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Public Service
Company of Colorado

November 20, 1996
Fort St. Vrain
P-96099

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

Attention: Mr. Michael F. Weber, Chief
Decommissioning and Regulatory
Issues Branch

Docket No. 50-267

SUBJECT: **Fort St. Vrain Reactor Building Sump Groundwater Releases in Accordance With NPDES Permit Provisions**

Dear Mr. Weber:

Attached for your information is a copy of a letter from Public Service Company of Colorado (PSCo) to the Colorado Department of Public Health and Environment (CDPHE) describing discharge practices for groundwater that seeps into Fort St. Vrain's Reactor Building Sump. The November 19, 1996 letter identifies that groundwater which ingresses into the Reactor Building Sump (approximately 10 gallons per day) will be transferred to the Turbine Building Sump, from which it is released to the environs. In accordance with the Fort St. Vrain National Pollutant Discharge Elimination System (NPDES) Permit, Wastewater Discharge Permit No. CO-0001121, PSCo provided a copy of the groundwater radiological analysis which verified no concentrations of radioactive nuclides above the Minimum Detectable Activity (MDA) in the Reactor Building Sump groundwater.

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

Sincerely,

Frederick J. Borst

Frederick J. Borst
Decommissioning Program Director

NL10

Attachment

FJB/SWC

cc: Regional Administrator, Region IV

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

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

November 19, 1996

Mr. Don Holmer
Permits and Enforcement Section
Water Quality Control Division
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80222-1530

RE: Public Service Company of Colorado - Fort St. Vrain - CDPS Permit No. CO-0001121

Dear Don:

As discussed in our conversation on November 1,1996, regarding Fort St. Vrain (FSV) Reactor Building Sump (RBS) groundwater ingress, Public Service Company of Colorado (PSC) , intends to transfer RBS groundwater into the Turbine Building Sump (TBS), which discharges into the Goosequill stub (Discharge Point 001B) or the alternate pathway through the Slough (Discharge Point 002). A sump pump has been installed in the RBS and hard piped to the TBS to accommodate this transfer. Currently the volume of groundwater ingress into the RBS is approximately 10 gallons per day. The RBS, as well as the incoming groundwater, has been surveyed for radiological contamination and has been verified to meet all radiological release criteria as established by the Nuclear Regulatory Commission (NRC) for the FSV Decommissioning Project. A copy of the groundwater analysis is attached for your records as discussed and agreed to in FSV Amendment 5, page 3, Section V, item 3 under "Additional changes which may impact water usage and discharge rates".
We appreciate your expeditious response on November 1, 1996 allowing PSC to begin the transfer of the RBS groundwater to the TBS.

In addition, this letter also serves as notification of PSC's intent to perform maintenance activities on the FSV Wastewater Treatment Lagoons (Discharge Point 007A), as discussed with Eldon Lindt on November 12, 1996. Maintenance activities will consist of transferring the water from the lagoons to the Northwest evaporation pond, removal and transfer of accumulated sludge to Conservation Services, inspection and repair of the aerators, and inspection of the lagoon hypalon liners. The Northwest evaporation pond is lined with a 60 ml. High Density Polyethylene (HDPE)

liner which is in excellent condition, is currently empty, and has a capacity of 2.5 million gallons. The volume of water from the sewage lagoons to be transferred to the evaporation pond is estimated to be approximately 100,000 - 150,000 gallons and will remain in the ponds until evaporation is complete.

Thanks again for your assistance on these issues. If you have any questions concerning discharge issues at FSV please contact Eldon Lindt at 571-7440 or call me at 620-1341.

Sincerely,

Jesse Brungardt

Jesse Brungardt
Sr. Environmental Analyst

cc: Eldon Lindt - PSC
Mark Fox - PSC
Marty Block - PSC
Sam Chestnutt - PSC
Alan Albrandt - PSC
Dave Fetterolf - PSC
Kathleen Sullivan - CWQCD

V. DISCUSSION OF AMENDMENT: (Cont.)

3) Installation of a "compressor wash skid" and a 2,000 gallon "washwater holding tank". The compressor wash skid will provide a high pressure wash of the turbine blades utilizing demineralized water and detergent to remove combustion residue introduced from the natural gas and combustion air. Discharge from the washwater holding tank is estimated to average 200 gpd and will be routed the "South evaporation pond".

Public Service Company of Colorado has inspected the South evaporation pond liner integrity. This inspection and the follow-up report verifying the liner integrity has been submitted to the WQCD.

Additional changes which may impact water usage and discharge rates include:

1) A decrease in service water cooling usage for reactor building equipment due to decommissioning. Commencing on approximately January 2, 1996, a service water cooling blowdown rate of approximately 4,000 gpd will be occurring to support cooling of the CT. The overall net effect of these two changes should not modify the previous renewal rationale, on page 6, of the FSV discharge permit, which indicated a maximum blowdown rate of 25,000 gpd for the service water cooling tower.

2) The Nuclear Regulatory Commission (NRC) licensing requirement for the 1,100 gpm bypass water during radioactive liquid waste discharges, will remain in effect until termination of the license by the NRC. Presently, it is anticipated that this licensing requirement will by cancelled by the third quarter of 1996.

→ 3) Rerouting of the Reactor Building Sump (RBS) to the Turbine Building Sump (TBS), at the completion of decommissioning, to accommodate groundwater ingress. The amount of groundwater ingress and therefore the flow rates from this discharge can not be determined at this time. As agreed to in the meeting of March 7, 1995, PSC will submit a copy of the radiological analysis of this groundwater prior to rerouting this discharge flowpath.

4) Outfall 007 (the effluent from the Sewage Treatment Plant) flow rates should remain fairly constant due to an influx of repowering personnel, with a simultaneous decrease in decommissioning personnel.

Except for the detergent to be used in the CT compressor wash skid, no new chemicals will be introduced into the facility process waters. Copies of the Material Safety Data Sheets (MSDS) for representative CT washwater detergents were attached to the letter of May 15, 1995.

Also attached to the PSC letter of May 15, 1995 is a copy of the mass balance process flow diagram, the design water analysis data, and the rationale used to prepare the design water analysis. The design water analysis results are based upon analysis performed by PSC, Calgon and Nalco Chemical Companies, as well as data provided by the WQCD. From a review of this data, the range of chemical constituents in some areas is extreme. The Carter Lake Treatment Plant will be the source of most of the water needed for Phase 1A and is fairly consistent in quality. However, the range of the water quality for the St. Vrain and South Platte river waters may be variable. Therefore, PSC plans to monitor the rivers for key parameters on a more frequent basis and revise the water design analysis as additional data becomes available.

Since the Combustion Turbine Oil/Water Separator will be a new contributing source in the Fort St. Vrain facility, this amendment includes significant changes; however, as later discussed, no public notice requirements are applicable. The other more significant changes in the Phase 1A activities have been included in the above discussions of this amendment rationale. Other less significant changes have been summarized in the letter from PSC dated March 10, 1995. These minor modifications in part include: a) installation of a pH control system for the Turbine Building Sump; and b) sulfuric acid/sodium hydroxide treatment in the Turbine Building Sump and temporary rerouting of the North Yard drains. For further details, see the letter dated March 10, 1995.

ATTACHMENT 6.2
SPECIAL OR NON-ROUTINE LABORATORY ANALYSIS

RP Log Number 96-0214
Laboratory ID number 31.00049

1. URGENT ☐
Results Required by Date: _____ Time: _____ Dose Rate: _____ ☐ None Detectable
Removable Contamination _____

Sample description: RBS Ground H_2O Leakage Barrel #23
Sample Location: Reactor Bld Lvl RBS Requested by: Bian
Sampled by: W. Alderman Date: 10-21-96 Time: 16:00
RWP Number: N/A System Number: N/A Air Sample Number: N/A
PCR Number: N/A Survey Cross Reference Number: N/A

2. Analyses requested: (please check)

☐ Gross Beta ☐ Gross Alpha ☐ Sr-90 ☒ H-3 ☒ Gamma-Quantitative ☐ Gamma - Qualitative
☐ Other (indicate) _____

3. Is this intended for unconditional release? ☒ Yes ☐ No If Yes: Is sample representative of entire contents? ☒ Yes ☐ No
Are required MDAs standard? ☒ Yes ☐ No

ANALYSIS / NUCLIDE	RESULTS	+ or -	UNITS	Counting MDA, (if required)	COMMENTS
Gamma	NSA *				see below
Tritium	4.13 E-7	5.46 E-7	uCi/ml	9.19 E-7	Less than MDA

4. Analyzed in accordance with established procedures? ☒ Yes ☐ No If no, explain below.

Comments: *NSA (No significant Activity) indicates that no activity (excluding naturally occuring nuclides) was detected above critical level at a 95% confidence level; sample counted for 2000 seconds on detector 4.

5. RC Lab Review: Mike Grube