

2011 Initial License Audit Exam K/A Listing

K/A Q.1	000A04 AK2.2 Knowledge of the interrelations between the (Turbine Trip) and the following: Facility's heat removal systems, including primary coolant, emergency coolant, the decay heat removal systems, and relations between the proper operation of these systems to the operation of the facility.
K/A Q.2	000015 AA1.22 Ability to operate and / or monitor the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): RCP seal failure/malfunction
K/A Q.3	059 K4.08 Knowledge of MFW design feature(s) and/or interlock(s) which provide for the following: Feedwater regulatory valve operation (on basis of steam flow, feed flow mismatch)
K/A Q.4	000058 AK3.02 Knowledge of the reasons for the following responses as they apply to the Loss of DC Power: Actions contained in EOP for loss of dc power
K/A Q.5	000A04 AK2.1 Knowledge of the interrelations between the (Turbine Trip) and the following: Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.
K/A Q.6	000007 EA1.08 Ability to operate and monitor the following as they apply to a reactor trip: AFW System
K/A Q.7	000028 AK2.02 Knowledge of the interrelations between the Pressurizer Level Control Malfunctions and the following: Sensors and detectors
K/A Q.8	000009 EK2.03 Knowledge of the interrelations between the small break LOCA and the following: S/Gs
K/A Q.9	062 K1.03 Knowledge of the physical connections and/or cause/effect relationships between the ac distribution system and the following systems: DC distribution
K/A Q.10	000015 AA1.09 Ability to operate and / or monitor the following as they apply to the Reactor Coolant Pump Malfunctions (Loss of RC Flow): RCS temperature detection subsystem
K/A Q.11	000028 AK3.02 Knowledge of the reasons for the following responses as they apply to the Loss of Reactor Coolant Makeup: Actions contained in SOPs and EOPs for RCPs, loss of makeup, loss of charging, and abnormal charging
K/A Q.12	000055 EA2.02 Ability to determine or interpret the following as they apply to a Station Blackout: RCS core cooling through natural circulation cooling to S/G cooling
K/A Q.13	008 K4.01 Knowledge of CCWS design feature(s) and/or interlock(s) which provide for the following: Automatic start of standby pump
K/A Q.14	2.2.25 Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits.
K/A Q.15	000054 AK2.01 Knowledge of the interrelations between the Loss of Main Feedwater (MFW) and the following: Valves
K/A Q.16	000038 EA2.12 Ability to determine or interpret the following as they apply to a SGTR: Status of MSIV activating system
K/A Q.17	000054 AK1.01 Knowledge of the operational implications of the following concepts as they apply to Loss of Main Feedwater (MFW): MFW line break depressurizes the S/G (similar to a steam line break)
K/A Q.18	000A03 AK2.1 Knowledge of the interrelations between the (Loss of NNI-Y) and the following: Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.
K/A Q.19	000055 EK3.02 Knowledge of the reasons for the following responses as the apply to the Station Blackout: Actions contained in EOP for loss of offsite and onsite power
K/A Q.20	062 K1.03 Knowledge of the physical connections and/or cause/effect relationships between the ac distribution system and the following systems: DC distribution
K/A Q.21	000065 AK3.08 Knowledge of the reasons for the following responses as they apply to the Loss of Instrument Air: Actions contained in EOP for loss of instrument air
K/A Q.22	064 K4.02 Knowledge of ED/G system design feature(s) and/or interlock(s) which provide for the following: Trips for ED/G while operating (normal or emergency)

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K/A Q.23	000040 AK3.04 Knowledge of the reasons for the following responses as they apply to the Steam Line Rupture: Actions contained in EOPs for steam line rupture
K/A Q.24	000001 AK1.14 Knowledge of the operational implications of the following concepts as they apply to Continuous Rod Withdrawal: Interaction of ICS control stations as well as purpose, function, and modes of operation of ICS
K/A Q.25	000003 AA1.05 Ability to operate and / or monitor the following as they apply to the Dropped Control Rod: Reactor power - turbine power
K/A Q.26	004 K4.07 Knowledge of CVCS design feature(s) and/or interlock(s) which provide for the following: Water supplies
K/A Q.27	015 K4.07 Knowledge of NIS design feature(s) and/or interlock(s) provide for the following: Permissives
K/A Q.28	2.2.40 Ability to apply Technical Specifications for a system.
K/A Q.29	000037 AK1.02 Knowledge of the operational implications of the following concepts as they apply to Steam Generator Tube Leak: Leak rate vs. pressure drop
K/A Q.30	059 A1.07 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MFW controls including Feed Pump speed, including normal control speed for ICS
K/A Q.31	103 A1.01 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the containment system controls including: Containment pressure, temperature, and humidity
K/A Q.32	041 K2.02 Knowledge of bus power supplies to the following: ICS inverter breakers
K/A Q.33	003 K1.03 Knowledge of the physical connections and/or cause-effect relationships between the RCPS and the following systems: RCP seal system
K/A Q.34	004 A4.06 Ability to manually operate and/or monitor in the control room: Letdown isolation and flow control valves
K/A Q.35	005 K4.01 Knowledge of RHRS design feature(s) and/or interlock(s) which provide or the following: Overpressure mitigation system
K/A Q.36	006 K1.02 Knowledge of the physical connections and/or cause/effect relationships between the ECCS and the following systems: ESFAS
K/A Q.37	022 A3.01 Ability to monitor automatic operation of the CCS, including: Initiation of safeguards mode of operation
K/A Q.38	010 A1.07 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PZR PCS controls including: RCS pressure
K/A Q.39	008 K6.04 Knowledge of the effect of a loss or malfunction on the following will have on the CCW: Pumps
K/A Q.40	010 A3.02 Ability to monitor automatic operation of the PZR PCS, including: PZR pressure
K/A Q.41	011 A1.01 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PZR LCS controls including: PZR level and pressure
K/A Q.42	2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.
K/A Q.43	Plant specific priority - not in K/A catalog
K/A Q.44	000E05 EK1.3 Knowledge of the operational implications of the following concepts as they apply to the (Excessive Heat Transfer) Annunciators and conditions indicating signals, and remedial actions associated with the (Excessive Heat Transfer).
K/A Q.45	012 A2.02 Ability to (a) predict the impacts of the following malfunctions or operations on the RPS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of instrument power
K/A Q.46	2.2.40 Ability to apply Technical Specifications for a system.

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K/A Q.47	014 K5.02 Knowledge of the operational implications of the following concepts as they apply to the RPIS: RPIS independent of demand position
K/A Q.48	2.2.22 Knowledge of limiting conditions for operations and safety limits.
K/A Q.49	059 A1.01 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the MFW controls including: Location, limits, and normal ranges for level, pressure flow, temperature, and RPM measurements associated with the MFW system
K/A Q.50	059 A3.03 Ability to monitor automatic operation of the MFW, including: Feedwater pump suction flow pressure
K/A Q.51	002 A1.08 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the RCS controls including: RCS average temperature
K/A Q.52	061 K1.06 Knowledge of the physical connections and/or cause/effect relationships between the AFW and the following systems: Cooling water
K/A Q.53	062 K4.04 Knowledge of ac distribution system design feature(s) and/or interlock(s) which provide for the following: Protective relaying
K/A Q.54	000040 AA1.10 Ability to operate and / or monitor the following as they apply to the Steam Line Rupture: AFW system
K/A Q.55	062 K1.03 Knowledge of the physical connections and/or cause/effect relationships between the ac distribution system and the following systems: DC distribution
K/A Q.56	072 A1.01 Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the ARM system controls including: Radiation levels
K/A Q.57	076 K2.08 Knowledge of bus power supplies to the following: ESF-actuated MOVs
K/A Q.58	078 K4.02 Knowledge of IAS design feature(s) and/or interlock(s) which provide for the following: Cross-over to other air systems
K/A Q.59	078 K3.02 Knowledge of the effect that a loss or malfunction of the IAS will have on the following: Systems having pneumatic valves and controls
K/A Q.60	035 A2.05 Ability to (a) predict the impacts of the following malfunctions or operations on the SGs; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Unbalanced flows to the S/Gs
K/A Q.61	015 K5.02 Knowledge of the operational implications of the following concepts as they apply to the NIS: Discriminator/compensation operation
K/A Q.62	011 A2.10 Ability to (a) predict the impacts of the following malfunctions or operations on the PZR LCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Failure of PZR level instrument - high
K/A Q.63	062 K2.01 Knowledge of bus power supplies to the following: Major system loads
K/A Q.64	027 A2.01 Ability to (a) predict the impacts of the following malfunctions or operations on the CIRS; and (b) based on those predictions, use Procedures to correct, control, or mitigate the consequences of those malfunctions or operations: High temperature in the filter system (Not an exact K/A match, but same concept)
K/A Q.65	073 K1.01 Knowledge of the physical connections and/or cause/effect relationships between the PRM system and the following systems: Those systems served by PRMs
K/A Q.66	2.2.44 Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions.
K/A Q.67	041 K4.17 Knowledge of SDS design feature(s) and/or interlock(s) which provide for the following: Reactor trip
K/A Q.68	2.1.7 Ability to evaluate plant performance and make operational judgments based on operating characteristics, reactor behavior, and instrument interpretation.
K/A Q.69	071 A1.03 Ability to predict and/or monitor changes in parameters(to prevent exceeding design limits) associated with Waste Gas Disposal System operating the controls including: Holdup tank pressure and level

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K/A Q.70	004 K3.02 Knowledge of the effect that a loss or malfunction of the CVCS will have on the following: PZR LCS
K/A Q.71	2.4.12 Knowledge of general operating crew responsibilities during emergency operations.
K/A Q.72	2.4.21 Knowledge of the parameters and logic used to assess the status of safety functions, such as reactivity control, core cooling and heat removal, reactor coolant system integrity, containment conditions, radioactivity release control, etc.
K/A Q.73	2.2.13 Knowledge of tagging and clearance procedures.
K/A Q.74	2.4.18 Knowledge of the specific bases for EOPs.
K/A Q.75	012 K1.02 Knowledge of the physical connections and/or cause/effect relationships between the RPS and the following systems: 125V dc system

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SRO ONLY

K/A Q.76	2.2.12 Knowledge of surveillance procedures.
K/A Q.77	2.4.16 Knowledge of EOP implementation hierarchy and coordination with other support procedures or guidelines such as, operating procedures, abnormal operating procedures, and severe accident management guidelines.
K/A Q.78	2.2.14 Knowledge of the process for controlling equipment configuration or status.
K/A Q.79	000009 EA2.23 Ability to determine or interpret the following as they apply to a small break LOCA: RCP operating parameters and limits
K/A Q.80	2.2.40 Ability to apply Technical Specifications for a system.
K/A Q.81	000065 AA2.08 Ability to determine and interpret the following as they apply to the Loss of Instrument Air: Failure modes of air-operated equipment
K/A Q.82	000011 EA2.03 Ability to determine or interpret the following as they apply to a Large Break LOCA: Consequences of managing LOCA with loss of CCW
K/A Q.83	000062 AA2.03 Ability to determine and interpret the following as they apply to the Loss of Nuclear Service Water: The valve lineups necessary to restart the SWS while bypassing the portion of the system causing the abnormal condition
K/A Q.84	000E03 EA2.2 Ability to determine and interpret the following as they apply to the (Inadequate Subcooling Margin) Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.
K/A Q.85	000036 AA2.02 Ability to determine and interpret the following as they apply to the Fuel Handling Incidents: Occurrence of a fuel handling incident
K/A Q.86	000E04 EA2.1 Ability to determine and interpret the following as they apply to the (Inadequate Heat Transfer) Facility conditions and selection of appropriate procedures during abnormal and emergency operations.
K/A Q.87	2.1.5 Ability to use procedures related to shift staffing, such as minimum crew complement, overtime limitations, etc.
K/A Q.88	000036 AA1.01 Ability to operate and / or monitor the following as they apply to the Fuel Handling Incidents: Reactor building containment purge ventilation system
K/A Q.89	2.4.25 Knowledge of fire protection procedures.
K/A Q.90	2.4.4 Ability to recognize abnormal indications for system operating parameters that are entry-level conditions for emergency and abnormal operating procedures.
K/A Q.91	2.4.29 Knowledge of the emergency plan.
K/A Q.92	056 A2.04 Ability to (a) predict the impacts of the following malfunctions or operations on the Condensate System; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of condensate pumps
K/A Q.93	000065 AK3.08 Knowledge of the reasons for the following responses as they apply to the Loss of Instrument Air: Actions contained in EOP for loss of instrument air
K/A Q.94	2.1.42 Knowledge of new and spent fuel movement procedures.
K/A Q.95	2.1.40 Knowledge of refueling administrative requirements.
K/A Q.96	2.2.40 Ability to apply Technical Specifications for a system.
K/A Q.97	2.3.4 Knowledge of radiation exposure limits under normal or emergency conditions.
K/A Q.98	2.1.45 Ability to identify and interpret diverse indications to validate the response of another indication.
K/A Q.99	2.4.40 Knowledge of SRO responsibilities in emergency plan implementation.
K/A Q.100	000E13 EA2.1 Ability to determine and interpret the following as they apply to the (EOP Rules) Facility conditions and selection of appropriate procedures during abnormal and emergency

JPM	JPM TITLE	Type	Used IN	JPM	JPM TITLE	Type	Used IN
JPM-175	SRO - Review a Waste Gas Release with NO Radiation Monitors Available	ADM	Audit	JPM-149	RO,SRO - Check Out a Radiation Detector in the RRA	ADM	NRC Exam
JPM-216	RO,SRO - Manual Heat Balance	ADM	Audit	JPM-228	RO,SRO - Perform A Boric Acid Batch Calculation (DB-OP-06001 Attach 2)	ADM	NRC Exam
JPM-260	RO - ADJUST RE1878A WARNING AND HIGH SETPOINTS	ADM	Audit	JPM-261	RO,SRO - Control of Locked Valves During Post Maintenance Testing	ADM	NRC Exam
JPM-150	SRO - Determine the Appropriate Protective Action Recommendations	ADM	Audit	JPM-New	RO Calculate Boron Conc for SDM of 1%Δk/k with 2 stuck rods	ADM	NRC Exam
JPM-152	RO,SRO - Identify CTMT Spray Pump 1 is Outside Acceptable Range on Avg. Pump Differential Pressure	ADM	Audit	JPM-New	RO Generate a tagout for CNMT spray	ADM	NRC Exam
JPM-059	RO,SRO - Calculate Estimated Critical Boron Concentration	ADM	Audit	JPM-New	SRO Determine Compensatory actions for failed Deluge valve on EDG fire protection	ADM	NRC Exam
JPM-004	RO,SRO - Control Room Evacuation, Reactor Operator Actions in the Control Room	SIM	Audit	JPM-New	SRO Classify an event & complete the initial notification form	ADM	NRC Exam
JPM-012	RO,SRO - Shutdown a MFPT During a Rapid Plant Shutdown	SIM	Audit	JPM-002	RO,SRO - Establishing Long Term Boron Dilution with LPI Train 2	SIM	NRC Exam
JPM-111	RO,SRO - Place E2 and F2 on Alternate and Remove Transformers AE2 and AF2 from Service	SIM	Audit	JPM-113	RO,SRO - Vacuum and Gland Steam Systems Actions During a Loss of Instrument Air	SIM	NRC Exam
JPM-124	RO,SRO - Shutdown Control Room Emergency Ventilation System	SIM	Audit	JPM-121	RO,SRO - Energize an RPS Channel 2	SIM	NRC Exam
JPM-141	RO,SRO - Operate the Hydrogen Purge/Dilution Systems	SIM	Audit	JPM-197	RO,SRO Isolate SG with SGTR	SIM	NRC Exam
JPM-158	RO,SRO - Perform a Blast Cooldown of the RCS	SIM	Audit	JPM-New	RO,SRO Perform Control rod exercise with malfunction	SIM	NRC Exam
JPM-160	RO,SRO - Establish Long Term Boron Dilution with Prz Aux Spray	SIM	Audit	JPM-New	RO,SRO Perform CNMT pressure reduction release with malfunctions	SIM	NRC Exam
JPM-184	RO Transfer Non-Essential CCW Isolation Valves from Line 1 to Line 2	SIM	Audit	JPM-New	RO,SRO Perform PRZR boron equalization w/PRZR spray malfunction	SIM	NRC Exam
JPM-040	RO,SRO - Perform Attachment 4 of DB-OP-02531, OTSG Tube Leak	PL	Audit	JPM-220	RO,SRO Perform 13.8KV live bus transfer w/malfunctions	SIM	NRC Exam
JPM-195	RO, SRO Fill CCW System	PL	Audit	JPM-069	RO,SRO - Swap to a Swing Battery Charger	PL	NRC Exam
JPM-050	RO,SRO - Transfer an Essential Instrument AC Panel from Normal to Alternate Power Supplies	PL	Audit	JPM-075	RO,SRO - Resetting the AFPT Overspeed Trip Mechanism After and Auto Start	PL	NRC Exam
				JPM-256	RO,SRO - Establish High Pressure Injection Alternate Minimum Recirc Flowpath	PL	NRC Exam

JPM-014	RO,SRO - Loss of Service Water Loop 1 to Primary Loads	SIM	Last 2 NRC	JPM-240	SRO - Perform An On-Line Risk Determination For A Change In A System Lineup	ADM	Last 2 NRC
JPM-021	RO,SRO - RPS Shutdown Bypass Trip Switch Operation	SIM	Last 2 NRC	JPM-227	RO,SRO - Calculate RCS Flow With Computer Point F744 Unavailable	ADM	Last 2 NRC
JPM-033	RO,SRO - Transfer LPI Suction to the Emergency Sump	SIM	Last 2 NRC	JPM-178	SRO - Security Event Classification and Notification	ADM	Last 2 NRC
JPM-085	RO,SRO - Purge Containment in Mode 5	SIM	Last 2 NRC	JPM-New	RO, SRO Calculate Steam Generator Leakrate	ADM	Last 2 NRC
JPM-097	RO,SRO - Manually Initiate SFAS	SIM	Last 2 NRC	JPM-New	RO, SRO Review a safety tagout for High Pressure Injection Pump 1 with eSOMS unavailable	ADM	Last 2 NRC
JPM-132	RO,SRO - Fill a Core Flood Tank	SIM	Last 2 NRC	JPM-New	SRO Review Auxiliary Feedwater Pump 2 Monthly Periodic Test and Determine Operability	ADM	Last 2 NRC
JPM-215	RO,SRO - Station Vent High Radiation Response	SIM	Last 2 NRC	JPM-New	RO, SRO Determine components for Tagout of CCW Pump #1	ADM	Last 2 NRC
JPM-221	RO,SRO - CRD Sequence Fault Recovery	SIM	Last 2 NRC	JPM-New	RO, SRO Don Anti-C clothing	ADM	Last 2 NRC
JPM-237	RO,SRO - Perform the Main Turbine Overspeed Trip Test	SIM	Last 2 NRC	JPM-New	RO, SRO Review Miscellaneous Shift Checks	ADM	Last 2 NRC
JPM-New	RO, SRO Reset Tripped RPS	SIM	Last 2 NRC	JPM-New	RO, SRO Offsite Notifications following Turbine Damage	ADM	Last 2 NRC
JPM-New	RO, SRO Energize Bus D1 from Bus B	SIM	Last 2 NRC	JPM-New	SRO Review Offsite AC Source Line-up Surveillance	ADM	Last 2 NRC
JPM-New	RO, SRO Spray Containment Post LOCA	SIM	Last 2 NRC	JPM-241	(NLO, RO, SRO) Notify State and Counties on an Alert	ADM	Last 2 NRC
JPM-New	RO, SRO Initiate MU/HPI Cooling	SIM	Last 2 NRC	JPM-115	NLO,RO,SRO - Emergency Shutdown of an Emergency Diesel Generator	PL	Last 2 NRC
JPM-New	RO, SRO Respond to Low RCS pressure Condition	SIM	Last 2 NRC	JPM-118	NLO,RO,SRO - Emergency Startup of Startup Feedwater Pump	PL	Last 2 NRC
JPM-New	RO, SRO Exercise Group 5 Rods	SIM	Last 2 NRC	JPM-127	NLO,RO,SRO - Actions for Steam Binding of MDFP	PL	Last 2 NRC
JPM-New	RO, SRO Synchronize the Main Generator to the Grid	SIM	Last 2 NRC	JPM-037	RO,SRO - Recovery from High Radiation in the Fuel Handling AREA	PL	Last 2 NRC
	2011 NRC Exam JPMs			JPM-New	RO, SRO Restore the Makeup System During a Control Room Evacuation	PL	Last 2 NRC
	JPMs Used on the Last 2 NRC exams			JPM-New	RO, SRO Recirc BWST	PL	Last 2 NRC
	2011 Audit Exam JPMs						

NRC	CRITICALS		MALFUNCTIONS	CRITICALS		MALFUNCTIONS	Audit
1	Close RC-11, PORV Block Close Spray Valve Feed one SG at < 1000 gpm	2%	Raise power to 4% RCS Pressure ch sel for NNI fails HI BA Pump 2 trips Main Turbine Turning Gear Locks Out Circ Wtr Sys rupture in the Pump house Two stuck rods Both AFPTs trip on overspeed	Close AF 608, AFW to SG 1 and open Atmos Vent Valve 1 Establish MU/HPI Cooling	5%	Continue Rx startup to about 14%. Place MFP in service Sheared shaft on Condensate Pump 1 Slow fail of LT SP9B4, to 0; SG 1 S/U Lvl xmitter steam leak on AFPT 2; MS 107A failed open AFPT 1 Gov. @ 500 rpm results in loss of FW Motor driven feed pump bkr will not close.	1
2	line up and start HPI piggyback min SCM during RCS C/D.	70%	Controlled power reduction Hi vib on MFPT #1 - manual trip ICS AUTO Runback fails RCS Press sel for NNI input fails LO 120VAC Inverter alarm OTSG Tube Leak MFPT #2 trips OTSG tube leak ↑ to rupture after RX trip PZR Spray Valve fails CLOSED	Trip All RCPs manually start LPI Pump 1 Isol AFW flow to the OTSG	100%	SFAS CNMT Press xmitter fails ↓ HP FW Heater Tube leak Controlled power reduction SAC #2 trips and SAC #1 fails to load Emer IAC fails to AUTO start. Bus D1 locks out Rapidly progressing RCS leak rate SFAS L3 Output Module Failure	2
3	Re-power D2 Bus Start the MDPF	60%	Xfer Gland Steam from MS to Aux Steam AFW Pump 1 has no Governor oil (TS) PRZR LCV (MU 32) fails to operate in auto Control Rod drop (TS) Loss of NNI X DC Loss of Offsite AC EDG 1 fails to auto start AFW Pump 2 governor valve closes	B/D SG 1 Trip Rx B/4 cond vac ↑ 10" HgA	100%	RCS press xmitter PT6365B fails ↑ (TS) ↓ power @ direction of Sys Dispatcher Deaerator level transmitter fails low PZR PORV leakage (TS) AC Xformer lockout (TS) Makeup Tank level transmitter fails ↓ Main Steam leak (large) inside CNMT Both trainsSFAS act fails; AF 3870 fails to close	3
4	Deenergize E2 and F2 Trip all RCPs Manually start an HPI Pump	80%	Containment Spray Pump 1 oil leak RCP 1-1 Seal Fail, pwr ↓ to stop RCP 1-1 Selected T-H xmitter (TT RC3A1) fails↑ RCP 1-2 Breaker trip ATWS Pressurizer Safety fails open HPI P- 1 trips, HPI - 2 fails to auto start	Init AFW & Isol MFW & MS	95%	Swap Letdown Purification Demineralizers for Li+ Control BWST Lo-Lo Level Inst (LI 1525A) Fails ↑ (TS) SAC #2 trips, SBY AC Fails to Auto Start Circ Water Pump #4 Trips / Power Reduction Vacuum Leak HP Condenser / Reactor Trip SFRCS Man PBs in C/R Fails/ManAct at SFRCS cabinets reactor trip failure from high condenser pressure.	4