



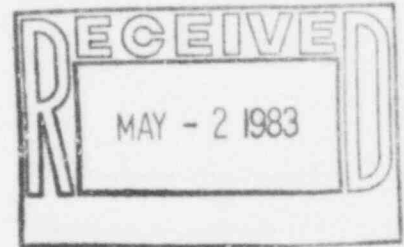
Public Service Company of Colorado

16805 WCR 19 1/2, Platteville, Colorado 80651

6/15/83

50-267

April 29, 1983  
Fort St. Vrain  
Unit #1  
P-83164



Mr. John T. Collins, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region IV  
Office of Inspection and Enforcement  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76011

SUBJECT: Fort St. Vrain, Unit No. 1  
Radiological Emergency  
Exercise 1983

Dear Mr. Collins:

Public Service Company of Colorado is hereby transmitting the detailed description of the 1983 exercise scenario and anticipated flow of events. The scope and objectives for the 1983 Annual Exercise of the Fort St. Vrain Radiological Emergency Response Plan (RERP) have been submitted by PSC letter P-83091, dated March 4, 1983. As stated in the March 4, 1983, letter, the target date for submission of the Controller/Prompter Packages is on or before May 25, 1983, and the exercise is tentatively scheduled for June 15, 1983.

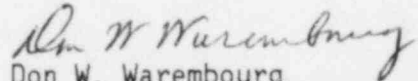
The exercise has been developed to allow participation by outside agencies as well as the plant's operating staff. However, as has been the case in past exercises, the release rates and the quantity of activity released will have to be artificially increased over those which would exist if the event were actually occurring. Also certain operator actions may have to be pre-empted to preclude premature termination of the exercise.

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Enclosed for your information are copies of the Narrative Summary and Planned Sequence of Events of the 1983 Annual Exercise. Questions relative to the exercise scenario should be directed to Mr. Chuck Fuller at (303) 785-2223.

Sincerely,

A handwritten signature in cursive script, appearing to read "Don W. Warembourg".

Don W. Warembourg  
Manager, Nuclear Production  
Fort St. Vrain Nuclear  
Generating Station

DWW/alk

Enclosures

FORT ST. VRAIN RADIOLOGICAL EMERGENCY PREPAREDNESS  
ANNUAL EXERCISE

FOSAVEX 83 - NARRATIVE SUMMARY

The initiating event is a fire in 480 volt Bus 1C. The loss of power to equipment powered from this bus, coupled with selected other items of equipment out-of-service, results in the tripping of the Loop 2 helium circulators. A failed static shutdown seal on circulator 1D allows primary coolant to flow down the circulator shaft, through a leaking or open valve (HV-2110-2) on the circulator's water turbine outlet line into the turbine water drain tank (TWDT), and into the reactor building through a relief valve on the turbine water drain tank (PV-21120 set at 5 psig).

The inoperable equipment, those selectively declared out-of-service prior to and during the exercise, and those without power, prevent the operators from taking actions to establish backup isolation for the failed shutdown static seal. Without backup isolation the leak is nonisolable.

The fire in the 480 volt bus is cause for declaration of a "SITE AREA EMERGENCY".

A worker will be in the reactor building at the start of the event, working in a confined space. The worker will trip, injure himself, and knock himself unconscious in his haste to leave the reactor building. The worker will eventually become contaminated. This injured individual provides for the testing of the Fort St. Vrain Medical Emergency Plan concurrent with FOSAVEX-83.

## PLANNED SEQUENCE OF EVENTS for FOSAVEX-83 SCENARIO

EVENT No.  
(Approximate  
Time - Min.)

Event

1. (T = -10)

The operators will be informed of the plant conditions to be presumed at the start of the drill. These conditions will include items both related and unrelated to the exercise. Conditions pertinent to the exercise include:

  - Bearing water pump 1D (P-2102S) is out of service.
  - Backup bearing water to the Loop 2 circulators is isolated to repair PV-2192.
2. (T = 0)

Fire breaks out in essential 480 volt Bus 1C. The control room operators are given the following information to alert them to the fire and its location:

  - 480 volt room fire alarms.
  - 480 volt room Halon actuation.
  - Loss of power to loads supplied by essential 480 volt Bus 1C.
  - Loop 2 shutdown and Loop 2 circulator trips.
3. (T = 0 to 15)

During this time period, various actions will be taken in response to the information supplied regarding the fire, loss of 480 volt essential Bus 1C loads and the Loop 2 shutdown. These actions include:

  - Sounding the fire alarm and actions per Administrative Procedure (APM) G-5, "PERSONNEL EMERGENCY RESPONSE".
  - Followup action Emergency Procedure (EP) "FIRE".
  - Verification of proper plant response to Loop 2 shutdown per Emergency Procedure C, "LOOP SHUTDOWN".

## PLANNED SEQUENCE OF EVENTS for FOSAVEX-83 SCENARIO

EVENT No.  
(Approximate  
Time - Min.)

Event

### NOTES:

1. One individual from the maintenance department will remain in the reactor building. This individual is the worker assigned to work on PV-2192. The Maintenance Department Supervisor will be informed in advance of the drill that this person has been assigned to work on PV-2192 and to report this person as missing after all other personnel have been accounted for per Administrative Procedure G-5.
2. Fire Brigade personnel will be prompted to inform the Shift Supervisor that there is heavy smoke in the 480 volt room, that the fire is out, and that off-site assistance is not anticipated.
4. (T = 15) Based on the information provided by the Fire Brigade, and on the damage in the 480 Volt Room, a "SITE AREA EMERGENCY" should be declared.
5. (T = 20) Control room operators are informed of the following reactor building/stack radiation alarms/indicator readings:  
  
(TO BE PROVIDED)
6. (T = 20) Fire Brigade informs Shift Supervisor that the fire is out, that the damage is limited to essential 480 volt Bus 1C, and that the bus will require extensive repairs prior to being energized.
7. (T = 20-60) Reactor building/stack radiation monitor levels increase.

(VALUES TO BE PROVIDED)

## PLANNED SEQUENCE OF EVENTS for FOSAVEX-83 SCENARIO

EVENT No.  
(Approximate  
Time - Min.)

Event

- Control room operators diagnose the source of radioactivity in the reactor building and determine the source to be a nonisolable leak through Circulator 1D's static shutdown seal. Decision is made to depressurize the PCRV.
8. (T = 30-90) Injured individual is removed from reactor building and transferred to St. Luke's Hospital via ambulance.
9. (T = 60-5 hours) Primary coolant leak continues until PCRV is depressurized (approximately 5 hours).
10. (T = 5 hours) Radiation leaks in reactor building decreasing. Declaration of transition to recovery phase. Exercise terminated.