to an outside laboratory for a detailed analysis in order to determine the identity of the unidentified beta emitters. Through discussions with this outside laboratory, Public Service Company determined on August 21, 1984, that the method used to calculate the ratio of Sulfur-35 to gross beta activity was incorrect. LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSIO

EXPIRES: 8/31/85

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Initially, Public Service Company calculated the amount of Sulfur-35 present in the sample to be 71%. Using the corrected calculations, the amount of Sulfur-35 present in the sample was calculated to be approximately 95%. This percentage is supported by the outside laboratory performing the detailed analysis on the sample.

Using the above analysis results, it is concluded that all of the gross beta activity can be accounted for as Sulfur-35, and no MPC's were exceeded.

# CAUSE DESCRIPTION:

## Other

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AC Form 366A

On July 19, 1984, at 1405 hours the helium purification system regeneration compressor was removed from service to repair a seal leak. Contaminated water was released, as expected, when the compressor was disassembled. Any water released goes into the floor drains of the regeneration pit, which was believed to drain to the Liquid Waste Sump (T-6201). During an investigation into the source of the unidentified beta emitters, dye was released into the drain and found in the Reactor Building Sump instead of the Liquid Waste Sump.

#### CORRECTIVE ACTION:

On July 26, 1984, after it was determined a release could have occurred that was in excess of the MPC for unidentified beta emitters, the Reactor Building Sump Pump switches were placed in the "pull-to-lock" position while an investigation into the origin of the unidentified beta emitters took place.

After the source of the unidentified beta emitters was discovered to be the floor drains in the area of the regeneration compressor, the drains were plugged with inflatable plugs. In an effort to preclude a recurrence of this event, the floor drains from the regeneration pit will be rerouted from the Reactor Building Sump to the Liquid Waste Sump.

There has been a Technical Specification change submitted to clarify that the activity monitors referenced in ELCO 8.1.2, ESR 3.1.2, and ELCO 8.1.3 are gamma activity monitors (P-84445, dated December 31, 1984).

Public Service Company and the Nuclear Regulatory Commission conducted evaluations of continuous process beta monitors to prevent an occurrence of this type from happening again. Both Public Service Company and the Nuclear Regulatory Commission have concluded that there is no instrumentation currently available for monitoring beta activity in liquid waste effluent.

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U.S. NUCLEAR REGULATORY COMMISSION RC Form 366A LICENSEE EVENT REPORT (LER) TEXT CONTINUATION APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/85 DOCKET NUMBER (2) FACILITY NAME (1) PAGE (3) LER NUMBER (6) SEQUENTIAL NUMBER YEAR Fort St. Vrain, Unit No. 1 0 15 10 10 10 1 21 61 7 814 - 0101 9 - 011 015 OF 0 15 TEXT (# more space is required, use additional MRC Form 306A s) (17) Laurie S. Mc Kitrick Techical Services Technician Jim Eggebroten Technical Services Engineering Supervisor Licensing Review By: Jim Gramling J. Gramling Nuclear Licensing-Operations Supervisor alfulle C. H. Fuller Station Manager J. W. Gahm Manager, Nuclear Production

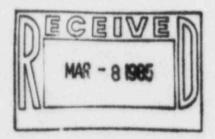


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# Public Service Company of Collorado

16805 WCR 19 1/2, Platteville, Colorado 80651

February 27, 1985 Fort St. Vrain Unit #1 P-85064



Regional Administrator Region IV U.S. Nuclear Regulatory Commission 611 Ryan Plaza Drive, Suite 1000 Arlington, TX 76011

Attn: Mr. E. H. Johnson

Docket No. 50-267

REFERENCE: Facility Operating License No. DPR-34

SUBJECT: Licensee Event Report 84-009, Issue 1

Dear Mr. Johnson:

Enclosed please find a copy of Licensee Event Report No. 50-267/84-009, Revised Final, submitted per the requirements of 10 CFR 50.73(a)(2)(i) and 10 CFR 50.73(a)(2)(v).

Sincerely.

J. W. Gahm

/J. W. Gahm Manager, Nuclear Production

Enclosure

cc: Director, MIPC

JWG/djm

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