



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 31 1984

67574:176-188
Docket File

Docket Nos.: STN 50-482
and STN 50-483

FACILITIES: Wolf Creek Generating Station
Callaway Plant Unit 1

APPLICANT: Kansas Gas and Electric Company

LICENSEE: Union Electric Company

SUBJECT: MINUTES OF AUGUST 22, 1984 MEETING WITH KANSAS GAS AND
ELECTRIC AND UNION ELECTRIC COMPANY

On August 22, 1984 members of the NRC staff met with representatives of Union Electric Company, Kansas Gas Electric Company, SNUPPS, and Bechtel Corporation to discuss the applicant's proposed modification to their safe shutdown analysis related to a control room fire. Enclosure 1 is a list of attendees.

The modified response scenario for the control room fire is summarized in Enclosure 2. This response differs from previously proposed response scenarios by not relying on the removal of power to all AC buses and involves the installation of 7 additional isolation switches and the modification of 7 other existing isolation switches.

The detailed steps in the new SNUPPS scenario keyed to the action phases of Enclosure 2 are identified in Enclosure 3. To assist in discussing the submittal and to clarify the rationale used, SNUPPS submitted Enclosure 4 which identifies SNUPPS understanding of the NRC staff requirements related to this safe shutdown review. Enclosure 4 was modified during the meeting by the applicants to reflect additional clarification provided by the staff.

At the conclusion of the meeting the applicants agreed to docket a final proposal to the staff by August 24, 1984 to resolve the problems identified with the safe shutdown analysis by the staff. The submittal will identify a schedule for installation or modification of hardware changes and if possible an estimate of the length of time required for making the installation.

On August 23, 1984 Messrs. N. Fioravante, J. Wilson, and W. LeFave of the Auxiliary Systems Branch provided the applicants with the following additional clarification of the staff positions discussed during the August 22 meeting.

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- Credit can be taken only for a manual scram before leaving the control room
- The staff considers the following SNUPPS systems to be "direct"
 - MSIVs
 - MSIV bypass
 - Primary PORVs
 - Reactor vessel head vent
 - Excess letdown
- Associated Circuit - Spurious signal failures must meet the following conditions:
 1. No automatic function from the circuits in the fire area -- in conjunction with one worst case spurious signal;
 2. Any one spurious signal and;
 3. Spurious operation of all motor-operated valves in-series for high-low pressure interfaces.

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Enclosure:
As stated

cc: See next page

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ENCLOSURE 1

AUGUST 22, 1984 SNUPPS SAFE SHUTDOWN OUTSIDE

CONTROL ROOM MEETING

NRC

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Bill LeFave
B. J. Youngblood
R. L. Ferguson
R. Eberly

SNUPPS

Jim Cermak
Frank Schwore

KG&E

Gene Rathbun

Bechtel

John S. Prebula
Patrick Ward
Chan Patel
Asif Hassan
Andy Woolard

Westinghouse

Pat Docherty

UE

Al Passwater

~~SECRET~~

CONTROL ROOM FIRE: RESPONSE SUMMARY

<u>Phase</u>	<u>Time Period</u>	<u>Major Actions</u>
-	-	<ul style="list-style-type: none"> • Postulated Fire • Trip Reactor • Evacuate Control Room
A	0-5 min.	<ul style="list-style-type: none"> • Trip RCPs • Close PORVs • Trip Offsite Power to 4160B Bus and Start DG • Establish ESW • Trip-off Major Pumps • Assume Control from ASP
B	0-10 min.	<ul style="list-style-type: none"> • Establish Safety - Related Room Cooling • Isolate RWST
C	0-20 min.	<ul style="list-style-type: none"> • Establish CCW
D	0-30 min.	<ul style="list-style-type: none"> • Establish Charging • Close MSIVs
E	0-60 min.	<ul style="list-style-type: none"> • Long Term Hot Standby
F	0-7 hrs.	<ul style="list-style-type: none"> • Very Long Term

CALCULATION SHEET

CASE NO _____ REV NO _____
 PROJECT _____ DATE _____ CHECKED _____ DATE _____
 PROJECT _____ JOB NO _____
 PROJECT _____ SHEET NO _____

CONTROL ROOM FIRE NOT STANDBY SCENARIO

Rooms 3302 (SJO1)				ROOM 1402 (RSP)				OTHER ROOMS				
ACTION	ROOM	MCC	NOTES	ACTION	ROOM	MCC	NOTES	ACTION	ROOM	MCC	NOTES	REMARKS
1. OPEN EF-W-28	3302	NG02A	2					14. TRIP MV BREAK TO	1501	NG04C		NEW ISO SWITCH
2. CLOSE EF-W-26	3302	NG02A	3				15. TRIP MV BREAK TO	1501	NG04C			
3. VERIFY PTO1B BREAK IS CLOSED OR MANUALLY CLOSE	3302	NR02					16. TRIP MV BREAK TO	1501	NG04C			
4. OPEN GD-T2-11A	3302	LOCAL CONTROL MCC	4				17. TRIP MV BREAK TO	1512	NG05C			
5. START C601B	3302	NR02	5				18. MAN. OPEN EG-W-102	1402	N/A			
6. CLOSE BA-W-11B	3302	NG02A	6				19. MAN. OPEN EG-W-16	1402	N/A			
7. TRIP MV BREAK TO GM-T2-11A TO OPEN	5201	NG04D					20. MAN. OPEN EG-W-54	1401	N/A			
8. OPEN GM-W-12-17	5201	LOCAL CONTROL MCC	7				21. MAN. CLOSE EG-W-15	1402	N/A			
9. START C601B	5201	LOCAL CONTROL MCC	8				22. MAN. OPEN BA-W-11E	1107	N/A			
10. TRIP MV BREAK TO EF-W-40	3302	NG02A					23. MAN. CLOSE BA-W-11C	1318	N/A			
11. CLOSE EG-W-70B	3302	LOCAL CONTROL MCC	9				24. MAN. OPEN BA-W-111	1107	N/A			
12. START PEG01B	3302	NR02					25. TRIP MV CONTROL OF BA-FW-111 LOCALLY AND MAN. OPEN	1115	N/A			
13. START PEG01D	3302	NR02					26. CLOSE EM-W-883	1409	NG02B			EXISTING ISO SWITCHES ARE ADEQUATE
14. TRIP MV BREAK ON BA-W-11E	3302	NG02A					27. CLOSE EM-W-882	140	NG01B			
15. TRIP MV BREAK ON BA-LC-W-12C	3302	NG02A					28. TRIP MV BREAK ON BA-W-885	1501	NG04C			
16. TRIP MV BREAK ON BA-W-241	3302	NG02A					29. MAN. CLOSE BA-W-885 BREAKER	1323	N/A			EXISTING ISO SWITCHES ARE ADEQUATE
17. START PEG05B	3302	NR02					30. TRIP MV BREAK ON BA-W-8351A-D	1501	NG04C			
18. CLOSE BREAK TO LOCAL CENTER NG04	3302	NR02	4				31. MAN. OPEN BA-W-8351A-D	1422	N/A			
19. START PEG01B	2201	LOCAL CONTROL MCC					32. TRIP MV BREAK ON EF-W-22	1409	NG02B			
							33. MAN. CLOSE BA-W-01E	1508	N/A		3	
							34. MAN. CLOSE BA-W-02S	1509	N/A		3	



CALCULATION SHEET

CALC NO _____ REV NO _____
 ORGANIZATION _____ DATE _____ CHECKED _____ DATE _____
 PROJECT _____ JOB NO _____
 SUBJECT _____ SHEET NO _____

CONTROL ROOM FIRE SAFE SHUTDOWN SEQUENCE

ROOMS 3302/5301				ROOM 4113(BSP)	OTHER ROOMS					
ACTION	ROOM	MCC	NOTES	ACTION	NOTES	ACTION	ROOM	MCC	NOTES	REMARKS
						33. TRIP VLV BRR TO	1409	1602B		
						FF-W-50				
						34. OPEN EF-W-34	1409	1602B	8	NEW SWITCHES R00 TO
						35. OPEN ES-W-46	1409	1602B	8	ELIMINATE CONT. ENTRY
						36. MAN. OPEN EF-W-32	1322	11A		
						37. MAN. OPEN EF-W-50	1322	11A		
						38. START SCNO1B	1409	1602T	7	
						39. START SCNO1D	1409	1604T	7	
						40. THROW SWITCH TA	1410	1601A		EXISTING ISO SWITCH IS
						EM-W-8001B				INEQUATE
						41. THROW SWITCH TO	1410	1601B		EXISTING ISO SWITCH IS
						EM-W-8003B				INEQUATE
						42. MAN. OPEN EM-W-8002B	1323	11A		
						43. MAN. OPEN EM-W-8003B	1126	11A		
						44. CLOSE EM-W-1,2,3,4	1409	1601F		NEW SWITCHES ON PANEL
						45. CLOSE ES-W-1001A, 2A	1408	16500		PHASE FUSE # 9
						46. CLOSE ES-W-1001B, 2B	1409	16400		PHASE FUSE # 14
						47. CLOSE ES-W-1001A, 4A	1408	16400		PHASE FUSE # 19
						48. CLOSE ES-W-1001B, 4B	1409	16400		PHASE FUSE # 7
						49. CLOSE ES-W-1001A, 1, 2, 3, 4	1410	16209		PHASE FUSE FROM
						50. TRIP DAMPER BRR TO	1402	16210		ELIMINATE PANEL
						ES-12-41A AND MAIN EXH	1324	1602F		
						DAMPER				
						51. START C6001B	1304	1651F		NEW ISO SWITCH
						52. START C6002B	1304	1652F		
						53. START C6003B	1304	1653F		* MODIFIED ISO SWITCH
						54. START T6002E	1409	1602E		
							1405			

CONTROL ROOM FIRE SAFE SHUTDOWN SCENARIO

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NOTES

1. a. IF DIESEL DOES NOT START UPON SIMULATING LOSS THEN A MANUAL START OF THE DIESEL IN ROOM 520' WILL BE REQUIRED. PRESS START OR EMERGENCY START OR MANUALLY OPEN ONE PRIMARY AIR START VALVE AFTER ACTION 13 IN RM 3302
2. DC POWER TO WBS2 SHOULD BE TRIPPED AFTER ACTION 9 IN ROOM 3302 SO THAT BRKRS CAN BE ELECTRICALLY TRIPPED BY HAND TO THE DESIRED POSITION. ONCE DC POWER IS KILLED OPERATOR SHALL REVERIFY CORRECT BRKR POSITIONS AND MANUALLY TRIP/CLOSE ANY BREAKERS WHICH HAVE SPURIOUSLY MOVED
3. IF AB-PV-1,2 DO NOT CLOSE FROM ASP OPERATOR MUST GO TO ROOMS 1502 & 1509 TO MAN. CLOSE AB-V-01R AND AB-V-02A
4. NGDE LOAD CENTER SERVES THE ULS COOLING TOWER EQUIPMENT (CALLAWAY ONLY). THIS WILL BE TRIPPED OFF TO PREVENT OVERHEAT OF COOLING TWR EQMT ROOM AND REESTABLISHED AT THE END OF THE SCENARIO, AFTER ACTION 54 UNDER OTHER ROOMS.
5. THIS VALVE MUST BE OPERATED WHEN CST REACHES LOW LEVEL (LONG TERM ACTION)
6. MSUS WILL BE CLOSED WITH PORTABLE 120 V DC SOURCE. WIRES TO THE VALVES WILL THEN BE CUT TO LEAVE VALVES IN CLOSED POSITION. ALTERNATELY, FUSIBLE SWITCHES
7. MODIFIED SWITCH WITH FUSIBLE FUSIONS FOR THE INTERMEDIATE THROUGH ISO SWITCH AND REPLACE BLOWN FUSE

8. NEW ISO/OPEN-CLOSE SWITCH INCLUDING REDUNDANT FUSING, FOR THE INTERIM. TRIP THE VLV BRKR AND MAN. OPEN/CLOSE VLV

9. NEW ISO SWITCH INCLUDING REDUNDANT FUSING FOR SOLENOID VLV. FOR THE INTERIM. LOCALLY BLEED THE SOLENOID TO CLOSE THE VLV. VLV IS IN RM 1314

UNDERSTANDING OF NRC STAFF REQUIREMENTS

- Fire can be anywhere in control room; no size or mechanism postulated.
- Postulated adverse failures:
 - Must withstand any one spurious signal.
 - Need not postulate two "smart" hot shorts on one circuit, 10/26/88
 - Adverse failure can occur at any time after reactor trip and evacuation of control room.
- Can take credit only for reactor trip before leaving control room.
- Manual repositioning of valves and other components is permitted, provided actions can be accomplished in time to prevent an unrecoverable plant condition.
- The following SNUPPS systems are considered "indirect":
 - MSIVs
 - MSIV bypass
 - Primary PORVs
 - Reactor vessel head vent
 - Excess letdown
 - SG blowdown
 - DG fuel transfer pump
 - Callaway ESW cooling tower