

Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Rope Ferry Road, Waterford, CT 06385



OCT 30 2008

Mr. Samuel L. Hansell, Jr., Chief
Operations Branch, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Serial No. 08-0606
MPS Lic/TC R0
Docket No. 50-336
License No. DPR-65

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
SENIOR REACTOR OPERATOR AND REACTOR OPERATOR INITIAL
EXAMINATIONS - OUTLINE

In a letter dated September 24, 2008,¹ the U.S. Nuclear Regulatory Commission (NRC) requested Dominion Nuclear Connecticut, Inc. submit the examination outline for the Senior Reactor Operator and Reactor Operator Initial Examinations – Millstone Power Station Unit 2, by November 3, 2008.

Attachment 1, Examination Outline, is being submitted to the NRC for review and approval. Pursuant to 10 CFR 55.40(b)(3), an authorized representative of the facility has approved the "complete and ready-to-use" examination outline contained in Attachment 1.

Consistent with guidance contained in NUREG-1021 Examination Standard 201, Attachment 1, "Examination Security and Integrity Considerations", the examination outline contained in Attachment 1 should be withheld from public disclosure until after the examination has been completed. No redacted versions are being supplied.

Should you have any questions regarding this submittal, please contact Mr. Jeff T. Spence at (860) 437-2540.

Sincerely,

A handwritten signature in black ink, appearing to read "A. J. Jordan".

A. J. Jordan
Site Vice President - Millstone

¹ Samuel L. Hansell, Jr. letter from U.S. NRC, to David A. Christian, "Senior Reactor and Reactor Operator Initial Examinations – Millstone Unit 2," dated September 24, 2008.

Attachments: 1

Commitments made in this letter: None.

cc: (w/o attachment)
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Attachment 1

Examination Outline

**Millstone Power Station Unit 2
Dominion Nuclear Connecticut, Inc. (DNC)**

Description of the Process Used to Develop the Millstone 2 Exam Outline

- I. Obtained copies of Forms ES-401-2, *PWR Examination Outlines for SRO and RO*, and Form ES-401-3 *Generic Knowledge and Abilities Outline (Tier 3)*.
- II. For each Tier and Group, the *Example Systematic Sampling Methodology* per ES-401, Attachment 1 and guidance on ES-401-2 were used to select the topics for the RO exams as follows:
 - A. Annotated all systems/topics not applicable to Millstone 2 (Ex. W, BW).
 - B. If a group had more topics than required for a Tier/Group, tokens were then selected to randomly remove the topics that would not be covered.
 - C. If a group had less topics than required for a Tier/Group, then tokens were randomly drawn to determine which topics would receive double question coverage.
 - D. Selected the systems/topics for the exam by randomly selecting tokens.
- III. Used the *Example Systematic Sampling Methodology* per ES-401, Attachment 1 to select the WA categories for the RO and SKO exam for each topic.
- IV. Used the *Example Systematic Sampling Methodology* per ES-401, Attachment 1 to select the individual WA statements for the RO exam as follows:
 - A. Any individual WA statement with an importance rating of < 2.5 was eliminated prior to the selection process.
 - B. If a WA category had no importance rating ≥ 2.5 , another WA category was randomly selected.
 - C. Prior to randomly selecting the individual WA statements for Tier 1 and 2 "Generic" categories, non-relevant WA statements were removed.
- V. Verified each WA category for the RO exam had at least 2 points in each tier (as applicable).
- VI. Utilized the same process to generate the SRO outline as used for the RO outline. However, duplicate WA topic that were already selected for the RO exam were rejected and randomly reselected per the *Example Systematic Sampling Methodology* per ES-401, Attachment 1.

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DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
SEI REA OPERATOR AND REACTOR OPERATOR INITIAL WRITTEN
EXAMINATIONS

In a letter dated September 24, 2008,¹ the U.S. Nuclear Regulatory Commission (NRC) requested Dominion Nuclear Connecticut, Inc. (DNC) submit the written examinations, operating tests, and supporting reference materials for the Senior Reactor Operator and Reactor Operator Initial Examinations – Millstone Power Station Unit 2, by December 1, 2008. In a telephone conversation between Mr. John G. Caruso, Senior Operations Engineer/Chief Examiner of the NRC and Mr. Michael J. Cote, DNC Supervisor Nuclear Training, the NRC requested that DNC submit the written examinations and supporting reference materials earlier, if possible. As agreed during the telephone conversation, DNC is submitting the written examinations and supporting reference materials by November 17, 2008. The operating tests will be provided by December 1, 2008.

Enclosure 1, Written Examinations and Supporting Reference Materials, is being furnished in accordance with 10 CFR 55.40(b)(3) by an authorized representative of the facility.

Consistent with guidance contained in NUREG-1021 Examination Standard 201, Attachment 1, "Examination Security and Integrity Considerations", the written examinations and supporting reference materials contained in Enclosure 1 should be withheld from public disclosure until after the examination has been completed. No redacted versions are being supplied.

Should you have any questions regarding this submittal, please contact Mr. Jeff T. Spence at (860) 437-2540.

Sincerely,

A. J. Jordan
Site Vice President - Millstone

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Enclosures: 1

Commitments made in this letter: None.

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Enclosure 1

Written Examinations and Supporting Reference Materials

**Millstone Power Station Unit 2
Dominion Nuclear Connecticut, Inc. (DNC)**

This attachment contains highly confidential examination material which will be attached to the letter by the training department following final sign-off.

Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Rope Ferry Road, Waterford, CT 06385

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Serial No. 08-0606B
MPS Lic/TC RO
Docket No. 50-336
License No. DPR-65

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
SENIOR REACTOR AND REACTOR OPERATOR INITIAL WRITTEN
EXAMINATIONS

In a letter dated September 24, 2008,¹ the U.S. Nuclear Regulatory Commission (NRC) requested that Dominion Nuclear Connecticut, Inc. (DNC) submit the written examinations, operating tests, and supporting reference materials for the Senior Reactor Operator and Reactor Operator Initial Examinations – Millstone Power Station Unit 2, by December 1, 2008. In a telephone conversation between Mr. John G. Caruso, Senior Operations Engineer/Chief Examiner of the NRC and Mr. Michael J. Cote, DNC Supervisor Nuclear Training, the NRC requested that DNC submit the written examinations and supporting reference materials earlier, if possible. As agreed during the telephone conversation, DNC submitted the written examinations on November 17, 2008. Additionally, DNC is submitting the Job Performance Measures with this letter. The operating tests will be provided by December 1, 2008.

Enclosure 1, Job Performance Measures (JPMs), is being furnished in accordance with 10 CFR 55.40(b)(3) by an authorized representative of the facility.

Consistent with guidance contained in NUREG-1021 Examination Standard 201, Attachment 1, "Examination Security and Integrity Considerations", the written examinations and supporting reference materials contained in Enclosure 1 should be withheld from public disclosure until after the examination has been completed. No redacted versions are being supplied.

Should you have any questions regarding this submittal, please contact Mr. Jeff T. Spence at (860) 437-2540.

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A. J. Jordan
Site Vice President - Millstone

¹ Samuel L. Hansell, Jr. letter from U.S. NRC, to David A. Christian, "Senior Reactor and Reactor Operator Initial Examinations – Millstone Unit 2," dated September 24, 2008.

Enclosures: 1

Commitments made in this letter: None.

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Enclosure 1

Job Performance re (JPMs)

**Millstone Power Station Unit 2
Dominion Nuclear Connecticut, Inc. (DNC)**

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MILLSTONE POWER STATION UNIT 2
SENIOR REACTOR OPERATOR AND REACTOR OPERATOR INITIAL WRITTEN
EXAMINATIONS

In a letter dated September 24, 2008,¹ the U.S. Nuclear Regulatory Commission (NRC) requested that Dominion Nuclear Connecticut, Inc. (DNC) submit the written examinations, operating tests, and supporting reference materials for the Senior Reactor Operator and Reactor Operator Initial Examinations – Millstone Power Station Unit 2, by December 1, 2008. In a telephone conversation between Mr. John G. Caruso, Senior Operations Engineer/Chief Examiner of the NRC and Mr. Michael J. Cote, DNC Supervisor Nuclear Training, the NRC requested that DNC submit the written examinations and supporting reference materials earlier, if possible. As agreed during the telephone conversation, DNC submitted the written examinations on November 17, 2008, and the Job Performance Measures of the Operating Tests on November 21, 2008. The final portion of the Operating Tests, Simulator Scenarios, is being provided as an enclosure to this letter.

Enclosure 1, Simulator Scenarios, is being furnished in accordance with 10 CFR 55.40(b)(3) by an authorized representative of the facility.

Consistent with guidance contained in NUREG-1021 Examination Standard 201, Attachment 1, "Examination Security and Integrity Considerations", the written examinations and supporting reference materials contained in Enclosure 1 should be withheld from public disclosure until after the examination has been completed. No redacted versions are being supplied.

Should you have any questions regarding this submittal, please contact Mr. Jeff T. Spence at (860) 437-2540.

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A. J. Jordan
Site Vice president - Millstone

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Enclosure 1

Simulato Scenarios

**Millstone Power Station Unit 2
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This attachment contains highly confidential examination material which will be attached to the letter by the training department following final sign-off.

ES-401		PWR Examination Outline						Form ES-401-2	
		Emergency and Abnormal Plant Evolutions – Tier 1/Group 1 (RO) SRO							
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1				X			EA1.1 - Ability to operate and / or monitor the following as they apply to the (Reactor Trip Recovery): Components, and functions of control and safety systems, including instrumentation, signals, interlocks, failure modes, and automatic and manual features.	3.7/3.7	1
000008 Pressurizer Vapor Space Accident / 3					X		AA2.17 - Ability to determine and interpret the following as they apply to the Pressurizer Vapor Space Accident: Steam dump valve controller (position)	2.5/2/7	2
000009 Small Break LOCA / 3							EA2.32 - Ability to determine or interpret the following as they apply to a small break LOCA: SDM	3.2*/3.6*	3
000011 Large Break LOCA / 3			X				EK3.02 --Knowledge of the reasons for the following responses as the apply to the Large Break LOCA: Feedwater isolation <i>Rejected due to lack of Safety Significance.</i> EK3.03 - Starting auxiliary feed pumps and flow, ED/G, and service water pumps	3.5*/3.7*	4
000015/17 RCP Malfunctions / 4		X					AK2.07 - Knowledge of the interrelations between the Reactor Coolant Pump Malfunctions (Loss of RC Flow) and the following: RCP seals	2.9/2.9	5
000022 Loss of Rx Coolant Makeup / 2					X		AA2.04 - Ability to determine and interpret the following as they apply to the Loss of Reactor Coolant Makeup: How long PZR level can be maintained within limits	2.9/3.8	6
000025 Loss of RHR System / 4						X	2.2.12 - Knowledge of surveillance procedures.	3.7/4.1	7
000026 Loss of Component Cooling Water / 8						X	2.4.30 - Knowledge of events related to system operation/status that must be reported to internal organizations or external agencies, such as the State, the NRC, or the transmission system operator.	2.7/4.1	8
000027 Pressurizer Pressure Control System Malfunction / 3				X			AA1.01 - Ability to operate and / or monitor the following as they apply to the Pressurizer Pressure Control Malfunctions: PZR heaters, sprays, and PORVs	4.0/3.9	9
000029 ATWS / 1		X					EK2.06 - Knowledge of the interrelations between the and the following an ATWS: Breakers, relays, and disconnects	2.9*/3.1*	10

ES-401		PWR Examination Outline						Form ES-401-2	
		Emergency and Abnormal Plant Evolutions - Tier 1/Group 1 (RO) SRO							
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000038 Steam Gen. Tube Rupture / 3	X						EK1.03 - Knowledge of the operational implications of the following concepts as they apply to the SGTR: Natural circulation	3.9/4.2	11
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4							2.2.22 - Knowledge of limiting conditions for operations and safety limits	4.0/4.7	12
000054 (CE/E06) Loss of Main Feedwater / 4							EA2.2 - Ability to determine and interpret the following as they apply to the (Loss of Feedwater) Adherence to appropriate procedures and operation within the limitations in the facility's license and amendments.	3.0/4.2	13
000055 Station Blackout / 6				X			EA1.05 - Ability to operate and monitor the following as they apply to a Station Blackout: Battery, when approaching fully discharged	3.3/3.6	14
000056 Loss of Off-site Power / 6			X				AK3.01 - Knowledge of the reasons for the following responses as they apply to the Loss of Offsite Power: Order and time to initiation of power for the load sequencer	3.5/3.9	15
000057 Loss of Vital AC Inst. Bus / 6				X			AA1.03 - Ability to operate and / or monitor the following as they apply to the Loss of Vital AC Instrument Bus: Feedwater pump speed to control pressure and level in S/G	3.6*/3.6	16
000058 Loss of DC Power 16							AA2.02 - Ability to determine and interpret the following as they apply to the Loss of DC Power: 125V dc bus voltage, low/critical low, alarm	3.3*/3.6	17
000062 Loss of Nuclear Svc Water / 4									
000065 Loss of Instrument Air / 8									
000077 Generator Voltage and Electric Grid Disturbances / 6		X					AK2.07 - Knowledge of the interrelations between Generator Voltage and Electric Grid Disturbances and the following: Turbine / generator control.	3.6/3.7	18
K/A Category Totals:	1	3	2	4			Group Point Total:		18

ES-401		PWR Examination Outline					FORM ES-401-2	
		Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (RO/SRO)						
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1		K/A Topic(s)	IR	#
000001 Continuous Rod Withdrawal / 1								
000003 Dropped Control Rod / 1		X				AK2.03 - Knowledge of the interrelations between the Dropped Control Rod and the following: Metroscope	3.1*/3.2*	19
000005 Inoperable/Stuck Control Rod / 1								
000024 Emergency Boration / 1								
000028 Pressurizer Level Malfunction / 2								
000032 Loss of Source Range NI / 7						AA2.01 - Ability to determine and interpret the following as they apply to the Loss of Source Range Nuclear Instrumentation: Normal/abnormal power supply operation	2.6/2.9*	20
000033 Loss of Intermediate Range NI / 7								
000036 (BW/A08) Fuel Handling Accident / 8								
000037 Steam Generator Tube Leak / 3								
000051 Loss of Condenser Vacuum / 4								
000059 Accidental Liquid RadWaste Rel. / 9			X			AK3.03 - Knowledge of the reasons for the following responses as they apply to the Accidental Liquid Radwaste Release: Declaration that a radioactive-liquid monitor is inoperable	3.0/3.7	21
000060 Accidental Gaseous Radwaste Rel. / 9								
000061 ARM System Alarms / 7								
000067 Plant Fire On-site / 8								
000068 (BW/A06) Control Room Evac. / 8			X			AK3.01 - Knowledge of the reasons for the following responses as they apply to the Control Room Evacuation: System response to reactor trip	3.9/4.2	22
000069 (W/E14) Loss of CTMT Integrity / 5						2.4.45 - Ability to prioritize and interpret the significance of each annunciator or alarm.	4.1/4.3	23
000074 (W/E06&E07) Inad. Core Cooling / 4				X		EA1.09 - Ability to operate and / or monitor the following as they apply to a Inadequate Core Cooling: CVCS	3.7/3.8	24

ES-401		PWR Examination Outline				FORM ES-401-2	
		Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (RO/SRO)					
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	K/A Topic(s)	IR	#
000076 High Reactor Coolant Activity / 9			X		AK3.05 - Knowledge of the reasons for the following responses as they apply to the High Reactor Coolant Activity: Corrective actions as a result of high fission-product radioactivity level in the RCS	2.9/3.6	25
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4							
CE/A11; W/E08 RCS Overcooling - PTS / 4	X				AK1.1 - Knowledge of the operational implications of the following concepts as they apply to the (RCS Overcooling): Components, capacity, and function of emergency systems.	3.1/3.3	26
CE/A16 Excess RCS Leakage / 2							
CE/E09 Functional Recovery					EA2.1 - Ability to determine and interpret the following as they apply to the (Functional Recovery): Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	3.2/4.4	27
K/A Category Point Totals:	1	1	3	1	Group Point Total:		9

ES-401		PWR Examination Outline Plant Systems - Tier 2/Group 1 (RO/SRO)										Form ES-401-2	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	K/A Topic(s)	IR	#
003 Reactor Coolant Pump										X	A4.03 - Ability to manually operate and/or monitor in the control room: RCP lube oil and lift pump motor controls	2.8/2.5	28
004 Chemical and Volume Control				X							K4.08 - Knowledge of CVCS design feature(s) and/or interlock(s) which provide for the following: Hydrogen control in RCS <i>Rejected due to lack of MP2 applicability.</i> K4.11 - Temperature/pressure control in letdown line: prevent boiling, lifting reliefs, hydraulic shock, piping damage, and burst	2.8/3.2 3.1/3.6	29
004 Chemical and Volume Control											A2.14 - Ability to (a) predict the impacts of the following malfunctions or operations on the CVCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Emergency boration	3.8*/3.9	30
005 Residual Heat Removal										X	A4.03 - Ability to manually operate and/or monitor in the control room: RHR temperature, PZR heaters and flow, and nitrogen	2.8*/2.7*	31
006 Emergency Core Cooling		X									K2.04 - Knowledge of bus power supplies to the following: ESFAS-operated valves	3.6/3.8	32
007 Pressurizer Relief/Quench Tank							X				A1.03 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the PRTS controls including: Monitoring quench tank temperature	2.6/2.7	33

ES-401	PWR Examination Outline Plant Systems - Tier 2/Group 1 (RO) (SRO)										Form ES-401-2		
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	K/A Topic(s)	IR	#
008 Component Cooling Water											A2.07 - Ability to (a) predict the impacts of the following malfunctions or operations on the CCWS, and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Consequences of high or low CCW flow rate and temperature; the flow rate at which the CCW standby pump will start	2.5*/2.3	34
008 Component Cooling Water											A3.08- Ability to monitor automatic operation of the CCWS, including: Automatic actions associated with the CCWS that occur as a result of a safety injection signal	3.6*/3.7*	35
010 Pressurizer Pressure Control		X									K2.04 Knowledge of bus power supplies to the following: Indicator for code safety position.	2.7*/2.9*	36
012 Reactor Protection	X										K1.01 - Knowledge of the physical connections and/or cause effect relationships between the RPS and the following systems: 120V vital/instrument power system	3.4/3.7	37
013 Engineered Safety Features Actuation									X		A3.02 - Ability to monitor automatic operation of the ESFAS including: Operation of actuated equipment	4.1/4.2	38
013 Engineered Safety Features Actuation										X	A4.01 - Ability to manually operate and/or monitor in the control room: ESFAS-initiated equipment which fails to actuate	4.5/4.8	39
022 Containment Cooling	X										K1.01 - Knowledge of the physical connections and/or cause-effect relationships between the CCS and the following systems: SWS/cooling system	3.5/3.7	40

ES-401	PWR Examination Outline Plant Systems - Tier 2/Group 1 (RO/SRO)										Form ES-401-2		
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	K/A Topic(s)	IR	#
022 Containment Cooling							X				A1.02 - Ability to predict and/or monitor changes in parameters (to prevent exceeding design limits) associated with operating the CCS controls including: Containment pressure	3.6/3.8	41
026 Containment Spray										X	2.4.47 - Ability to diagnose and recognize trends in an accurate and timely manner utilizing the appropriate control room reference material.	4.2/4.2	42
039 Main and Reheat Steam			X								K3.05 - Knowledge of the effect that a loss or malfunction of the MRSS will have on the following: RCS	3.6/3.7	43
059 Main Feedwater										X	2.1.30 - Ability to locate and operate components, including local controls.	4.4/4.0	44
061 Auxiliary/Emergency Feedwater	X										K1.05 - Knowledge of the physical connections and/or cause-effect relationships between the AFW and the following systems: Condensate system	2.6*/2.8*	45
062 AC Electrical Distribution	X										K1.02 - Knowledge of the physical connections and/or cause-effect relationships between the ac distribution system and the following systems: ED/G	4.1/4.4	46
062 AC Electrical Distribution									X		A4.01 - Ability to manually operate and/or monitor in the control room: All breakers (including available switchyard)	3.3/3.1	47
063 DC Electrical Distribution									X		A4.01 - Ability to manually operate and/or monitor in the control room: Major breakers and control power fuses	2.8*/3.1	48
064 Emergency Diesel Generator	X										K1.02 - Knowledge of the physical connections and/or cause-effect relationships between the ED/G system and the following systems: D/G cooling water system	3.1/3.6*	49

ES-401	PWR Examination Outline Plant Systems - Tier 2/Group 1 (RO) SRO										Form ES-401-2		
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 3	A 4		K/A Topic(s)	IR	#
073 Process Radiation Monitoring											A2.01 - Ability to (a) predict the impacts of the following malfunctions or operations on the PRM system; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Erratic or failed power supply	2.5/2.5	50
073 Process Radiation Monitoring											2.1.31 - Ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup.	4.6/4.6	51
076 Service Water	X										K1.09 - Knowledge of the physical connections and/or cause- effect relationships between the SWS and the following systems: Reactor building closed cooling water	3.0*/3.1*	52
078 Instrument Air											2.1.27 - Knowledge of system purpose and/or function.	3.9/4.0	53
103 Containment			X								K3.01 - Knowledge of the effect that a loss or malfunction of the containment system will have on the following: Loss of containment integrity under shutdown conditions	3.3/3.7	54
103 Containment											A2.05 - Ability to (a) predict the impacts of the following malfunctions or operations on the containment system and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations Emergency containment entry	2.9/3.9	55
K/A Category Point Totals:	6	2	2	1	0	0	2		2	5	Group Point Total:		28

ES-401		PWR Examination Outline Plant Systems - Tier 2/Group 2 (RO SRO)										Form ES-401-2		
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G	K/A Topic(s)	IR	#
001 Control Rod Drive					X							K5.42 - Knowledge of the following operational implications as they apply to the CRDS: Definitions of T-ave and no-load T-ave	2.9/3.0	56
002 Reactor Coolant														
011 Pressurizer Level Control														
014 Rod Position Indication				X								K4.01 - Knowledge of RPIS design feature(s) and/or interlock(s) which provide for the following: Upper electrical limit	2.5*/2.7*	57
015 Nuclear Instrumentation						X						K6.02 - Knowledge of the effect of a loss or malfunction on the following will have on the NIS: Discriminator/compensation circuits	2.6/2.9	58
016 Non-nuclear Instrumentation									X			A4.01 - Ability to manually operate and/or monitor in the control room: NNI channel select controls	2.9*/2.8*	59
017 In-core Temperature Monitor								X				A2.02 - Ability to (a) predict the impacts of the following malfunctions or operations on the ITM system; and (b) based on those predictions, use procedures to correct, control or mitigate the consequences of those malfunctions or operations: Core damage	3.6/4.1	60
028 Hydrogen Recombiner and Purge Control	X											K1.01 - Knowledge of the physical connections and/or cause-effect relationships between the HRPS and the following systems: Containment annulus ventilation system (including pressure limits)	2.5*/2.5	61
029 Containment Purge														
033 Spent Fuel Pool Cooling														
034 Fuel Handling Equipment									X			A4.02 - Ability to manually operate and/or monitor in the control room: Neutron levels	3.5/3.9	62
035 Steam Generator														
041 Steam Dump/Turbine Bypass Control														

ES-401		PWR Examination Outline Plant Systems - Tier 2/Group 2 (RO SRO)										Form ES 401-2	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	K/A Topic(s)	IR	#
045 Main Turbine Generator					X						K5.17 - Knowledge of the operational implications of the following concepts as the apply to the MT/B System: Relationship between moderator temperature coefficient and boron concentration in RCS as T/G load increases	2.5*/2. **	63
055 Condenser Air Removal													
056 Condensate													
068 Liquid Radwaste													
071 Waste Gas Disposal													
072 Area Radiation Monitoring			X								K3.02 - Knowledge of the effect that a loss or malfunction of the ARM system will have on the following: Fuel handling operations	3.1/3.5	64
075 Circulating Water													
079 Station Air													
086 Fire Protection						X					K6.04 - Knowledge of the effect of a loss or malfunction on the Fire Protection System following will have on the : Fire, smoke, and heat detectors	2.6/2.9	65
K/A Category Point Totals:	1	0	1	1	2	2	0		0	2	Group Point Total:		10

Facility: Millstone Unit 2		Date of Exam: 02/02/09				
Category	K/A #	Topic	RO		SFO	
			IR	#	IR	#
1. Conduct of Operations	2.1.	2.1.28 - Knowledge of the purpose and function of major system components and controls.	4.1	66		
	2.1.	2.1.29 - Knowledge of how to conduct system lineups, such as valves, breakers, switches, etc.	4.1	67		
	2.1.	2.1.39 - Knowledge of conservative decision making practices.	3.6	68		
	Subtotal			3		
2. Equipment Control	2.2.	2.2.14 - Knowledge of the process for controlling equipment configuration or status.	3.9	69		
	2.2.	2.2.17 - Knowledge of the process for managing maintenance activities during power operations, such as risk assessments, work prioritization, and coordination with the transmission system operator. <i>Rejected due to lack of RO applicability.</i> 2.2.13 - Knowledge of the tagging and clearance procedures.	2.6	70		
	2.2.	2.2.40 - Ability to apply Technical Specifications for a system.	4.1			
	2.2.		3.4	71		
Subtotal			3			
3. Radiation Control	2.3.	2.3.4 - Knowledge of radiation exposure limits under normal or emergency conditions.	3.2	72		
	2.3.	2.3.15 - Knowledge of radiation monitoring systems, such as fixed radiation monitors and alarms, portable survey instruments, personnel monitoring equipment, etc.	2.9	73		
	Subtotal			2		
4. Emergency Procedures and Plan	2.4.	2.4.9 - Knowledge of low power/shutdown implications in accident (e.g., loss of coolant accident or loss of residual heat removal) mitigation strategies.	3.8	74		
	2.4.	2.4.29 - Knowledge of the emergency plan.	3.1	75		
	Subtotal			2		
Tier 3 Point Total				10		

Facility: Millstone Unit 2		Date of Exam: 02/02/09															
Tier	Group	RO K/A Category Points											SRO-Only Points				
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G *	Total	A2	G*	Total	
1. Emergency & Abnormal Plant Evolutions	1													18	3	3	6
	2					N/A					N/A			9	1	3	4
	Tier Totals													27	4	6	10
2. Systems Plant	1													28	2	3	5
	2													10	N/A	1	3
	Tier Totals													38	3	5	8
3. Generic Knowledge and Abilities Categories						1	2	3	4				10	1	2	3	4
															2	2	1

- Note:
1. Ensure that at least 2 topics from every WA category are sampled within each tier of the RO and SRO outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the "Tier Totals" in each K/A category shall not be less than 2).
 2. The point total for each group and tier in the proposed outline must match those specified in the table. The final point total for each group and tier may deviate by ± 1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.
 3. Systems/evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted and justified; operationally important, site-specific systems/evolutions that are included on the outline should be added. Refer to Section D.1.b of ES-401 for guidance regarding the elimination of inappropriate KIA statements.
 4. Select topics from as many systems and evolutions as possible; sample every system or evolution in the group before selecting a second topic for any system or evolution.
 5. Absent a plant specific, only those K/As having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SR3 ratings for the RO and SRO-only portions, respectively.
 6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.
 7. The generic KIAs in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system. Refer to Section D.1.b of ES-401 for the applicable KIAs.
 8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings (IRs) for the applicable license level, and the point totals (#) for each system and category. Enter the group and tier totals for each category in the table above; if fuel handling equipment is sampled in other than A2 or G* on the SRO-only exam, enter it on the left side of column A2 for Tier-2 Group 2 (Note #1 does not apply). Use duplicate pages for RO and SRO-only exams.
 9. For Tier 3, select topics from Section 2 of the K/A catalog, and enter the KIA numbers, descriptions, IRs, and point totals (#) on Form ES-40103. Limit SRO selections to KIAs that are linked to 10 CFR 55.43.

ES-401		PWR Examination Outline						Form ES 401-2	
		Emergency and Abnormal Plant Evolutions – Tier 1/Group 1 (RO/SRO)							
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
000007 (BW/E02&E10; CE/E02) Reactor Trip - Stabilization - Recovery / 1							EA2.1 - Ability to determine and interpret the following as they apply to the (Reactor Trip Recovery): Facility conditions and selection of appropriate procedures during abnormal and emergency operations.	2.7/3.7	1
000008 Pressurizer Vapor Space Accident / 3							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.	4.2/4.4	2
000009 Small Break LOCA / 3							EA2.37 - Ability to determine or interpret the following as they apply to a small break LOCA: Existence of adequate natural circulation.	4.2/4.5	3
000011 Large Break LOCA / 3							EA2.04 - Ability to determine or interpret the following as they apply to a Large Break LOCA: Significance of PZR readings. Rejected due to insignificance of PZR in a LB-LOCA at MP2. EA2.11 - Conditions for throttling or stopping HPI	3.7/3.9 3.9/4.3	4
000015/17 RCP Malfunctions / 4									
000022 Loss of Rx Coolant Makeup / 2									
000025 Loss of RHR System / 4									
000026 Loss of Component Cooling Water / 8									
000027 Pressurizer Pressure Control System Malfunction / 3									
000029 ATWS / 1							2.1.30 - Ability to locate and operate components, including local controls.	4.4/4.0	5
000038 Steam Gen. Tube Rupture / 3									
000040 (BW/E05; CE/E05; W/E12) Steam Line Rupture - Excessive Heat Transfer / 4									
000054 (CE/E06) Loss of Main Feedwater / 4									
000055 Station Blackout / 6							2.1.28 - Knowledge of the purpose and function of major system components and controls.	4.1/4.1	6
000056 Loss of Off-site Power / 6									
000057 Loss of Vital AC Inst. Bus / 6									
000058 Loss of DC Power / 6									
000062 Loss of Nuclear Svc Water / 4									
000065 Loss of Instrument Air / 8									
000077 Generator Voltage and Electric Grid Disturbances / 6									

ES-401		PWR Examination Outline					Form ES-401-2		
		Emergency and Abnormal Plant Evolutions – Tier 1/Group 1 (RO/SRO)							
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	G	K/A Topic(s)	IR	#
K/A Category Totals:							Group Point Total:		6

ES-401		PWR Examination Outline						FORM ES 401-2	
		Emergency and Abnormal Plant Evolutions - Tier 1/Group 2 (RO SRO)							
E/APE # / Name / Safety Function	K 1	K 2	K 3	A 1	A 2	A 3	K/A Topic(s)	IR	#
000001 Continuous Rod Withdrawal / 1									
000003 Dropped Control Rod / 1									
000005 Inoperable/Stuck Control Rod / 1									
000024 Emergency Boration / 1									
000028 Pressurizer Level Malfunction / 2									
000032 Loss of Source Range NI / 7									
000033 Loss of Intermediate Range NI / 7									
000036 (BW/A08) Fuel Handling Accident / 8									
000037 Steam Generator Tube Leak / 3							2.4.9 - Knowledge of low power/shutdown implications in accident (e.g., loss of coolant accident or loss of residual heat removal) mitigation strategies.	3.8/4.2	7
000051 Loss of Condenser Vacuum / 4									
000059 Accidental Liquid RadWaste Rel. / 9							2.2.40 - Ability to apply Technical Specifications for a system.	3.4/4.7	8
000060 Accidental Gaseous Radwaste Rel. / 9									
000061 ARM System Alarms / 7									
000067 Plant Fire On-site / 8							2.2.37 - Ability to determine operability and/or availability of safety related equipment.	3.6/4.6	9
000068 (BW/A06) Control Room Evac. / 8									
000069 (W/E14) Loss of CTMT Integrity / 5									
000074 (W/E06&E07) Inad. Core Cooling / 4							EA2.04 - Ability to determine and interpret the following as they apply to a Inadequate Core Cooling: Relationship between RCS temperature and main steam pressure.	3.7/4.2	10
000076 High Reactor Coolant Activity / 9									
BW/E09; CE/A13; W/E09&E10 Natural Circ. / 4									
CE/A11; W/E08 RCS Overcooling - PTS / 4									
CE/A16 Excess RCS Leakage / 2									
CE/E09 Functional Recovery									
K/A Category Point Totals:							Group Point Total:		4

ES-401		PWR Examination Outline Plant Systems - Tier 2/Group 1 (RO/SRO)											Form ES-401-2	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	K/A Topic(s)	IR	#	
003 Reactor Coolant Pump														
004 Chemical and Volume Control											X	2.1.27 - Knowledge of system purpose and/or function.	3.9/4.0	11
005 Residual Heat Removal														
006 Emergency Core Cooling												A2.03 - Ability to (a) predict the impacts of the following malfunctions or operations on the ECCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: System leakage	3.3/3/7	12
007 Pressurizer Relief/Quench Tank														
008 Component Cooling Water														
010 Pressurizer Pressure Control											X	A2.03 - Ability to (a) predict the impacts of the following malfunctions or operations on the PZR PCS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: PORV failures.	4.1/4.2	13
012 Reactor Protection														
013 Engineered Safety Features Actuation														
022 Containment Cooling														
026 Containment Spray														
039 Main and Reheat Steam														
059 Main Feedwater														
061 Auxiliary/Emergency Feedwater														
062 AC Electrical Distribution														
063 DC Electrical Distribution											X	2.4.4 - Ability to recognize abnormal indications for system operating parameters that are entry-level conditions for emergency and abnormal operating procedures.	4.5/4.7	14

ES-401		PWR Examination Outline Plant Systems - Tier 2/Group 1 (RO/SRO)										Form ES-401-2	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	K/A Topic(s)	IR	#
064 Emergency Diesel Generator													
073 Process Radiation Monitoring													
076 Service Water													
078 Instrument Air													
103 Containment											2.2.22 - Knowledge of limiting conditions for operations and safety limits.	4.0/4.7	15
K/A Category Point Totals:											Group Point Total:		5

ES-401		PWR Examination Outline Plant Systems - Tier 2/Group 2 (RO/SRO)										Form ES-401-2	
System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	K/A Topic(s)	IR	#
001 Control Rod Drive													
002 Reactor Coolant													
011 Pressurizer Level Control													
014 Rod Position Indication													
015 Nuclear Instrumentation													
016 Non-nuclear Instrumentation													
017 In-core Temperature Monitor													
028 Hydrogen Recombiner and Purge Control													
029 Containment Purge													
033 Spent Fuel Pool Cooling													
034 Fuel Handling Equipment													
035 Steam Generator													
041 Steam Dump/Turbine Bypass Control											2.4.18 - Knowledge of the specific bases for EOPs.	3.3/4.0	16
045 Main Turbine Generator													
055 Condenser Air Removal													
056 Condensate											A2.05 - 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: Condenser tube leakage.	2.1/2.5	17
068 Liquid Radwaste											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.	4.0/4.6	18

ES-401

PWR Examination Outline
 Plant Systems - Tier 2/Group 2 (RO / SRO)

Form ES-401-2

System # / Name	K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 3	A 4	K/A Topic(s)	IR	#
071 Waste Gas Disposal												
072 Area Radiation Monitoring												
075 Circulating Water												
079 Station Air												
086 Fire Protection												
K/A Category Point Totals:										Group Point Total:		3

Facility: Millstone Unit 2		Date of Exam: 02/02/09				
Category	K/A #	Topic	RO		SFO	
			IR	#	IR	#
1. Conduct of Operations	2.1.9	Ability to direct personnel activities inside the control room.			4.5	19
	2.1.17	Ability to make accurate, clear, and concise verbal reports. <i>Rejected due to inability to test "verbal" skills on a written exam.</i>			3.2	20
	2.1.13	Knowledge of facility requirements for controlling vital/controlled access.				
	Subtotal					2
2. Equipment Control	2.2.2	Ability to manipulate the console controls as required to operate the facility between shutdown and designated power levels.			4.1	21
	2.2.7	Knowledge of the process for conducting special or infrequent tests.			3.6	22
	Subtotal					2
3. Radiation Control	2.3.6	Ability to approve release permits. Rejected due to "double-jeopardy" conflict with a previous K/A selection (RO T2/G1).				
	2.3.13	Knowledge of radiological safety procedures pertaining to licensed operator duties, such as response to radiation monitor alarms, containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, aligning filters, etc.			3.8	23
	Subtotal					1
4. Emergency Procedures and Plan	2.4.18	Knowledge of the specific bases for EOPs.			4.0	24
	2.4.28	Knowledge of procedures relating to a security event (non-safeguards information).			4.1	25
	Subtotal					2
Tier 3 Point Total					7	

Facility: Millstone Unit 2 _____		Date of Examination: _____
Examination Level: RO <input checked="" type="checkbox"/> SRO <input type="checkbox"/>		Operating Test Number: _____

Administrative Topic	Type Code*	Describe method of evaluation:
Conduct of Operations	R, M	Perform a Calculation for Boration to the RCS [JPM-A1.1R]
Conduct of Operations	R, M	RO Determine Shutdown Margin [JPM-A1.2R]
Conduct of Operations	R, D	RO Maximum RCS Venting Time Determination [JPM-A1.3R-Spare]
Equipment Control	R, N	Calculate Time to Boil [JPM-A2R]
Radiation Control	R, D	Review RWP and Survey Map for Entry into Tech Spec Locked High Rad Area and Contaminated Area [JPM-A3R]
Emergency Procedures/Plan	N/A	

Note: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.

* Type Codes & Criteria: (C)ontrol room, (S)imulator, or Class(R)oom
 (D)irect from bank (<= 3 for ROs; <= 4 for SROs & RO retakes)
 (N)ew or (M)odified from bank (>= 1)
 (P)revious 2 exams (<= 1; randomly selected)

Facility: **Millstone Unit 2** _____

Date of Examination: _____

Examination Level: RO SRO

Operating Test Number: _____

Administrative Topic	Type Code*	Describe method of evaluation:
Conduct of Operations	R, M	SRO Shift Staffing Requirements [JPM-SRO-SPARE]
Conduct of Operations	R, M	SRO Perform a Shutdown Safety Assessment [JPM-A1.2S]
Conduct of Operations	R, M	SRO Shift Turnover [JPM-A1.1S]
Equipment Control	R, D	SRO Approve a Clearance Boundary [JPM-A2S]
Radiation Control	R, D	SRO Review and Approve a Radioactive Liquid Waste Release Permit [JPM-A3S]
Emergency Procedures/Plan	S, N	EAL Classification and PARs [JPM-A4S]

Note: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.

* Type Codes & Criteria:

- (C)ontrol room, (S)imulator, or Class(R)oom
- (D)irect from bank (<= 3 for ROs; <= 4 for SROs & RO retakes)
- (N)ew or (M)odified from bank (>= 1)
- (P)revious 2 exams (<= 1; randomly selected)

Facility: **Millstone Unit 2**

Date of Examination: **Week of 01119109**

Exam Level: RO SRO-I SRO-U

Operating Test No.: _____

Control Room Systems @ (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)

	System / JPM Title	Type Code*	Safety Function
a.	(G1, RO, S-I, S-U) Restore Letdown to Service	A, S, D, E, L	2
b	(G1, RO, S-I, S-U) Swap 24C From "A" EDG to RSST	A, S, E, L, D, EN	6
c.	(G1, RO, S-I, S-U) EOP-2541, App. 4, Start "A" Main Feed Pump	A, S, E, N, L	4(S)
d	(G2, RO, S-I) Force Pressurizer Sprays	A, S, M	3
.	(G2, RO, S-I) Failed Safety Channel NI	S, N	7
f.	(G2, KO, S-I) Start "B" Circulating Water Pump	A, S, D	8
g.	(G3, RO, S-I) RCP Seal Degradation and Failure	S, M	4(P)
h.	(G3, RO, S-I) Shift CAR Coolers	A, S, D	5
i.	(Spare) Adjust Radioactive Waste Gas Radiation Monitor Setpoint	S, D	9

In-Plant Systems @ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)

j	(RO, S-I, S-U) Local Manual Start of the Turbine Driven Auxiliary Feedwater Pump	D, E, L	4(S)
k.	(KO, S-I, S-U) Shift Radioactive Waste Gas Decay Tanks	D, R	9
l.	(RO, S-I, S-U) Place CEA on the Hold Bus	E, N	1
m.	(Spare) Local Manual Start of the "A" EDG	D, R	6

@ All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

*Type Codes:	Actual (with Spares)	Criteria for RO SRO-I SRO-U
(A)lternate Path	6/6/3	4-6 / 4-6 / 2-3
(C)ontrol room		
(D)irect from bank	6(8)/4(6)/2(4)	< /=9 / < /=8 / < /=4
(E)mergency of abnormal in-plant	5/5/5	> /=1 / > /=1 / > /=1
(EN)gineered safety feature	1/1/1	- / - / > /=1 (control room system;
(L)ow-Power / Shutdown	4/4/4	> /=1 / > /=1 / > /=1
(N)ew or (M)odified from bank including 1(A)	5/4/2	> /=2 / > /=2 > /=1
(P)revious 2 exams	0/0/0	< /=3 / < /=3 / < /=2 (randomly selected
(R)CA	1(2)/1(2)/1(2)/	> /=1 / > /=1 / > /=1
(S)imulator	8/7/2 (3 Available)	

Facility: MP2 Scenario No.: ES08LI1 Op-Test No.: 1

Examiners: _____ Operators: _____

Initial Conditions: 100% power, BOL, Eq. Xe., 1105 ppm Boron SGBD @ 40 gpm per SG, 24E aligned to 24C, 'B' EDG OOS – Repairing/replacing injectors

Turnover: 100% power, BOL, Eq. Xe., 1105 ppm Boron, blend ratio: 4.32:1.0 SGBD @ 40 gpm per SG, 24E aligned to 24C, 'B' EDG OOS – repairing/replacing injectors, in TSAS 3.8.1.1.b. No other equipment OOS and no surveillance in progress or due

Event No.	Malf. No.	Event Type*	Event Description
1	RP19C	I	'C' RPS Lower NI Fails low
2	CW04C	C	'C' Waterbox Condenser Tube Leak
3	FW01	C	Isolated condenser tube leak becomes vacuum leak
4	N/A	R, N	Downpower due to vacuum leak
5	TC04	M	Turbine load shed causes trip
6	ED02	C M	RSST Fault - Loss of Off-site Power
7	ES03I	C	'A' HPSI Pump failure to start on SIAS
8	RC06B	M	Stuck open PORV – LOCA ..
9	N/A	N	Start " A SW Pump, Secure "B" SW Pump

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Facility: MP2 Scenario No.: ES08LI2 Op-Test No.: 2

Examiners: _____ Operators: _____

Initial Conditions: 100% power, BOL, Eq. Xe., 1105 ppm Boron SGBD @ 40 gpm per SG, 24E aligned to 24C

Turnover: 100% power, BOL, Eq. Xe., 1105 ppm Boron, blend ratio: 4.32:1.0 SGBD @ 40 gpm per SG, 24E aligned to 24C, no equipment OOS and no surveillance in progress or due.

Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N	Swap CTMT penetration cooling fans
2	CW02C	C	C Traveling Screen DP high
3	CV04A	C	Running charging pump trips
4	SG01B	C	SGTL in #2 SG
5	N/A	R, N	Downpower due to SGTL
6	SG02B	M	Steam generator tube rupture
7	RX01A	C	Main spray valve stuck open on trip
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

ES08L13

3

Facility: <u>MP2</u>	Scenario No.: <u>ES08L14(Spare) <i>mu</i></u>	Op-Test No.: <u>4</u>	
Examiners: _____	Operators: _____		
Initial Conditions: <u>100% power, BOL, Eq. Xe., 1105 ppm Boron SGBD @ 40 gpm per SG, 24E aligned to 24C, TDAFP OOS for bearing replacement</u>			
Turnover: <u>100% power, BOL, Ea. Xe., 1105 ppm Boron, blend ratio: 4.32:1.0 SGBD @ 40 gpm per SG. 24E aligned to 24C, TDAFP OOS for bearing replacement, in TSAS 3.7.1.2.a and TRM '7.1.15, Table 7.1.15-1 A, B, C. No other equipment OOS and no surveillance in progress or due.</u>			
Event No.	Malf. No.	Event Type*	Event Description
1	N/A	N	Pump containment sump
2	CH07 RD0328	NIA C	Earthquake causing CEA #28 to slip 35 steps into the core.
3	N/A	R, N	Downpower to < 70% power for CEA recovery
4	RX03B	I	Failure of Channel Y Pressurizer Pressure Instrument
5	RD0132	M	2" dropped CEA - Manual reactor trip
6	ED02	C	RSST Fault - loss of off-site power
7	EG08A	C	A DG breaker failure to close
8	FW30B FW20B	M	Degradation/loss of the 'B' AFW pump
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			