

ENCLOSURE 1

Omaha Public Power District
444 South 16th Street Mail
Omaha, Nebraska 68102-2247
402/636-2000

October 10, 1995
LIC-95-0192

Mr. Joseph I. Tapia
Acting Chief, Operations Branch
U. S. Nuclear Regulatory Commission, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-4064

References: 1. Letter from OPPD to NRC dated August 4, 1995.
2. Letter from NRC to OPPD (T. L. Patterson) dated August 4, 1995.

Dear Mr. Tapia:

SUBJECT: Proposed Integrated Initial Licensed Operator Examination Outline
for the Voluntary Pilot Examination Program

Enclosed please find the Omaha Public Power District's (OPPD) proposed integrated initial licensed operator examination outline for your review as specified in Reference 2. The outline was developed in accordance with NUREG 1021, Revision 7, Supplement 1, "Operator Licensing Examiner Standards" and NUREG/BR-0122, Revision 5, "Examiner's Handbook for Developing Operator Licensing Written Examinations." Additionally, the individuals developing the integrated outline and examination for the Fort Calhoun Station have provided a draft copy of this outline to Mr. Thomas Meadows of your office for his review and comment.

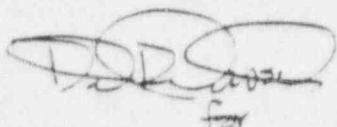
Also enclosed is an Examination Security Agreement signed by Messrs. Jerry Koske, Michael Woram and Carl Rennerfeldt, the individuals who currently have knowledge of the contents of the examination. As additional individuals are required to participate in the examination development and validation process, they will be added to the security agreement, and a copy of the revised agreement form will be supplied to Mr. Meadows.

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U. S. Nuclear Regulatory Commission
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Page Two

If you should have any questions concerning the proposed outline, please contact Mr. Greg Guliani at 402-533-6020.

Sincerely,

A handwritten signature in black ink, appearing to read "T. L. Patterson", with a stylized flourish at the end.

T. L. Patterson
Division Manager
Nuclear Operations

Enclosures

TLP/d11

c: Winston & Strawn (w/o Enclosures)
L. J. Callan, NRC Regional Administrator, Region IV (w/o Enclosures)
S. D. Bloom, NRC Project Manager (w/o Enclosures)
W. C. Walker, NRC Senior Resident Inspector (w/o Enclosures)
Document Control Desk (w/o Enclosures)

Exam Outline Contents

1. FCS 50-285, Exam Schedule (1 page)
2. Count Matrix for RO Written Exam (1 page)
3. Count Matrix for SRO Written Exam (1 page)
4. Overall exam matrix and K/A listings for written RO exam. (7 pages)
5. Overall exam matrix and K/A listings for written SRO exam (7 pages)
6. RO Administrative Topics Outline (1 page)
7. SRO Administrative Topics Outline (1 page)
8. RO Individual Walk-through Test Outline (1 page)
9. SRO(I) Individual Walk-through Test Outline (1 page)
10. SRO(U) Individual Walk-through Test Outline (1 page)
11. Simulator Scenario Events (2 pages)
12. Copy of signed Security Agreement (2 pages)

Exam Date: 12/04/95

Summarizing Counts by K/A Group
for
PWR - Reactor Operator

[illegible]

Exam Date: 12/04/95

Summarizing Counts by K/A Group
for
PWR - Senior Reactor Operator

[illegible]

PWR - RO PLANT SYSTEMS - 51% - Group 1

Group 1 - 23%		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	SG
001	Control Rod Drive System		01						07			
003	Reactor Coolant Pump System					04						10
004	Chemical and Volume Control System	04							07			
013	Engineered Safety Features Actuation System				12			05				5
015	Nuclear Instrumentation System						04	01				
017	In-Core Temperature Monitor System	02									02	
022	Containment Cooling System	01										15
025	Ice Condenser System	No Ice Condenser										
056	Condensate System	No K/A values >=3										
059	Main Feedwater System			03					11			
061	Auxiliary/Emergency Feedwater System				06					04		s11
068	Liquid Radwaste System										04	
071	Waste Gas Disposal System										29	
072	Area Radiation Monitoring System				12							5

Sys.	Mode	K/A #	Item	Import.
001	000	K2.01	One-line diagram of power supply to M/G sets (Clutch Power Supplies)	3.5/3.6
001	010	A2.07	Identify and mitigate an erroneous ECP/ECC calculation.	3.6/4.2
003	000	K3.04	Knowledge of the effects of RCP shutdown on secondary parameters such as steam pressure, steam flow and feed flow.	3.2/3.5
003	SG	A10	Ability to explain and apply all system limits and precautions.	3.3/3.6
004	000	K1.04	Knowledge of the relationship between the CVCS and RCPs, including seal injection flows.	3.4/3.8
004	000	A2.07	Ability to predict and mitigate the consequences of isolation or letdown/makeup.	3.4/3.7
013	000	K4.12	Knowledge of ESF design features and interlocks which provide for safety injection block.	3.7/3.9
013	000	A1.05	Ability to predict and/or monitor changes in main steam header pressure when operating ESF controls.	3.4/3.6
013	SG	K5	Knowledge of limiting conditions for operations and safety limits.	3.6/4.2
015	000	K6.04	Knowledge of performance and design attributes of bistables and logic circuits.	3.1/3.2
015	000	A1.01	Ability to perform an NIS calibration by heat balance.	3.5/3.8
017	020	K1.02	Knowledge of the relationship between the ITM system and the RCS.	3.3/3.5
017	020	A4.02	Ability to monitor temperature values used to determine RCS/RCP operation during inadequate core cooling (i.e., if applicable, average of five highest values).	3.8/4.1
022	000	K1.01	Knowledge of the relationships between the CCS and the cooling water system.	3.5/3.7
022	SG	A15	Ability to recognize abnormal indications for system operating parameters which are entry level conditions for emergency and abnormal operating procedures.	3.5/3.8
059	000	K3.03	Knowledge of the effect that a loss of the MFW system will have on the S/Gs.	3.5/3.7
059	000	A2.11	Ability to predict or mitigate the consequences of a failure of feedwater control system.	3.0/3.3
061	000	K4.06	Knowledge of AFW system design features and interlocks which provide AFW startup permissives.	4.0/4.2
061	000	A3.04	Ability to monitor operation of automatic AFW isolation.	4.1/4.2
068	000	A4.04	Ability to monitor automatic isolation.	3.8/3.7
071	000	A4.29	Ability to monitor sampling oxygen, hydrogen, and nitrogen concentrations in WDGS decay tank including knowledge of limits.	3.0/3.6
072	000	K4.02	Knowledge of ARM system design features and interlocks which provide for fuel building isolation. (Fuel Handling alarms and interlocks)	3.2/3.4
072	SG	K5	Knowledge of limiting conditions for operations and safety limits.	3.0/3.6

PWR - RO PLANT SYSTEMS - 51% - Group 2

Group 2 - 20%		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	SG
002	Reactor Coolant System					15						5
006	Emergency Core Cooling System				09							s11
010	Pressurizer Pressure Control System			02							05	
011	Pressurizer Level Control System								11			
012	Reactor Protection System						04				02	
014	Rod Position Indication System								04			
016	Non-Nuclear Instrumentation System	01										
026	Containment Spray System								02			11
029	Containment Purge System	03										
033	Spent Fuel Pool Cooling System											
035	Steam Generator System									01		
039	Main and Reheat Steam System				08							
055	Condenser Air Removal System	No K/A values >=3										
062	AC Electrical Distribution System		01					JPM 0347				
063	DC Electrical Distribution System											5
064	Emergency Diesel Generator System				02							5
073	Process Radiation Monitoring System				01							
075	Circulating Water System											
079	Station Air System	01						JPM 0214				
086	Fire Protection System				01						01	

Sys.	Mode	K/A#	Item	Import.
002	000	K5.15	Knowledge of the reason for maintaining subcooled margin during natural circulation.	4.2/4.6
002	SG	K5	Knowledge of limiting conditions for operations and safety limits.	3.6/4.1
006	000	K4.09	Knowledge of ECCS design features which provide for the safety injection valve interlocks.	3.8/4.1
010	000	K3.02	Knowledge of the effect that a loss of the PZR Pressure Control System will have on the RPS.	4.0/4.1
011	000	A2.11	Ability to predict and mitigate the consequences of failure of PZR level instrument—low.	3.4/3.6
012	000	K6.04	Knowledge of the performance and design attributes of bypass-block circuits of the RPS.	3.3/3.6
014	000	A2.04	Ability to predict and mitigate the consequences of a misaligned rod.	3.4/3.9
016	000	K1.01	Knowledge of the relationship between the NNIS and the RCS.	3.4/3.4
026	000	A2.02	Ability to predict and mitigate the consequences of failure of automatic recirculation transfer.	4.2/4.4
026	SG	A11	Ability to recognize indications for system operating parameters which are entry level conditions for tech specs.	3.2/4.1
029	000	K1.03	Knowledge of the relationships between the CPS and engineered safeguards.	3.6/3.8
035	010	A3.01	Ability to monitor automatic operation of the S/G water level control.	4.0/3.9
039	000	K4.08	Knowledge of MRSS design features which provide interlocks on MSIV and bypass valves.	3.3/3.4
063	SG	K5	Knowledge of limiting conditions for operations and safety limits.	3.0/3.6
062	000	K2.01	Knowledge of power supplies to major system loads.	3.3/3.4
064	000	K4.02	Knowledge of ED/G system design features and interlocks which provide for trips for ED/G while operating (normal or emergency).	3.9/4.2
064	SG	K5	Knowledge of limiting conditions for operations and safety limits.	3.4/3.9
073	000	K4.01	Knowledge of PRM system design features and interlocks which provide for release termination when radiation exceeds setpoint.	4.0/4.3

079	000	K1.01	Knowledge of the relationships between SAS and IAS.	3.0/3.1
086	000	K4.01	Knowledge of design features which provide for adequate supply of water for FPS.	3.1/3.7

PWR - RO PLANT SYSTEMS - 51% - Group 3

Group 3 - 8%		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	SG
005	Residual Heat Removal System				10			JPM 0323				
007	Pressurizer Relief Tank/Quench Tank System								01			
008	Component Cooling Water System											
027	Containment Iodine Removal System	01										
028	Hydrogen Recombiner and Purge Control System					01		JPM 0719				
034	Fuel Handling Equipment System											
041	Steam Dump System										08	
045	Main Turbine Generator				12							
076	Service Water System									02		
078	Instrument Air System											
103	Containment System								03			

Sys.	Mode	K/A#	Item	Import
005	000	K4.10	Knowledge of RHR design features and interlocks which provide for control of RHR heat exchanger outlet flow.	3.1/3.1
007	000	A2.01	Ability to predict and mitigate the consequences of stuck-open PORV or code safety.	3.9/4.2
027	000	K1.01	Knowledge of the relationships between the CIRS and the CSS.	3.4/3.7
028	000	K5.01	Knowledge of explosive hydrogen concentration as applied to the HRPS.	3.4/3.9
041	020	A4.08	Ability to manually operate and monitor the steam dump valves.	3.0/3.1
045	000	K4.12	Knowledge of the design features and interlocks which provide for automatic turbine runback.	3.3/3.6
076	000	A3.02	Ability to monitor automatic operation of the SWS, including emergency heat loads.	3.7/3.7
103	000	A2.03	Ability to predict and mitigate the consequences of Phase A and B [containment] isolation.	3.5/3.8

PWR - RO EMERGENCY PLANT EVOLUTIONS - 36% - Group 1

Group 1 - 16%			K1	K2	K3	A1	A2	SG
000	005	Inoperable/Stuck Control Rod				01		3
000	015	RCP Motor Malfunction						12
000	024	Emergency Boration	02			JPM 0008		
000	026	Loss of Component Cooling Water			02	03		
000	027	Pressurizer Pressure Control System Malfunction					15	
000	040	Steam Line Rupture			04	10		
000	051	Loss of Condenser Vacuum			01			
000	055	Loss of Offsite and Onsite Power					05	
000	057	Loss of Vital AC Electrical Instrument Bus				01	19	
000	067	Plant Fire on Site					17	
000	068	Control Room Evacuation				12		
000	069	Loss of Containment Integrity						11
000	074	Inadequate Core Cooling			08	simulator		
000	076	High Reactor Coolant Activity						11
Totals		Group 1=16	1	0	4	3	4	4

Sys.	Mode	K/A#	Item	Import.
000	005	EA1.01	Ability to operate and monitor the CRDS.	3.6/3.4
000	005	SGK3	Knowledge of the limiting conditions for operations and safety limits	3.1/3.6
000	015	SGK12	Ability to utilize symptom based procedures.	2.9/3.2
000	024	EK1.02	Knowledge of the relationship between boron addition and reactor power as applied to emergency boration.	3.6/3.9
000	026	EK3.02	Knowledge of the bases for the automatic actions (alignments) within the CC System resulting from the actuation of the ESF.	3.6/3.9
000	027	EA2.15	Ability to determine actions to be taken if PZR pressure instrument fails high.	3.7/4.0
000	040	EK3.04	Knowledge of the basis for actions contained in EOPs for steam line rupture.	4.5/4.7
000	040	EA1.10	Ability to operate and monitor the AFW system during a steam line rupture.	4.1/4.1
000	051	EK3.01	Knowledge of the reasons for the loss of steam dump capability upon loss of condenser vacuum.	2.8/3.1
000	055	EA2.05	Ability to determine when battery is approaching fully discharged.	3.4/3.7
000	057	EA2.19	Ability to determine the plant automatic actions that will occur on the loss of a vital AC electrical instrument bus.	4.0/4.3
000	067	EA2.17	Ability to determine what systems may be affected by the fire.	3.5/4.3
000	068	EA1.12	Ability to operate and monitor the auxiliary shutdown panel controls and indicators.	4.4/4.4
000	069	SGA11	Ability to recognize abnormal indications for system operating parameters which are entry level conditions for emergency and abnormal operating procedures.	4.0/4.2
000	074	EK3.08	Knowledge of the reason for securing RCPs.	4.1/4.2
000	076	SGA11	Ability to recognize abnormal indications for system operating parameters which are entry level conditions for emergency and abnormal operating procedures.	3.4/3.6

PWR - RO EMERGENCY PLANT EVOLUTIONS - 36% - Group 2

Group 2 - 17%			K1	K2	K3	A1	A2	SG
000	001	Continuous Rod Withdrawal			02			
000	003	Dropped Control Rod				07		
000	007	Reactor Trip	03					
000	008	Pressurizer Vapor Space Accident			02			
000	009	Small Break LOCA		04		simulator		
000	011	Large Break LOCA					11	
000	022	Loss of Reactor Coolant Makeup			06			
000	025	Loss of Residual Heat Removal System	01					
000	029	Anticipated Transient Without Scram (ATWS)	01			simulator		
000	032	Loss of Source Range Nuclear Instrumentation					04	
000	033	Loss of Intermediate Range Nuclear Instrumentation					02	
000	037	Steam Generator Tube Leak						8
000	038	Steam Generator Tube Rupture				39		
000	054	Loss of Main Feedwater				simulator		
000	058	Loss of DC Power			01			
000	059	Accidental Liquid Radioactive Waste Release						11
000	060	Accidental Gaseous Waste Release						7
000	061	Area Radiation Monitoring System Alarms				01		
Totals		Group 2=17	3	1	4	3	3	3

Sys.	Mode	K/A#	Item	Import.
000	001	EK3.02	Knowledge of the reasons for Tech-Spec limits on rod operability as they apply to the Continuous Rod Withdrawal emergency task.	3.2/4.3
000	003	EA1.07	Ability to monitor in-core and ex-core instrumentation.	3.8/3.8
000	007	EK1.03	Knowledge of the reasons for closing the main turbine governor valve and the main turbine stop valve after a reactor trip.	3.7/4.0
000	008	EK3.02	Knowledge of the reason why PORV or code safety valve exit temperature is below RCS or PZR temperature.	3.6/4.1
000	009	EK2.04	Knowledge of sensors and detectors.	2.3/2.6
000	011	EA2.11	Ability to determine conditions for throttling or stopping HPI during large break LOCA.	3.9/4.3
000	022	EK3.06	Knowledge of the basis of RCP thermal barrier cooling.	3.2/3.3
000	025	EK1.01	Knowledge of the effect of loss of RHR during all modes of operation.	3.9/4.3
000	029	EK1.01	Knowledge of reactor nucleonics and thermal-hydraulics behavior as applied to ATWS.	2.8/3.1
000	032	EA2.04	Ability to determine satisfactory source-range/intermediate-range overlap.	3.1/3.5
000	033	EA2.02	Ability to interpret indications of unreliable intermediate-range channel operation.	3.3/3.6
000	037	SGA8	Ability to recognize indications for system operating parameters which are entry level conditions for Tech Specs.	3.1/3.9
000	038	EA1.39	Ability to operate and monitor drawing S/G into the RCS, using the feed and bleed method.	3.6/3.7
000	058	EK3.01	Knowledge of reason for use of DC control power by D/Gs.	3.4/3.7
000	059	SGA11	Ability to recognize abnormal indications for system operating parameters which are entry level conditions for emergency and abnormal operating procedures.	3.4/3.8
000	060	SGA7	Ability to explain and apply all system limits and precautions.	3.1/3.4

000	061	EA1.01	Ability to monitor automatic actuation of alarms.	3.6/3.6
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PWR - RO EMERGENCY PLANT EVOLUTIONS - 36% - Group 3

Group 3 - 3%			K1	K2	K3	A1	A2	SG
000	028	Pressurizer Level Malfunction					01	
000	036	Fuel Handling Incident						5
000	056	Loss of Offsite Power			01			
000	065	Loss of Instrument Air						
Totals Group 3			0	0	1	0	1	1
Total RO Emergency Plant Evolutions=36			4	2	8	6	8	8

Sys.	Mode	K/A#	Item	Import
000	028	EA2.01	Ability to determine and interpret PZR level indicators and alarms.	3.4/3.6
000	036	SG5	Knowledge of the annunciator alarms and indications, and use of the response instructions.	3.4/3.7
000	056	EK3.01	Knowledge of the basis for the order and time to initiate power for the load sequencer in the case of loss of offsite power	3.5/3.9

PWR - RO PLANT-WIDE GENERIC RESPONSIBILITIES - 13%

K1.01	Knowledge of how to conduct and verify valve lineups.	1
K1.02	Knowledge of tagging and clearance procedures.	2
K1.03	Knowledge of 10CFR20 and facility radiation control requirements.	
K1.04	Knowledge of facility ALARA program.	3
K1.05	Knowledge of facility requirements for controlling access to vital/control areas.	4
K1.06	Knowledge of safety procedures related to rotating equipment	
K1.07	Knowledge of safety procedures related to electrical equipment	5
K1.08	Knowledge of safety procedures related to high temperature.	
K1.09	Knowledge of safety procedures related to high pressure.	
K1.10	Knowledge of safety procedures related to caustic solutions.	
K1.11	Knowledge of safety procedures related to chlorine.	
K1.12	Knowledge of safety procedures related to noise.	
K1.13	Knowledge of safety procedures oxygen deficient environments.	6
K1.14	Knowledge of safety procedures related to confined spaces.	
K1.15	Knowledge of safety procedures related to hydrogen.	
K1.16	Knowledge of facility protection requirements, including fire brigade and portable fire fighting equipment	7
K1.17	Knowledge of the equipment rotation schedules and the reasoning behind the rotation procedure.	
A1.01	Ability to obtain and verify control procedure copy.	8
A1.02	Ability to execute procedural steps.	9
A1.03	Ability to locate and use procedures and station directives related to shift staffing and activities.	
A1.04	Ability to operate the plant phone, page, and 2 way radio.	10
A1.05	Ability to make accurate, clear, and concise verbal reports.	11
A1.06	Ability to maintain accurate, clear and concise logs, records, status boards and reports.	12
A1.07	Ability to obtain and interpret electrical and mechanical drawings.	
A1.08	Ability to obtain and interpret ref. material, graphs, monographs, tables, containing system performance data.	
A1.09	Ability to coordinate personnel activities in the control room.	
A1.10	Ability to coordinate personnel activities outside the control room.	
A1.11	Ability to direct personnel activities inside the control room.	
A1.12	Ability to direct personnel activities outside the control room.	
A1.13	Ability to locate ctrl. rm. switches, ctrls. & inds. and determine if they are correctly reflecting desired line up.	
A1.14	Ability to maintain primary and secondary plant chemistry within allowable limits.	
A1.15	Ability to use plant computer to obtain and evaluate parametric information on system and component status.	
A1.16	Ability to take actions called for in the Facility E-Plan, including supporting or acting as Emergency	13

PWR -SRO PLANT SYSTEMS - 40% -Group 1

Group 1 - 19%		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	SG
001	Control Rod Drive System		01						07			
003	Reactor Coolant Pump System					04						
004	Chemical and Volume Control System	04										
013	Engineered Safety Features Actuation System				12			05				
014	Rod Position Indication System											
015	Nuclear Instrumentation System						04	01				
017	In-Core Temperature Monitor System	02									02	
022	Containment Cooling System											15
025	Ice Condenser System											
026	Containment Spray System											11
056	Condensate System											
059	Main Feedwater System			03								
061	Auxiliary/Emergency Feedwater System				06					04		11
063	DC Electrical Distribution System											5
068	Liquid Radwaste System										04	
071	Waste Gas Disposal System										29	
072	Area Radiation Monitoring System				02							

Sys.	Mode	K/A#	Item	Import.
001	000	K2.01	One-line diagram of power supply to M/G sets (Clutch Power Supply)	3.5/3.6
001	010	A2.07	Identify and mitigate an erroneous ECP/ECC calculation.	2.6/3.6
003	000	K5.04	Knowledge of the effects of RCP shutdown on secondary parameters such as steam pressure, steam flow and feed flow.	3.2/3.5
004	000	K1.04	Knowledge of the relationship between the CVCS and RCPs, including seal injection flows.	3.4/3.8
013	000	K4.12	Knowledge of ESF design features and interlocks which provide for safety injection block.	3.7/3.9
013	000	A1.05	Ability to predict and/or monitor changes in main steam header pressure when operating ESF controls.	3.4/3.6
015	000	K6.04	Knowledge of performance and design attributes of bistables and logic circuits.	3.1/3.2
015	000	A1.01	Ability to perform an NIS calibration by heat balance.	3.5/3.8
017	020	K1.02	Knowledge of the relationship between the ITM system and the RCS.	3.3/3.5
017	020	A4.02	Ability to monitor temperature values used to determine RCS/RCP operation during inadequate core cooling (i.e., if applicable, average of five highest values).	3.8/4.1
022	SG	A15	Ability to recognize abnormal indications for system operating parameters which are entry level conditions for emergency and abnormal operating procedures.	3.5/3.8
026	SG	A11	Ability to recognize indications for system operating parameters which are entry level conditions for tech specs.	3.2/4.1
059	000	K3.03	Knowledge of the effect that a loss of the MFW system will have on the S/Gs.	3.5/3.7
061	000	K4.06	Knowledge of AFW system design features and interlocks which provide AFW startup permissives.	4.0/4.2
061	000	A3.04	Ability to monitor operation of automatic AFW isolation.	4.1/4.2
063	SG	K5	Knowledge of limiting conditions for operations and safety limits.	3.0/3.6
068	000	A4.04	Ability to monitor automatic isolation.	3.8/3.7
071	000	A4.29	Ability to monitor sampling oxygen, hydrogen, and nitrogen concentrations in WDGS decay tank including knowledge of limits.	3.0/3.6
072	000	K4.02	Knowledge of ARM system design features and interlocks which provide for fuel building isolation. (Fuel Handling alarms and interlocks)	3.2/3.4

PWR -SRO PLANT SYSTEMS - 40% -Group 2

Group 2 - 17%		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	SG
002	Reactor Coolant System					15						5
006	Emergency Core Cooling System				09							s11
010	Pressurizer Pressure Control System			02							03	
011	Pressurizer Level Control System								11			
012	Reactor Protection System						04				02	
016	Non-Nuclear Instrumentation System	01										
027	Containment Iodine Removal System											
028	Hydrogen Recombiner and Purge Control System					01		JPM 0719				
029	Containment Purge System	03										
033	Spent Fuel Pool Cooling System											
034	Fuel Handling Equipment System											
035	Steam Generator System									01		
039	Main and Reheat Steam System				08							
055	Condenser Air Removal System											
062	AC Electrical Distribution System		01					JPM 0347				
064	Emergency Diesel Generator System				02							5
073	Process Radiation Monitoring System				01							
075	Circulating Water System											
079	Station Air System	01						JPM 0214				
086	Fire Protection System										01	
103	Containment System								03			

Sys.	Mode	K/A#	Item	Import.
002	000	K5.15	Knowledge of the reason for maintaining subcooled margin during natural circulation.	4.2/4.6
002	SG	K5	Knowledge of limiting conditions for operations and safety limits.	3.6/4.1
006	000	K4.09	Knowledge of ECCS design features which provide for the safety injection valve interlocks.	3.8/4.1
010	000	K3.02	Knowledge of the effect that a loss of the PZR Pressure Control System will have on the RPS.	4.0/4.1
011	000	A2.11	Ability to predict and mitigate the consequences of failure of PZR level instrument-low.	3.4/3.6
012	000	K6.04	Knowledge of the performance and design attributes of bypass-block circuits of the RPS.	3.3/3.6
016	000	K1.01	Knowledge of the relationship between the NNIS and the RCS.	3.4/3.4
028	000	K5.01	Knowledge of explosive hydrogen concentration as applied to the HRPS.	3.4/3.9
029	000	K1.03	Knowledge of the relationships between the CPS and engineered safeguards.	3.6/3.8
035	010	A3.01	Ability to monitor automatic operation of the S/G water level control.	4.0/3.9
039	000	K4.08	Knowledge of MRSS design features which provide interlocks on MSIV and bypass valves.	3.3/3.4
062	000	K2.01	Knowledge of power supplies to major system loads.	3.3/3.4
064	000	K4.01	Knowledge of ED/G system design features and interlocks which provide for trips while loading the ED/G (frequency, voltage, and speed).	3.8/4.1
064	SG	K5	Knowledge of limiting conditions for operations and safety limits.	3.4/3.9
073	000	K4.01	Knowledge of PRM system design features and interlocks which provide for release termination when radiation exceeds setpoint.	4.0/4.3
079	000	K1.01	Knowledge of the relationships between SAS and IAS.	2.9/3.1
103	000	A2.03	Ability to predict and mitigate the consequences of Phase A and B [containment] isolation.	3.5/3.8

PWR -SRO PLANT SYSTEMS - 40% -Group 3

Group 3 - 4%		K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	SG
005	Residual Heat Removal System				10			JPM 0323				
007	Pressurizer Relief Tank/Quench Tank System								01			
008	Component Cooling Water System											
041	Steam Dump System										08	
045	Main Turbine Generator											
076	Service Water System									02		
078	Instrument Air System											

Sys.	Mode	K/A#	Item	Import.
005	000	K4.10	Knowledge of RHR design features and interlocks which provide for control of RHR heat exchanger outlet flow.	3.1/3.1
007	000	A2.01	Ability to predict and mitigate the consequences of stuck-open PORV or code safety.	3.9/4.2
041	020	A4.08	Ability to manually operate and monitor the steam dump valves.	3.0/3.1
076	000	A3.02	Ability to monitor automatic operation of the SWS, including emergency heat loads.	3.7/3.7

PWR - SRO EMERGENCY PLANT EVOLUTIONS - 43% -Group 1

Group 1 - 24%			K1	K2	K3	A1	A2	SG
000	001	Continuous Rod Withdrawal			02			
000	003	Dropped Control Rod	04			07		
000	005	Inoperable/Stuck Control Rod				01		3
000	011	Large Break LOCA			12		11	
000	015	RCP Motor Malfunction				21		12
000	024	Emergency Boration	02			JPM 0008		
000	026	Loss of Component Cooling Water			02	03		
000	029	Anticipated Transient Without Scram (ATWS)	01			scenario 1		
000	040	Steam Line Rupture			04	10		
000	051	Loss of Condenser Vacuum			01			
000	055	Loss of Offsite and Onsite Power			02		05	
000	057	Loss of Vital AC Electrical Instrument Bus				01	19	
000	059	Accidental Liquid Radioactive Waste Release						11
000	067	Plant Fire on Site					17	
000	068	Control Room Evacuation				12		
000	069	Loss of Containment Integrity						11
000	074	Inadequate Core Cooling			08	scenario 1		
000	076	High Reactor Coolant Activity						11
Totals		Group 1=24	3	0	7	3	4	3

Sys.	Mode	K/A#	Item	Import.
000	001	EK3.02	Knowledge of the reasons for Tech-Spec limits on rod operability as they apply to the Continuous Rod Withdrawal emergency task.	3.2/4.3
000	003	EK1.04	Knowledge of the effects of power level and control position on delta flux.	3.1/3.7
000	003	EA1.07	Ability to monitor in-core and ex-core instrumentation.	3.8/3.8
000	005	EA1.01	Ability to operate and monitor the CRDS.	3.6/3.4
000	005	SGK3	Knowledge of the limiting conditions for operations and safety limits.	3.1/3.6
000	011	EK3.12	Knowledge of the reason for actions contained in EOP for large break LOCA.	4.4/4.6
000	011	EA2.11	Ability to determine conditions for throttling or stopping HPI during large break LOCA.	3.9/4.3
000	015	EA1.21	Ability to monitor the development of natural circulation flow.	4.4/4.5
000	015	SGA12	Ability to utilize symptom based procedures.	2.9/3.2
000	024	EK1.01	Knowledge of the relationship between boron addition and change in Tave as applied to emergency boration.	3.4/3.8
000	026	EK3.02	Knowledge of the bases for the automatic actions (alignments) within the CC System resulting from the actuation of the ESF.	3.6/3.9
000	029	EK1.01	Knowledge of reactor nucleonics and thermal-hydraulics behavior as applied to ATWS.	2.8/3.1
000	040	EK3.04	Knowledge of the basis for actions contained in EOPs for steam line rupture.	4.5/4.7
000	040	EA1.10	Ability to operate and monitor the AFW system during a steam line rupture.	4.1/4.1
000	051	EK3.01	Knowledge of the reasons for the loss of steam dump capability upon loss of condenser vacuum.	2.8/3.1
000	055	EK3.02	Knowledge of the basis for actions contained in EOP for loss of offsite and onsite power.	4.3/4.6
000	055	EA2.05	Ability to determine when battery is approaching fully discharged.	3.4/3.7
000	057	EA2.19	Ability to determine the plant automatic actions that will occur on the loss of a vital AC electrical instrument bus.	4.0/4.3
000	059	SGA11	Ability to recognize abnormal indications for system operating parameters which are entry level conditions for emergency and abnormal operating procedures.	3.4/3.8
000	067	EA2.17	Ability to determine what systems may be affected by the fire.	3.5/4.3
000	068	EA1.12	Ability to operate and monitor the auxiliary shutdown panel controls and indicators.	4.4/4.4
000	069	SGA11	Ability to recognize abnormal indications for system operating parameters which are entry level conditions for emergency and abnormal operating procedures.	4.0/4.2
000	074	EK3.08	Knowledge of the reason for securing RCPs.	4.1/4.2

000	076	SGA11	Ability to recognize abnormal indications for system operating parameters which are entry level conditions for emergency and abnormal operating procedures.	3.4/3.6
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PWR - SRO EMERGENCY PLANT EVOLUTIONS - 43% - Group 2

Group 2 - 16%			K1	K2	K3	A1	A2	SG
000	007	Reactor Trip	03					
000	008	Pressurizer Vapor Space Accident			02			
000	009	Small Break LOCA		04		simulator		
000	022	Loss of Reactor Coolant Makeup			06			
000	025	Loss of Residual Heat Removal System	01					
000	027	Pressurizer Pressure Control System Malfunction					15	
000	032	Loss of Source Range Nuclear Instrumentation					04	4
000	033	Loss of Intermediate Range Nuclear Instrumentation					02	
000	037	Steam Generator Tube Leak						8
000	038	Steam Generator Tube Rupture				39		
000	054	Loss of Main Feedwater			01	simulator		
000	058	Loss of DC Power			01			
000	060	Accidental Gaseous Waste Release						7
000	061	Area Radiation Monitoring System Alarms				01		
000	065	Loss of Instrument Air					06	
Totals			2	1	4	2	4	3

Sys.	Mode	K/A#	Item	Import.
000	007	EK1.03	Knowledge of the reasons for closing the main turbine governor valve and the main turbine stop valve after a reactor trip.	3.7/4.0
000	008	EK3.02	Knowledge of the reason why PORV or code safety valve exit temperature is below RCS or PZR temperature.	3.6/4.1
000	009	EK2.04	Knowledge of sensors and detectors.	2.5/2.6
000	022	EK3.06	Knowledge of the basis of RCP thermal barrier cooling.	3.2/3.3
000	025	EK1.01	Knowledge of the effect of loss of RHR during all modes of operation.	3.9/4.3
000	027	EA2.15	Ability to determine actions to be taken if PZR pressure instrument fails high.	3.7/4.0
000	032	EA2.04	Ability to determine satisfactory source-range/intermediate-range overlap.	3.1/3.3
000	032	SGK4	Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits.	2.4/3.3
000	033	EA2.02	Ability to interpret indications of unreliable intermediate-range channel operation.	3.3/3.6
000	037	SG8	Ability to recognize indications for system operating parameters which are entry level conditions for Tech Specs.	3.1/3.9
000	038	EA1.39	Ability to operate and monitor drawing S/G into the RCS, using the feed and bleed method.	3.6/3.7
000	054	EK3.01	Knowledge of the reason for a reactor and/or turbine trip (manual and automatic) on a loss of main feedwater.	4.1/4.4
000	058	EK3.01	Knowledge of reason for use of DC control power by D/Gs.	3.4/3.7
000	060	SGA7	Ability to explain and apply all system limits and precautions.	3.1/3.4
000	061	EA1.01	Ability to monitor automatic actuation of alarms.	3.6/3.6
000	065	EA2.06	Ability to determine when to trip reactor if instrument air pressure is decreasing.	3.6/4.2

PWR - SRO EMERGENCY PLANT EVOLUTIONS - 43% -Group 3

- 3%		K1	K2	K3	A1	A2	SG
58	Pressurizer Level Malfunction					01	
56	Fuel Handling Incident						5
56	Loss of Offsite Power			01			
Group 3=3		0	0	1	0	1	1
SRO Emergency Plant Evolutions=43		5	1	12	7	9	9

Code	K/A#	Item	Import.
5	EA2.01	Ability to determine and interpret PZR level indicators and alarms.	3.4/3.6
6	SGA5	Knowledge of the annunciator alarms and indications, and use of the response instructions.	3.4/3.7
5	EK3.01	Knowledge of the basis for the order and time to initiate power for the load sequencer in the case of loss of offsite power.	3.5/3.9

PWR -SRO PLANT-WIDE GENERIC RESPONSIBILITIES - 17%

K1.01	Knowledge of how to conduct and verify valve lineups.	1
K1.02	Knowledge of tagging and clearance procedures.	2
K1.03	Knowledge of 10CFR20 and facility radiation control requirements.	3
K1.04	Knowledge of facility ALARA program.	4
K1.05	Knowledge of facility requirements for controlling access to vital/control areas.	5
K1.06	Knowledge of safety procedures related to rotating equipment	
K1.07	Knowledge of safety procedures related to electrical equipment	6
K1.08	Knowledge of safety procedures related to high temperature.	
K1.09	Knowledge of safety procedures related to high pressure.	
K1.10	Knowledge of safety procedures related to caustic solutions.	
K1.11	Knowledge of safety procedures related to chlorine.	
K1.12	Knowledge of safety procedures related to noise.	
K1.13	Knowledge of safety procedures oxygen deficient environments.	7
K1.14	Knowledge of safety procedures related to confined spaces.	
K1.15	Knowledge of safety procedures related to hydrogen.	
K1.16	Knowledge of facility protection requirements, including fire brigade and portable fire fighting equipment	8
K1.17	Knowledge of the equipment rotation schedules and the reasoning behind the rotation procedure.	
A1.01	Ability to obtain and verify control procedure copy.	9
A1.02	Ability to execute procedural steps.	10
A1.03	Ability to locate and use procedures and station directives related to shift staffing and activities.	11
A1.04	Ability to operate the plant phone, page, and 2 way radio.	12
A1.05	Ability to make accurate, clear, and concise verbal reports.	13
A1.06	Ability to maintain accurate, clear and concise logs, records, status boards and reports.	14
A1.07	Ability to obtain and interpret electrical and mechanical drawings.	
A1.08	Ability to obtain and interpret ref. material, graphs, monographs, tables, containing system performance data.	
A1.09	Ability to coordinate personnel activities in the control room.	
A1.10	Ability to coordinate personnel activities outside the control room.	
A1.11	Ability to direct personnel activities inside the control room.	15
A1.12	Ability to direct personnel activities outside the control room.	
A1.13	Ability to locate ctrl. rm. switches, ctrls. & inds. and determine if they are correctly reflecting desired line up.	
A1.14	Ability to maintain primary and secondary plant chemistry within allowable limits.	16
A1.15	Ability to use plant computer to obtain and evaluate parametric information on system and component status.	
A1.16	Ability to take actions called for in the Facility E-Plan, including supporting or acting as Emergency	17

Examination Level: RO	Week of Examination: 12/04/95
Facility: Fort Calhoun	
Examiner's Name (print): _____	

Administrative Topic / Subject Description		Describe method of evaluation: 1. ONE Administrative JPM. OR 2. TWO Administrative Questions
A.1	Plant Parameter Verification	
	Shift Staffing Requirements	
A.2	Tagging and Clearances	
A.3	Radiation Control	
A.4	Emergency Plan	

Examiner: _____ Chief Examiner: _____

Examination Level: SRO	Week of Examination: 12/04/95
Facility: Fort Calhoun	
Examiner's Name (print): _____	

Administrative Topic / Subject Description		Describe method of evaluation: 1. ONE Administrative JPM. OR 2. TWO Administrative Questions
A.1	Plant Parameter Verification	
	Security	
A.2	Temporary Modifications	
A.3	Radiation Control	
A.4	Emergency Plan	

Examiner: _____ Chief Examiner: _____

Examination Level:		RO
Facility: <u>Fort Calhoun</u>		Week of Examination: <u>12/04/95</u>
Examiner's Name (print): _____		
System / JPM	Safety Function	Planned Follow-up Questions: K/A/G // Importance // Description
1. 0008 ASP - Emergency Boration from the Control Room	I	a.
		b.
2. 0323 - Terminate Shutdown Cooling	IV	a.
		b.
3. 0347 - Unload D/G #1	VII	a.
		b.
4. 0778 - Adjust T-cold calibration on the RPS Panel	IX	a.
		b.
5. 0138 - Operate CVCS to makeup to the SIRWT	II	a.
		b.
Simulator JPMs above this line. Plant JPMs below this line		
6. 0719 - Startup Hydrogen Purge System	VI	a.
		b.
7. 0295 - Switch Inverter Supply from Bypass to Normal (modify to alternate path)	VII	a.
		b.
8. 0214 - Shift Inservice Air Compressors	VIII	a.
		b.
9. 0010RW - Loss of Component Cooling Water (Raw Water)	X	a.
		b.
10. New - Makeup to the Emergency Feedwater Storage Tank using Diesel Fire Pump	V	a.
		b.

Examiner: _____ Chief Examiner: _____

Examination Level:		SRO(I)
Facility: <u>Fort Calhoun</u>		Week of Examination: <u>12/04/95</u>
Examiner's Name (print): _____		
System / JPM	Safety Function	Planned Follow-up Questions: K/A/G // Importance // Description
1. 0008 ASP - Emergency Boration from the Control Room	I	a.
		b.
2. 0323 - Terminate Shutdown Cooling	IV	a.
		b.
3. 0347 - Unload D/G #1	VII	a.
		b.
4. 0778 - Adjust T-cold calibration on the RPS Panel	IX	a.
		b.
5. 0138 - Operate CVCS to makeup to the SIRWT	II	a.
		b.
Simulator JPMs above this line. Plant JPMs below this line		
6. 0719 - Startup Hydrogen Purge System	VI	a.
		b.
7. 6295 - Switch Inverter Supply from Bypass to Normal (modify to alternate path)	VII	a.
		b.
8. 0214 - Shift Inservice Air Compressors	VIII	a.
		b.
9. 0010RW - Loss of Component Cooling Water (Raw Water)	X	a.
		b.
10. New - Makeup to the Emergency Feedwater Storage Tank using Diesel Fire Pump	V	a.
		b.

Examiner: _____ Chief Examiner: _____

Examination Level:		SRO(U)
Facility: <u>Fort Calhoun</u>		Week of Examination: <u>12/04/95</u>
Examiner's Name (print): _____		
System / JPM	Safety Function	Planned Follow-up Questions: K/A/G // Importance // Description
		a.
		b.
		a.
		b.
		a.
		b.
		a.
		b.
		a.
		b.
Simulator JPMs above this line. Plant JPMs below this line		
6. 0719 - Startup Hydrogen Purge System	VI	a.
		b.
7. 0295 - Switch Inverter Supply from Bypass to Normal (modify to alternate path)	VII	a.
		b.
8. 0214 - Shift Inservice Air Compressors	VIII	a.
		b.
9. 0010RW - Loss of Component Cooling Water (Raw Water)	X	a.
		b.
10. New - Makeup to the Emergency Feedwater Storage Tank using Diesel Fire Pump	V	a.
		b.

Examiner: _____

Chief Examiner: _____

ATTACHMENT 2

SIMULATION FACILITY REPORT

Facility Licensee: Fort Calhoun Station

Facility Docket No.: 50-285

Operating Tests Administrated on: December 5, 1995

These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of noncompliance with 10 CFR 55.45(b). These observations do not affect NRC certification of approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations. While conducting the simulator portion of the operating tests, the following unidentified discrepancies were observed:

ITEM

DESCRIPTION

None