

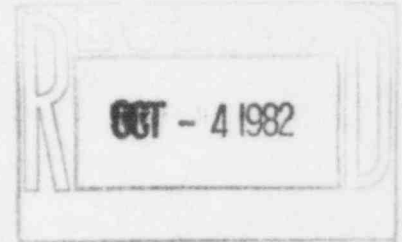


# Public Service Company of Colorado

16805 WCR 19 1/2, Platteville, Colorado 80651

50267  
September 28, 1982  
Fort St. Vrain  
Unit #1  
P-82424

Mr. John T. Collins, Regional Administrator  
U. S. Nuclear Regulatory Commission  
611 Ryan Plaza Dr., Suite 1000  
Arlington, TX 76012



SUBJECT: NUREG 0737

REFERENCE: 1. PSC Letter dated September 10, 1982  
Warembourg to Collins (P-82381)

Dear Mr. Collins:

In response to a verbal request from Mr. G. L. Plumlee, III the attached is hereby submitted as a supplement to our original submittal (Reference 1) concerning NUREG 0737, Article I.C.6. This supplemental response revises Attachments 1 and 2 of our original submittal as noted by the revision lines provided in the attachments.

In addition to Attachment 2 certain other valves which are a part of the "sealed valve list" including the manual valves of the reserve shutdown system are critical. The revised attachments constitute our response to the requirements set forth in NUREG 0737, Article I.C.6. If you have any further question, please give Mr. Ed Hill or myself a call at (303) 785-2223.

Very truly yours,

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

DWW/skr

Attachments

8211290364 821118  
PDR ADOCK 050C0267  
P PDR

*A046  
negative*

Attachment 1

- 1 -

The following is an evaluation of the applicability of NUREG 0737 Article I.C.6. to the list of structures, systems and components required for a safe shutdown of the plant (Table 1.4.2 FSAR)

- | 1. The Reactor Building below the refueling floor or the Turbine Building below the operating floor has no associated valves. Therefore, none are applicable.
- | 2. Manual valves of the PCRV, its support structure and internals including the reactor core, core support structures, the economizer evaporator-superheater of one steam generator, one helium circulator, the control rod drives and reserve shutdown system require the same valve line up during operation as during safe shutdown cooling. Therefore, these are not applicable.

| The reserve shutdown system is required to operate in the event forced cooling is lost and cannot be regained. The manual valves are a part of the sealed valve system to assure this capability. Procedures applied to sealed valves are at least as restrictive as those governing critical valves. Therefore, these valves will not be a part of the critical valve list.

- | 3. The water turbine drives of the helium circulators and the steam generators may be required to operate using emergency feedwater, emergency condensate and/or fire water using the emergency feedwater or condensate header for safe shutdown cooling. All valves effecting these flow paths were considered in this review. Manual valve positions are the same for normal operation as when used for safe shutdown cooling. Boundary valves which might be in the wrong position which could adversely effect these flow paths would also adversely effect normal operation and would, therefore, be discovered. There are valves in the flow path that could, however, be in the wrong position without being discovered since there is no flow during normal operation. These valves then are treated as critical valves.

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4. The helium circulator bearing water system for the operating circulator functions the same for safe shutdown cooling as for normal operation, however, the make up may be from the back up bearing water system with the make up pumps in standby. Therefore, the valve line up for the bearing water make up pumps are included as critical valves. The manual valve between the gas pressurizer and the emergency bearing water accumulator is positioned as a critical valve.
5. Steam generator associated valves are the same for normal operation as for safe shutdown cooling except that the reheaters can be used for safe shutdown cooling using condensate from the emergency condensate header and discharging to the condenser. Valves in this flow path are considered as critical valves.
6. The circulating water make up system is the same for normal as for safe shutdown cooling. Valves of the redundant flow path are considered critical valves. The cross connect to service water makeup is considered critical.
7. The service water system valve lineup is the same for normal as for safe shutdown cooling except for the emergency makeup valve station which is required to be operable and is thus considered critical.
8. The fire water system, including the engine driven pump, pump pit and associated piping for helium circulator water turbine drive operation, but excluding the storage tank, the fire water connection to emergency condensate line and to emergency feedwater line, and emergency water booster pumps were considered in this review. Manual valves are normally in the correct position for safe shutdown cooling. Only the valves in the flow path are critical and require independent verification.
9. Manual valves of the reactor plant cooling water system are positioned the same for normal operation as for shutdown cooling. These are not considered critical.
10. The fuel storage facility cooling is the same for normal as for safe shutdown cooling and the associated valves are not considered critical.

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11. Valves of the helium purification system are the same for normal as for safe shutdown cooling except those valves used for emergency depressurization of the PCRV. These valves are considered critical.
12. Essential electrical busses are operated the same for normal as for safe shutdown cooling. Improper breaker position would be discovered without independent verification. Therefore, they are not considered critical.
13. Standby electric generators are functionally tested following completion of work. A successful test verifies correct operation. Therefore, this equipment is not considered critical.
14. The station battery operation is the same for normal as for safe shutdown cooling. Misoperation would be discovered without independent verification. Therefore, this equipment is not considered critical.
15. Portions of the plant protective system required to be operable during safe shutdown cooling are also required to be operable at power. No independent verification is required. This equipment is not considered critical.
16. The Control Room emergency filter fan is considered to be critical equipment.
17. Instrument and control systems, valves of the instrument air and valve actuating hydraulic systems are the same for normal as is desirable for safe shutdown cooling. No independent verification is required and this equipment is, therefore, not considered critical.

Attachment 2

- 1 -

<u>Valve No.</u>	<u>P&amp;I Coord.</u>	<u>Location or Service</u>	<u>Position</u>
<u>PI-21-4</u>			
V-31858	A-6	P-2105 Suction	Closed
V-21914	A-6	F-2105 Inlet	As Required
V-21915	A-6	F-2105S Inlet	As Required
V-21916	A-6	F-2105 Outlet	As Required
V-21917	A-6	F-2105S Outlet	As Required
V-21743	A-5	P-2105 Discharge	Open
V-211311	A-4	P-2105 Discharge to T-2105	Open
V-211309	B-5	P-2105 Discharge to T-2104	Open
V-211315	B-6	P-2108 Cond Suction	Open
V-46819	B-6	P-2108 Fire Wtr. Suction	Closed
V-21901	B-6	F-2104 Inlet	As Required
V-21902	B-6	F-2104 Outlet	As Required
V-21903	B-6	F-2104S Inlet	As Required
V-21904	B-6	F-2104S Outlet	As Required
V-211214	B-5	P-2108 Disch. to T-2104	Closed
V-211216	B-5	P-2108 Disch. to T-2105	Closed
<u>PI-21-5</u>			
V-211615	A-5	Loop 1 Pelton Supply	Open
V-211616	A-5	Loop 2 Pelton Supply	Open

Attachment 2

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<u>Valve No.</u>	<u>P&amp;I Coord.</u>	<u>Location or Service</u>	<u>Position</u>
<u>PI-21-6</u>			
LV-21130 HJ	B-4	T-21110 Emergency Drain	HJ Off*
<u>PI-21-7</u>			
HV-2109-1 HJ	A-4	A Circ Pelton Supply	HJ Off
HV-2109-2 HJ	A-3	A Circ Pelton Return	HJ Off
V-21960	B-6	T-2112 Discharge Isolation	Open
<u>PI-21-8</u>			
HV-2115-1 HJ	A-4	C-2102 Pelton Supply	HJ Off
HV-2115-2 HJ	A-3	C-2102 Pelton Return	HJ Off
<u>PI-21-9</u>			
HV-2110-1 HJ	A-4	C-2103 Pelton Supply	HJ Off
HV-2110-2 HJ	A-3	C-2103 Pelton Return	HJ Off
V-21963	B-6	T-2113 Discharge Isolation	Open
<u>P-21-10</u>			
HV-2116-1 HJ	A-4	C-2104 Pelton Supply	HJ Off
HV-2116-2 HJ	A-3	C-2104 Pelton Return	HJ Off

Note: HJ denotes hand jack

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<u>Valve No.</u>	<u>P&amp;I Coord.</u>	<u>Location or Service</u>	<u>Position</u>
<u>PI-22-1</u>			
V-211565	C-5	Emerg. Cond. to P-2109 & P-2110	Open
V-211566	C-5	Emerg. Cond. to P-21110	Open
V-211585	C-5	P-2109 Suction	Open
V-211583	A-4	P-2110 Suction	Open
V-211586	C-5	P-2109 Disch.	Open
V-211567	C-5	P-2109 & P-2110 Disch to Emerg. Cond.	Open
V-211568	C-5	P-2110 Disch to Emerg. Cond.	Open
V-211584	A-5	P-2110 Disch.	Open
V-211571	A-5	M-21834 Isolation	Closed
V-211574	A-5	M-21834 Isolation	Closed
V-22360	A-5	Emerg. Feedwater to Loop I	Open
<u>PI-22-3</u>			
HV-2291 Brkr.	C-5	Emerg. Cond. to Loop I Reheater Block	Breaker Closed
FV-2239 HJ	C-6	Emerg. Cond. to Loop I Reheater Flow Valve	HJ Off

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<u>Valve No.</u>	<u>P&amp;I Coord.</u>	<u>Location or Service</u>	<u>Position</u>
<u>PI-22-4</u>			
HV-22131 Brkr.	A-3	Loop I Reheater to Condenser Block	Breaker Closed
<u>PI-22-6</u>			
V-22361	A-5	Emerg. Feedwater to Loop II	Open
<u>PI-22-8</u>			
HV-2290 Brkr.	C-5	Emerg. Cond. to Loop 2 Reheater Block	Breaker Closed
FV-2240 HJ	C-6	Emerg. Cond. to Loop 2 Reheater Flow Valve	HJ Off
<u>PI-22-9</u>			
V-22132 Brkr.	A-4	Loop 2 Reheater to Condenser Block	Breaker Closed
<u>PI-23-2</u>			
HV-2311-2 Brkr.	C-5	A Train to Pumpdown Line	Breaker Closed
HV-2312-2 Brkr.	B-5	B Train to Pumpdown Line	Breaker Closed
V-23271	B-2	Pumpdown Line to Ventilation Depressurization	Close
V-23279	B-2	Pumpdown Line to Ventilation Depressurization	Close



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<u>Valve No.</u>	<u>P&amp;I Coord.</u>	<u>Location or Service</u>	<u>Position</u>
<u>PI-24-1</u>			
HV-2401 HJ	B-6	Inlet for Pumpdown Line	HJ Off
<u>PI-31-1</u>			
V-31239	B-1	Emergency Condensate Header Isolation	Open
HV-31191 Brkr	A-1	Emergency Condensate Isolation	Breaker Closed
HV-31122 Brkr	A-1	Firewater to Emerg. Condensate Header	Breaker Closed
<u>PI-31-2</u>			
V-31108	C-6	T-3101 Supply to P-2105/08	Open
V-31109	C-5	T-3102 Supply to P-2105/08	Open
HV-3133-2 Brkr	B-1	P-3106 Discharge to Emergency Header	Breaker Closed
HV-3135-2 Brkr	B-2	P-3106S Discharge to Emergency Header	Breaker Closed
<u>PI-31-3</u>			
V-31857	B-1	Deaerator Supply to P-2105	Open
<u>PI-41-1</u>			
V-41282	C-5	Redundant Tower Makeup	Closed
HV-4153 Brkr	C-6	Makeup Cross Connect	Breaker Closed

Attachment 2

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<u>Valve No.</u>	<u>P&amp;I Coord.</u>	<u>Location or Service</u>	<u>Position</u>
<u>PI-41-3</u>			
V-41249	A-6	"A" Makeup Pump Disch to Emerg. Mu.	Open
V-41270	B-6	"B" Makeup Pump Disch to Emerg Mu.	Open
V-41271	B-6	"C" Makeup Pump Disch to Emerg Mu.	Open
<u>PI-42-1</u>			
V-42129	C-1	LCV-4218-3 Isolation Valve	Open
V-42130	C-1	LCV-4218-3 Isolation Valve	Open

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<u>Valve No.</u>	<u>P&amp;I Coord.</u>	<u>Location or Service</u>	<u>Position</u>
		<u>PI-42-2</u>	
PCV-4266 HJ	C-2	Firewater to Diesel Engines	Handjack Off
V-45129	B-2	PCV 4266 Inlet Isolation Valve	Open
V-45127	B-2	PCV 4266 Outlet Isolation Valve	Open
V-45807	C-2	Fire Water to "D" Engine	Open
V-45808	D-2	Fire Water to "C" Engine	Open
V-45809	C-3	Fire Water to "B" Engine	Open
V-45810	D-3	Fire Water to "A" Engine	Open
V-4595	B-1	PCV-4256 Inlet Isolation Valve	Open
V-4596	B-2	PCV-4526 Outlet Isolation Valve	Open

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<u>Valve No.</u>	<u>P&amp;I Coord.</u>	<u>Location or Service</u>	<u>Position</u>
<u>PI-45</u>			
V-4503	C-6	P-4501S Disch Isolation Valve	Open
V-4504	C-5	P-4501 Disch Isolation Valve	Open
V-4578	C-6	Common Header Main Header Isolation Valve	Open
V-4581	B-5	Ring Header Isolation	Open
V-4582	B-5	Ring Header Isolation	Open
V-4583	B-5	Ring Header Isolation	Open
V-4584	B-5	Ring Header Isolation	Open
V-4586	B-5	Ring Header Isolation	Open
V-4587	B-5	Ring Header Isolation	Open
V-4588	A-5	Ring Header Isoaltion	Open
V-4589	A-4	Ring Header Isoaltion	Open
V-4590	A-3	Ring Header Isolation	Open
V-4591	A-3	Ring Header Isolation	Open
V-4592	A-3	Ring Header Isoaltion	Open
V-4593	B-3	Ring Header Isolation	Open
V-45112	B-3	Ring Header Isolation	Open

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<u>Valve No.</u>	<u>P&amp;I Coord.</u>	<u>Location or Service</u>	<u>Position</u>
V-45111	B-3	Ring Header Isolation	Open
V-45110	B-3	Ring Header Isolation	Open
V-4585	B-3	Ring Header Isolation	Open
V-45109	B-4	Ring Header Isolation	Open
V-4525	A-5	Fire Water Supply to Emergency Cond. Header	Closed
V-45223	A-5	Fire Water Supply to Emergency Feedwater Header	Closed
<u>PI-46-2</u>			
V-461633	D-3	E-2101/2106/P-2108 Supply Isolation	Open
<u>PI-46-4</u>			
V-461533	B-6	FW to P2108	Open
<u>PI-75-9</u>			
C-7506 Brkr	D-2	Control Room Emergency Filter Fan	Breaker Closed