Public Service Company of Colorado

16805 WCR 19 1/2, Platteville, Colorado 80651

50-267

September 10, 1982
Fort St. Vrain
Unit #1
P-82381

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

SUBJECT: NUREG 0737

Dear Mr. Collins:

The requirements of NUREG 0737 Article I.C.6 specify an independent check of equipment status when critical equipment is returned to service.

The equipment involved are structures, systems and components required for a safe shutdown of the plant as described in Table 1.4.2 of the FSAR. An evaluation (Attachment 1) was made to determine what is necessary to assure availability of this equipment if it is required to operate. Most of this safe shutdown equipment is verified to be in the proper condition/position by virtue of normal plant operation. There are, however, certain other "critical" equipment items that do not fall into this category and the operating condition/position of this equipment will be independently verified upon return to service following "clearance" conditions. A tabular list of this equipment is provided as Attachment 2. In addition to this list, manual valves of the reserve shutdown system, which are a part of the "sealed valve list", will be independently verified upon return to service.

The "clearance procedure" will be modified to include a reference to this critical equipment. This modified procedure will insure that involved personnel are made aware that an independent check is required and the condition/position required upon return to service. The critical equipment will also be marked such that it will be obvious to involved personnel that this equipment is unique and will require the independent check.

Independent checks may be accomplished only by those personnel deemed qualified by virtue of their operations or maintenance experience.

A046

The following personnel are deemed qualified to verify all equipment condition/position.

All Licensed Personnel

Equipment Operators

Auxiliary Tenders

Personnel referred to as "maintenance foreman" in the equipment clearance procedure who are qualified to request, check and hold clearances may verify equipment condition/position upon return of their clearance.

The modified clearance procedure will be implemented and the critical valves marked by September 30, 1982. The method of marking will be similar to that presently used for "sealed valves".

Very truly yours,

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

DWW/skr

Attachments

cc: Bob Clark
G. Kuzmycz
B. Grimes

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. Valves installed in the Reactor Building above the refueling floor or in the Turbine Building above the operating floor. Therefore, they are not applicable.

2. 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.

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.

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 is considered critical.

7. Service water system is the same for normal as for safe shutdown cooling except for the emergency makeup valve station which is required to be operable.

8. All items of this category are considered. (See item number 3.)

9. Reactor plant cooling water operation is the same for normal as for shutdown cooling.

10. The fuel storage facility cooling is the same for normal as for safe shutdown cooling.

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.

13. Standby electric generators are functionally tested following completion of work.

14. The station battery operation is the same for normal as for safe shutdown cooling.

15. Portions of the plant protective system required to be operable during safe shutdown cooling are also required to be operable at power.

16. The Control Room emergency filter fan is considered to be critical equipment.

17. Instrument and control systems, instrument air systems and hydraulic systems are the same for normal or is desirable for safe shutdown cooling.

Valve No.	P&I Coord.	Location or Service	Position
		PI-21-4	
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
		PI-21-5	
V-211615	A-5	Loop 1 Pelton Supply	Open
V-211616	A-5	Loop 2 Pelton Supply	Open

Valve No.	P&I Coord.	Location or Service	Position
		PI-21-6	
LV-21130 HJ	B-4	T-21110 Emergency Drain	HJ Off*
		PI-21-7	
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
		PI-21-8	
HV-2115-1 HJ	A-4	C-2102 Pelton Supply	HJ Off
HV-2115-2 HJ	A-3	C-2102 Pelton Return	HJ Off
		PI-21-9	
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
		P-21-10	
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

Valve No.	P&I Coord.	Location or Service	Position
		PI-22-1	
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
		PI-22-3	
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

Valve No.	P&I Coord.	Location or Service	Position
		PI-22-4	
HV-22131 Brkr.	A-3	Loop I Reheater to Condenser Block	Breaker Closed
		PI-22-6	
V-22361	A-5	Emerg. Feedwater to Loop II	Open
		PI-22-8	
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
		PI-22-9	
HV-22132 Brkr.	A-4	Loop 2 Reheater to Condenser Block	Breaker Closed
		PI-23-2	
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

Valve No.	P&I Coord.	Location or Service	Position
		PI-24-1	
HV-2401 HJ	B-6	Inlet for Pumpdown Line	HJ Off
		PI-31-1	
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
		PI-31-2	
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
		PI-31-3	
V-31857	B-1	Deaerator Supply to P-2105	Open
		PI-41-1	
V-41282	C-5	Redundant Tower Makeup	Closed
HV-4153 Brkr	C-6	Makeup Cross Connect	Breaker Closed

Valve No.	P&I Coord.	Location or Service	Position
		PI-41-3	
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
		PI-42-1	
V-42129	C-1	LCV-4218-3 Isolation Valve	Open
V-42130	C-1	LCV-4218-3 Isolation Valve	Open

Valve No.	P&I Coord.	Location or Service	Position
		PI-42-2	
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

Valve No.	P&I Coord.	Location or Service	Position
		PI-45	
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

Valve No.	P&I Coord.	Location or Service	Position
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-4536	B-5	Pts Plant Valve	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
		PI-46-2	
V-461633	D-3	E-2101/2106/P-2108 Supply Isolation	Open
		PI-46-4	
V-461533	B-6	FW to P2108	Open
		PI-75-9	
C-7506 Brkr	D-2	Control Room Emergency Filter Fan	Breaker Closed

* Also on sealed valve list.