

PUBLIC SERVICE COMPANY OF COLORADO  
FORT ST. VRAIN NUCLEAR GENERATING STATION

REPORT OF CHANGES, TESTS, AND EXPERIMENTS  
NOT REQUIRING PRIOR COMMISSION APPROVAL PURSUANT  
TO 10CFR50.59(a)

January 23, 1984, through January 22, 1985

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## INTRODUCTION

This report is submitted to comply with the requirements of Part 50.59(b) of Title 10, Code of Federal Regulations (10CFR50.59) as they apply to Fort St. Vrain Nuclear Generating Station, Unit No. 1. It includes the period of January 23, 1984, through January 22, 1985.

Some definitions of major terms used in this report which may be helpful:

Change Notice - Modification work proposed and installed by Public Service Company of Colorado.

"T" Tests - Tests proposed and conducted by Public Service Company of Colorado.

"RT" Tests - Tests proposed by GA Technologies and conducted by Public Service Company of Colorado.

In this report, the safety evaluation for the changes, tests, and experiments is summarized. The terminology used in these summaries is defined as follows:

### Safety Related Items

Those plant systems, structures, equipment, and components which are identified in the FSAR, as detailed and supplemented by applicable piping and instrument (P & I) diagrams, and documents SR-6-2 and SR-6-8, to include the following:

- a) Class 1 per the updated FSAR, Tables 1.4-1 and 1.4-3.
- b) Safe Shutdown components per the updated FSAR, Tables 1.4-2 and 1.4-3.

#### Safety Significant Change

Changes to the facility, systems, components, or structures as described in the FSAR that may do any one of the following:

- a) Affect their capability to prevent or mitigate the consequences of accidents described in the FSAR,
- b) Result in exposures to plant personnel in excess of occupational limits, or
- c) Changes in the safety related systems which involve the addition, deletion, or repair of components, structures, equipment, or systems such that the original design intent is changed (i.e., changes in redundancy, performance characteristics, separation, circuitry logic, control, margins of safety, safe shutdown, accident analysis, or any change that would result in an unreviewed safety question or require a Technical Specification change).

#### Unreviewed Safety Question

Any plant modification or activity is deemed to involve an unreviewed safety question as defined in 10CFR50.59 if:

- a) The probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR may be increased, or
- b) The possibility of an accident or malfunction of a different type than any evaluated previously in the FSAR may be created, or
- c) The margin of safety as defined in the basis for any Technical Specification is reduced.

## 1.0 PUBLIC SERVICE COMPANY CHANGE NOTICES

All CN's will be listed in the following order:

- First - CN number.
- Second - system/component number.
- Third - description of the change.
- Fourth - summary of safety evaluation.

### CN-834

#### System 92/Electrical Power System

This CN numbered cables and equipment associated with the plant's 13 kV electrical distribution system. Changes to the FSAR were minor and did not affect safe operation of the plant, however, the modification did necessitate changes to Figures 8.2-5, 8.2-6, 8.2-8 and 8.2-12 and added some electrical distribution drawings to the FSAR.

This modification was classified non-safety related and was not considered to be an Unreviewed Safety Question, and was not Safety Significant.

CN-846

System 45/Fire Protection System

This modification installed several additional zones of fire detection in the operating plant area. These new fire detection zones serve the hydraulic oil power units, major hydraulic operated valves, and other important safe shutdown areas. The system also utilizes oil mist detection equipment to help identify major oil leaks prior to combustion.

Sections 9.12.2 and 9.12.3 of the FSAR will be updated to indicate the new zones. As the modification did not affect direct operation of existing equipment or systems, but rather enhanced the fire protection and detection systems, the modification was determined not to be Safety Significant and not to involve or create an Unreviewed Safety Question.

CN-1076

Systems 23 and 24/Helium Purification and Helium Storage Systems

This Change Notice authorized installation of a pressure regulator in the helium purge line (L2411) to the regeneration section of the helium purification system. This modification allows improved control of the helium flow and minimizes the possibility of overpressurizing the helium purification system.

Figure 9.5-1 of the FSAR will be updated to include the new pressure regulator. Also, Section 9.5.5 will be updated to indicate the additional pressure control device. The modification was not Safety Significant and did not involve or create an Unreviewed Safety Question.

CN-1084

Systems 84 and 92/Auxiliary Boiler and Heating and Electrical Power Systems

This modification provided a new breaker for the forced draft (FD) fan of the outside auxiliary boiler. FSAR Figure 8.2-11 will be updated to indicate that compartment A4 of N-9260 will house this new breaker.

The modification was not Safety Related, Safety Significant, and did not involve or create an Unreviewed Safety Question.

CN-1280

System 70/Structures-General

To meet the requirements of seismic reinforcement of certain masonry block wall structures, PSC implemented a study to analyze the masonry block wall structures at Fort St. Vrain. Change Notice 1280, and subsequent reissues, performed these analyses. Section 14.1 of the FSAR already identifies that some masonry block walls were modified by the installation of steel bar strap reinforcements. Following the completion of this Change Notice, approximately twenty additional block walls were identified.

This modification was considered Safe Shutdown, Class I, and Safety Related, however, the overall effect to plant operation and control was considered not Safety Significant and was not considered an Unreviewed Safety Question.



CN-1298

System 93/Plant Protective System

This modification installed a time delay into the common circulator modules of the Plant Protection System (PPS). The purpose of the time delays in the ultrasonic steam line rupture detection circuit, is to help prevent spurious trips of the system due to interference noise in the reactor building from welding, test signals, etc..

As the system's function did not change, but rather, was made more reliable due to requiring a positive, continuous, input signal, the modification was not considered to involve or create an Unreviewed Safety Question. As the modification did affect the Plant Protective System, the change was classified as Safety Significant, Class I, Safe Shutdown and Safety Related.

CN-1314

System 21/Primary Coolant System

Another reissue to the original Change Notice was installed during this reporting period. The reissue involved adding automatic controls to close the buffer helium dryer outlet valves on a circulator trip due to loss of bearing water. This modification was installed to help prevent moisture ingress into the PCRV during transient conditions.

As the modification was designed to help reduce the moisture ingress problems experienced at Fort St. Vrain, the change was considered a benefit to future operation. The modification did not impose any significant probabilities not previously addressed in the FAR. The modification was considered not Safety Significant and did not involve or create an Unreviewed Safety Question.



CN-1368

System 73/Reactor Plant Ventilation System

This change notice authorized the upgrade of ventilation to the bottom head of the PCRV. This modification should reduce equipment malfunctions and problems associated with personnel working in this area due to temperature.

FSAR Section 6.2 will be updated to include a description of the Reactor Plant Ventilation System modification. This modification was not Safety Significant and was not an Unreviewed Safety Question.

CN-1391

System 92/Electrical Power System

This modification upgraded the main station batteries at Fort St. Vrain. The main station batteries were replaced with new batteries, which were installed for battery power to the non-interruptible instrument buses. Subsequent reissues ensured that equipment numbering remained consistent with maintenance history records.

The modification was not considered Safety Significant or an Unreviewed Safety Question as the function of the DC power system did not change. As the new battery units provide a larger capacity than the previous units, the systems reliability will be enhanced.

CN-1401

System 93/Plant Protective System

This modification installed a high range area radiation monitor on the east wall of the refueling floor. This change was in response to an NRC NUREG-0737 commitment item. Table 11.2-3 of the FSAR will be updated to indicate the presence of a high range monitor.

The change was not considered Safety Significant and did not involve or create an Unreviewed Safety Question. The change will assist in plant assessment during the analyzed "worst case" accident.

CN-1404

Systems 21 and 93/Primary Coolant and Plant Protective Systems

This modification installed new control circuitry associated with the steam/water drains on the helium circulators. The modification involved some recabling and disturbance of the safety related cable tray network.

As the modification improved circulator reliability, the change was not considered Safety Significant, or an Unreviewed Safety Question.

CN-1436

System 11/Reactor Vessel and Internal Components

Another reissue to the original Change Notice replaced two previously hand operated valves with remotely operated valves. These valves will be used to isolate the associated steam generator interspace system if problems arise with the pressurization/sampling system.

As the modification allowed quicker and safer operation of the steam generator interspace monitoring system, the modification was considered not Safety Significant, or an Unreviewed Safety Question.

CN-1442

System 92/Electrical Power System

This modification relocated a 120 Volt essential load from Bus 1 to Bus 3. This change was a result of the essential power load analysis and was intended to ensure that all the essential buses will carry an approximate equal load.

This change was made to the essential power distribution, therefore the modification was considered Safety Related, Class I and Safe Shutdown. However, the modification did not involve an Unreviewed Safety Question or Safety Significant.

CN-1464

System 93/Plant Protective System

This modification installed control switches on I-49 (remote shutdown panel) to allow the main steam bypass valves to fail open providing a secondary coolant flow path. FSAR Section 7.4.2 will be updated to identify the new switches.

This modification did not impose any safety concerns. However, it did increase the remote plant control capabilities during a postulated accident involving abandonment of the control room. Therefore, this modification increased plant reliability during emergency conditions and was not considered Safety Significant and did not involve an Unreviewed Safety Question.

CN-1487

Systems 46 and 93/Reactor Plant Cooling Water and Plant Protective Systems

This modification installed an alternate region peaking factor (RPF) calculation that can be used in the event a loss of the plant's data acquisition system occurs. The FSAR will be updated to incorporate a description of the alternate calculation method.

The RPF calculation is required to determine proper core flow and temperature conditions, however, since this modification is an alternate system, the modification was not considered Safety Significant and did not involve or create an Unreviewed Safety Question.

CN-1494

System 12/Control Rod Drive and Orifice Assembly System

This change notice authorized the updating of Specification 12-D-1 concerning Boronated Graphite Balls - (Reserve Shutdown System). The FSAR will be updated to describe the changes to aid qualifications testing of the Reserve Shutdown material.

This modification was determined not Safety Significant and did not involve or create an Unreviewed Safety Question.

CN-1503

System 70/Structures-General

This change notice authorized the numbering of all on-site buildings at Fort St. Vrain. The numbering is intended to help personnel locate and identify the various buildings.

Figure 1.2-4 of the FSAR will be updated to indicate the new identification system. The modification was not considered Safety Significant and did not involve or create an Unreviewed Safety Question.

CN-1550

System 25/Liquid Nitrogen System

This modification installed a complete new outside storage reservoir for the liquid nitrogen system and associated controls. The nitrogen system is utilized for various operations and equipment within the plant. This portion of the system is non-safety related. Therefore, the modification was considered not Safety Significant.

Various sections and figures within the FSAR will be updated to indicate the new nitrogen system and controls. As the modification was installed to improve the operation of the liquid nitrogen system, it did not impose any Unreviewed Safety Questions.

CN-1576

System 93/Plant Protective System

This modification to the Plant Protective System (PPS) prevents a loop dump below 20% feedwater flow. Several areas within the FSAR will be updated to indicate the change has taken place in the PPS.

The modification was not considered Safety Significant, and did not involve or create an Unreviewed Safety Question. As the system was being returned to its original setpoint and operation, the modification had already been thoroughly analyzed from a safety standpoint.

CN-1590

Systems 46 and 47/Reactor Plant Cooling Water and Purification Cooling Water Systems

This modification authorized connecting the chiller unit, S-4602, to the front-end coolers of each purification loop. However, the modification was only performed on train B. The assisted cooling medium provides enhanced moisture removal from the primary coolant via the purification system.

As the modification helped to improve primary coolant conditions, the change was not considered Safety Significant, and did not involve or create an Unreviewed Safety Question.

CN-1603

System 75/Turbine Building

The original ventilation makeup filter for the control room could not be sufficiently tested and calibrated, therefore, the unit was replaced with a more efficient, testable unit. The function and protection capabilities of the control room ventilation system did not change. This portion of the HVAC system is non-safety related.

The activity was classified as equipment replacement and was not considered Safety Significant. The activity did not involve or create an Unreviewed Safety Question.



CN-1614

System 91/Hydraulic Power System

The station's hydraulic power units for various valve and system controls are located on Level 1 of the Reactor Building. Since there was no specific system available to fill the hydraulic reservoirs, the task was time consuming and considered a personnel safety hazard. CN-1614 installed a pump and piping system to allow station personnel to fill/add to the reservoirs from grade level in the Turbine Building. This made the task easier and safer as oil containers are only delivered to the grade level area. The filling system installed is a simple drum connection and pump system which is controlled locally.

The modification affected the FSAR due to its location being identified on the building level figures and the hydraulic oil system figure. The modification was not Safety Significant and did not involve or create an Unreviewed Safety Question.

CN-1624

System 11/Reactor Vessel and Internal Components

This modification authorized the use of compression type fittings in the primary coolant moisture monitoring system. It also authorized forming modular units for each moisture monitor assembly. The modular design combined with the use of compression fittings, allows easy removal of the unit for repair and calibration. Since primary coolant sample lines are small in diameter, the modification did not pose a potential failure, or radiological release problem.

As the moisture monitors still remain within penetrations of the PCRV, the modification was not determined to be Safety Significant, and did not involve or create an Unreviewed Safety Question.



CN-1630

System 93/Plant Protective System

This modification authorized changing the feedwater runback rate from 0.50% per second to 0.25% per second on all associated PPS events, with the exception of reactor scram and main turbine generator trip. The rate was reduced to allow a greater heat removal to prevent hot reheat steam temperature scrams. Prior to the modification, during certain plant conditions, the more rapid runback rate on feedwater allowed reheat steam temperatures to trip the PPS circuitry resulting in a reactor scram.

The change was not considered Safety Significant and did not involve or create an Unreviewed Safety Question as it will benefit reactor shutdown operations. Section 10.3.1 of the FSAR will be updated to indicate the new rate during certain plant upset conditions.

CN-1641

System 13/Fuel Handling Equipment

This modification to the Fuel Handling Machine (FHM) internal camera system was installed to minimize camera and film failure due to overheating. An interlock was installed to shut down the camera system if the helium cooling system was accidentally tripped off. As photography of in-core maintenance and fuel/reflector blocks has become more significant, the modification will help maintain a higher level of reliability of the photography system.

As the modification did not alter the pressure barrier of the FHM, but only decreased potential maintenance due to camera overheating, the modification was not considered Safety Significant and did not involve or create an Unreviewed Safety Question.

CN-1685

System 92/Electrical Power System

A Nuclear Regulatory Commission requirement providing a location on-site for their mobile laboratory required electrical and phone connections. CN-1685 installed these requirements per the NRC's specifications.

The modification was not Safety Significant and did not involve or create an Unreviewed Safety Question. The power connections will not be utilized except when the NRC mobile lab is present on-site.

CN-1691

Systems 48 and 92/Alternate Cooling Method and Electrical Power System

The modification installed indicating lights on each of the ACM/Normal lighting transfer switch boxes. These indicating lights allow quick identification of whether a transfer box's ACM power feed is energized. The indication can be used in an emergency situation, during normal operation and during surveillance testing.

The modification was not Safety Significant and did not involve or create an Unreviewed Safety Question.

CN-1707

System 21/Primary Coolant System

This modification was authorized to help reduce problems associated with the primary coolant circulator control systems. The change installed separate drain lines from the high pressure separators and the circulator main drains to the bearing water surge tanks. The individual lines (originally common lines) allowed for better drain control of each subsystem.

The margin of safety has been improved due to increasing the reliability of the circulator controls. Therefore, this modification was not considered Safety Significant, and did not involve or create an Unreviewed Safety Question.

CN-1709

System 12/Control Rod Drive and Orifice Assembly System

This modification authorized the installation of temperature sensors and an associated monitoring system for the Control Rod Drive and Orificing Assemblies (CRDOA). The installation included three Resistance Temperature Devices (RTDs) on each CRDOA and output multiplexers. Eventually a recording/alarming system in the control room will be installed under a separate CN. The system is expected to be used to analyze the CRDOA operating conditions at all power levels. This change notice authorized installation of RTDs on each CRDOA whenever in-core maintenance allowed.

The instrumentation installed per CN-1709 does not provide any automatic protective functions or change any margins of safety associated with the control rod system. The modification was not considered Safety Significant and did not involve or create an Unreviewed Safety Question.

CN-1726

System 63/Radioactive Gas Waste System

This modification expanded the flow capacity of the gas waste surge tanks' discharge lines. The expansion was accomplished by replacing the existing reduced size valve trim with full size trim. Also, the discharge line isolation valves were replaced with full size globe valves to reduce flow restrictions. The discharge line flow element was also replaced with a larger, comparable model.

The increase flow capacity will allow efficient and reliable operation of the gas waste system. The modification was not considered Safety Significant, and did not involve or create an Unreviewed Safety Question.

CN-1727

System 31/Condensate and Feedwater System

This modification installed a three-unit ultrafiltration system within the condensate and feedwater system. The ultrafiltration unit will assist, as necessary, in filtering the condensate water during startup and normal operation. The ultrafiltration unit will help by removal of more iron from within the condensate system and thereby reduce corrosion and subsequent maintenance downtime.

The addition of the unit was not considered Safety Significant, and did not involve or create an Unreviewed Safety Question. The FSAR will be updated to indicate the addition of the unit in the Turbine Building.

CN-1729

Systems 46 and 93/Reactor Plant Cooling Water and Plant Protective Systems

This Change Notice, and subsequent reissues, analyzed and authorized the installation of a new Data Acquisition System (DAS) to measure, record and alarm (if necessary) the PCRV cooling water (System 46) flows and temperatures. Therefore, the addition of the DAS will assist in analyzing and correcting plant deficiencies prior to reaching a limit.

The modification was not considered Safety Significant, and did not involve or create an Unreviewed Safety Question.

CN-1740

Systems 17 and 18/Reactor Reflector and Fuel Assemblies System

This modification involved authorization for the fuel and reflector arrangement for fuel cycle 4. The Change Notice authorized changes to Specification 18-R-24, "Fort St. Vrain Core General Assembly". The modification also documented the use of H-451 graphite in the Fort St. Vrain core as previously approved per Amendment 40 to the Facility Operating License. Authorized use of half-length reflector blocks in place of full-length blocks in outer core regions as appropriate.

The modification was not considered Safety Significant as the Technical Specification change had already been submitted to, and approved by the NRC. The change did not involve an Unreviewed Safety Question and was completely analyzed under "Safety Analysis Report for Fuel Reload 3 (Fuel Cycle 4)" by GA Technologies.

CN-1742

System 12/Control Rod Drive and Orifice Assembly System

In order to perform core physics testing and core fluctuation measurements, two instrumented control rod drive assemblies were previously installed in core regions 5 and 35. CN-1742 removed these special CRDOAs and replaced them with normal control rod drive assemblies since test completion. Section 3.8.1.3 of the FSAR will be updated to indicate that these regions have been returned to their normal configuration.

As the core returns to its original design state with all thirty-seven control rod drives containing two rods, the modification did not create or involve an Unreviewed Safety Question and was not considered Safety Significant.



CN-1747

System 13/Fuel Handling Equipment System

A new lifting device was designed for the reactor building crane interface with the Fuel Handling Machine. The new design replaced a shackle assembly.

As the modification provided a more positive lifting device, the modification was considered not to be Safety Significant, and did not involve or create an Unreviewed Safety Question.

CN-1766

System 70/Structures-General

This modification constructed a "pole style" building for storage. The building does not interfere with plant operations in any manner. The site plot plan in the FSAR will be updated to show the proper location of the building.

The modification did not directly affect plant operations and was not considered Safety Significant or involve or create an Unreviewed Safety Question.

CN-1771

System 2/Plant Site

This modification installed an additional Parshall Flume on the Goosequill Stub Ditch in the plant's water distribution system. The addition of this flume will assist in regulating the plant's water rights and discharge capabilities.

The modification was not Safety Significant, and did not involve or create an Unreviewed Safety Question. The FSAR will be updated to indicate the second flume on appropriate site figures.



CN-1775

System 11/Control Rod Drive and Orifice Assembly System

This Change Notice modifies the primary coolant moisture monitors by removing the scattered light amplifiers and amplifier modules. The scattered light circuitry of the moisture monitors has not been used for quite some time. In order to reduce required maintenance, the circuit was removed.

The modification was not considered Safety Significant, and did not involve or create an Unreviewed Safety Question.

CN-1798

System 21/Helium Circulator Auxiliaries System

Replaced the emergency water booster pumps. The modification involved installing pumps and associated power supply systems.

The change was not considered Safety Significant, and did not involve or create an Unreviewed Safety Question.

CN-1801

System 92/Accessory Electrical Equipment System

This modification involved the change out of feeder cables to battery chargers 1A and 1B. FSAR Figure 8.2-9 will be updated to reflect the cable number change.

The probability of an accident has not been increased by this modification. It is also not considered to be Safety Significant and did not involve or create an Unreviewed Safety Question.

CN-1803

System 93/Plant Protective System

Change Notice 1803 authorized the replacement of the acoustic curtain between the bottom of the PCRV and the lower snubber deck grating. The curtain separates loop 1 from loop 2 ultrasonic detectors under the PCRV. The curtain required replacement as the original was found to contain harmful asbestos. The curtain will be added to plant drawings in the FSAR.

The modification returned the system to its original design and was considered a change of material. The change was not Safety Significant and did not involve or create an Unreviewed Safety Question.

CN-1826

Systems 45 and 70/Fire Protection System and Structures-General

In order to maximize plant personnel training in the field of fire fighting, the plant constructed a new training facility including a fire pit, LP gas tree, smoke house, hydrant and a general equipment storage building. The facility is located outside the protected area. The FSAR site maps will be updated to indicate this addition.

As the modification did not affect plant operations, with the exception of extending the plant's firewater distribution system. Therefore, the Change Notice was not considered Safety Significant, and did not involve or create an Unreviewed Safety Question.

CN-1902

System 21/Primary Coolant System

This Change Notice authorized the modification of the Helium Circulator Bearing Water System. This modification provides automatic closure of the bearing water isolation valves on loss of normal bearing water. This modification will prevent the simultaneous operation of normal and back-up bearing water and subsequent moisture ingress to the PCR. FSAR Section 4.2 will be updated to reflect the change.

The modification was determined to be Safety Significant but was not an Unreviewed Safety Question.

CN-1931

System 75/Turbine Building

This Change Notice prepared a safety evaluation to evaluate the as-built configuration of the automatic air make-up feature in the Control Room HVAC system in lieu of the manual air makeup system described in the original FSAR.

This modification was determined neither to be Safety Significant or an Unreviewed Safety Question.

## 2.0 PUBLIC SERVICE COMPANY TESTS (T-TESTS)

### T-180

#### System 21/Primary Coolant System

To gather data on the circulator bypass ratio control system to analyze why the plant has experienced a second circulator trip after the first circulator trips in a loop at higher power levels.

The test involved tripping an operating circulator at various speed levels and record various parameters of the second circulator in the loop including the associated control systems. Following completion of the test, it was determined that no specific setpoint for the ratio controller would solve the apparent problem. A Change Notice was being produced to correct the sensing points and associated ratio bypass control system. Since the test did not involve any plant operating conditions not previously analyzed, the test was not considered Safety Significant or an Unreviewed Safety Question.

### T-192

#### System 92/Electrical Power System

To obtain data on the undervoltage relays for the scram circuits on essential buses one (1) and three (3).

The test was run to determine when the undervoltage scram relays actually tripped on these two essential buses. The 480 Volt load centers have since been replaced including a multi-relay undervoltage protection circuit. This replacement was performed in-part due to the results of this test. Since the test involved only one scram logic circuit at a time, the test did not affect the reactor protection circuit and was not considered Safety Significant or an Unreviewed Safety Question.

T-198

System 25/Liquid Nitrogen System

To gather usage data for each liquid nitrogen user for proper sizing of lines.

This test was run to determine the usage rate of liquid nitrogen system components, moisture monitors and Low Temperature Adsorbers. This was done in preparation for a modification to the Liquid Nitrogen System. This test was not considered Safety Significant and did not alter the normal operation of the system did not involve or create an Unreviewed Safety Question.

T-215

System 93/Plant Protective System

To verify proper operation of the regulating rod when controlled by the Flux Controller.

This test was performed to verify proper regulating rod operation while being controlled by the Flux Controller. All control rods have been refurbished including the rod now acting as the regulating rod. This test was considered not to be Safety Significant or an Unreviewed Safety Question because the regulating rod was the only rod withdrawn or moved during this test.

T-218

System 46/Reactor Plant Cooling System

To detect a possible tube leak in subheader #237 of the PCRVR Liner Cooling System.

This test was conducted to identify tubes in this subheader which may be leaking. This was determined by monitoring temperature and ultrasonic sound levels. This test was performed in conjunction with the core support floor tube epoxy project. Since the PCRVR Liner Cooling System was operated within the limits prescribed in the FSAR and Technical Specifications throughout this test, it was determined not to be Safety Significant or an Unreviewed Safety Question did not exist.

T-221

System 11/Reactor Vessel and Internal Components

To verify V-11501 through V-11537 (CRDM Purge Helium Check Valves) and V-11288 and V-11289 (High Temperature Filter Adsorber (HTFA) Purge Helium Check Valves) were installed properly after completion of SR 5.2.16f-RX (PCRVR Auxillary System Penetration Check Valve Test).

This test was run to insure these check valves. This was done by pressurizing the lines with helium. For valves installed properly, the line pressure followed reactor pressure. Conversely, for valves installed improperly, the line pressure remained stable. The test was determined not to be Safety Significant and did not involve an Unreviewed Safety Question.

T-222

System 93/Plant Protective System

To monitor the Flux Controller's ability, while in automatic operation, to control the regulating rod to maintain a stable Reactor Power level.

This test recorded regulating rod position, Flux (%), and Deviation (%) data. It did not alter the normal operation or functions of the Flux Controller. Therefore, this was determined not to be Safety Significant or an Unreviewed Safety Question.



T-224

System 11/Reactor Vessel and Internal Components

To determine if changes have occurred in the flow characteristics of the Core Support Floor (CSF) vents since performance of T-205.

This test established steady state temperature and pressure conditions in the PCRV with all the CSF vents closed. Each vent was tested separately, and the results were compared with those found by T-205. An Unreviewed Safety Question was determined not to exist because the test was conducted within the limits specified in the FSAR.

T-229

System 75/Turbine Building

To verify that the Control Room HVAC can maintain a positive delta-P in the Control Room with respect to the Turbine Building assuming single failure of the Control Room Emergency Filter Fan (C-7505), the Control Room Supply Fan (C-7504), and the Control Room Return Fan (C-7505) while operating in the High Radiation Mode.

This test was performed by turning off one fan at a time and verifying positive delta-P was maintained in the Control Room. The maintenance of the positive Delta-P is paramount in the justification of a proposed LCO allowing a seven (7) day period to repair one of these fans should it become inoperable. The test was not considered to be Safety Significant or an Unreviewed Safety Question because normal limits were maintained and emergency functions remained operable.

T-230

System 75/Turbine Building

To provide radiochemistry with volumetric flow rate values for P-7501 and P-7501S.

This test determined accurate volumetric flow rates from these pumps on which the concentration of Turbine Building Sump discharges can be based. The pumps remained functional throughout this test. Therefore, it was determined no Unreviewed Safety Question was created or involved, and this test was not Safety Significant.

T-238

System 11/Reactor Vessel and Internal Components

To verify V-11513 is installed properly.

This test is similar to T-221, in that, it used clean helium to pressurize the line to determine whether the check valve was installed properly. Like T-221, this test was not considered to be Safety Significant or an unreviewed safety question.

T-239

System 11/Reactor Vessel and Internal Components

To evaluate two different methods of removing moisture from the PCRV tendon tubes.

This test attempted to determine which of two methods, one involving pulling a vacuum on the tube, the other using an inert gas to purge the tube, would be successful at removing moisture from the tendon tubes. The test was considered not to be Safety Significant or involve an Unreviewed Safety Question.

T-242

Systems 11 and 12/Reactor Vessel and Internal Components and Control Rod Drive and Orifice Assemblies

To determine the radiation levels of the lower section of control rod(s) below the Auxiliary Transfer Cask (ATC).

This test collected data on radiation levels of rod(s) which extended below the ATC. The data was used for future moves of the ATC. The test was not considered to be Safety Significant or an Unreviewed Safety Question.

T-243

System 11/Reactor Vessel and Internal Components

To identify tendon tubes containing high moisture levels.

This test originally intended to take atmosphere samples from all accessible tendons, but due to reliability problems with sample moisture analysis occurred, the test was terminated prior to conclusion. The test was determined not to be Safety Significant or an Unreviewed Safety Question because the sampling did not affect tendon operation.

T-245

System 93/Plant Protective System (PPS)

To determine if tendon load cell alarm comparator amplifiers have drifted appreciably since installation. The instruments will be properly adjusted if appreciable drift has occurred.

This test assured that all load cell alarms have the correct settings. The test was not considered to be Safety Significant or involve an Unreviewed Safety Question.

T-252

Systems 62 and 72/Radioactive Liquid Waste and Reactor Building Drain Systems

To determine the flow path of the equipment drains and floor drains in the Reactor Building.

This test determined whether these drains and their associated subheaders and headers terminated in the Reactor Building Sump or the Liquid Waste Sump. Therefore, the test was considered not to be Safety Significant or an Unreviewed Safety Question.

T-254

System 11/Reactor Vessel and Internal Components

To determine the integrity of the PCRV tendon end caps as a pressure boundary.

This test attempted to show that a nitrogen blanket could be maintained within the tendon tubes. The nitrogen blanket is being investigated as a part of the program to prevent PCRV tendon corrosion. The test was determined not to be Safety Significant or involve an Unreviewed Safety Question.

T-255

System 92/Electrical Power System

To determine the source of apparent anomalies with the 1A Battery, Battery Charger, and Inverter.

This test involved operation of selected equipment powered by D.C. Bus 1 in order to discover the source of the anomalies so appropriate repairs could be performed. Therefore, the test was determined not to be Safety Significant or involve an Unreviewed Safety Question.

T-259

System 21/Primary Coolant System

To collect data on the control systems of Helium Circulator "B", "C" or "D", primarily the Main Drain Control System.

This test initiated perturbations on the bearing water supply side and collected data on the response of the Main Drain Control System. The test compared the response of the Main Drain System with a fixed setpoint versus the existing dynamic setpoint. This activity was determined not to be Safety Significant or involve an Unreviewed Safety Question.

T-263

System 21/Primary Coolant System

To verify the existence of an interlock on the normal bearing water valve associated with "1B" Circulator.

This test determined the absence or presence of an interlock which would not allow the operation of the normal bearing water valve following a "1B" circulator trip and isolation of the auxiliaries. This test was considered not to be Safety Significant or involve an Unreviewed Safety Question.

T-265

System 11/Reactor Vessel and Internal Components

To determine the pressure integrity of bottom crosshead tendon caps following refurbishment of O-Ring seals.

This test was performed as part of the PCRV Tendon Corrosion Prevention Program. A nitrogen blanket at 5-7 psig was established on several tendon tubes and the pressure was monitored to determine leak rates. This activity was determined not to be Safety Significant or involve an Unreviewed Safety Question.

T-266

System 92/Electrical Power System

To determine the capacity of Battery "1A" and its ability to supply the required capacity (ampere-hours).

This test loaded Battery "1A" and measured the time the load could be supplied, thus determining the capacity of the battery in ampere-hours. This activity was determined not to be Safety Significant or involve an Unreviewed Safety Question.

T-269

System 72/Reactor Building

To determine the maximum flow through V-72320.

This test measured the maximum flow possible from the Reactor Building Sump. A worst-case release from the Reactor Building Sump through the blowdown of the cooling tower can then be determined.

This test was not considered to be Safety Significant or an Unreviewed Safety Question because the systems function was unchanged.



3.0 PUBLIC SERVICE COMPANY REQUESTS FOR TESTS (RT-TESTS)

None

4.0 SYSTEM OPERATING PROCEDURES

None



Public Service

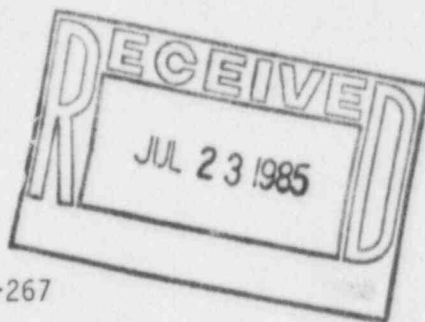
Public Service  
Company of Colorado

2420 W. 26th Avenue, Suite 100D, Denver, Colorado 80211

July 22, 1985  
Fort St. Vrain  
Unit No. 1  
P-85251

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

Attention: Mr. E. H. Johnson



Docket No. 50-267

SUBJECT: 50.59 Report Submittal

REFERENCE: Facility Operating License  
No. DPR-34

Dear Mr. Johnson:

Enclosed please find two copies of the Report of Changes, Tests, and Experiments Not Requiring Prior Commission Approval Pursuant to 10CFR50.59(a), in accordance with Part 50.59(b) of Title 10, Code of Federal Regulations, for the period of January 23, 1984 through January 22, 1985.

If you have any questions concerning this report, please contact Mr. M. H. Holmes at (303) 571-8409.

Very truly yours,

*Lawrence Brey*

H. L. Brey, Manager  
Nuclear Licensing and Fuels Division

HLB/SH/scm

Enclosure

85-6444

4005  
Return original  
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