JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: SRO Shift Turnover; Review Shift Log

JPM ID Number: SRO-A1.1 Revision: 0

II. Initiated:

Steve Jackson — 4/24/02
Developer — Date

III. Reviewed:

Martin — 6/18/02
Technical Reviewer — Date

IV. Approved:

N/A
Cognizant Plant Supervisor (optional) — Date

Nuclear Training Supervisor — 6/19/02 Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

JPM ID Number: SRO-A1.1 Revision: 0

Task Title: SRO Shift Turnover; Review Shift Log

System: Admin

Time Critical Task: ( ) YES (X) NO

Validated Time (minutes): 10

Task Number(s): 119-03-208, Perform a Shift Relief and Turnover

Applicable To: SRO X RO _____ PEO _____

K/A Number: GEN.2.1.18, Accurate, Clear, Concise, Logs K/A Rating: 2.9/3.0

Method of Testing: Simulated Performance: _____ Actual Performance: X

Location: Classroom: X Simulator: _____ In-Plant:: _____

Task Standards: Perform a Shift Relief and Turnover

Required Materials: MP3 Shift Log
MP3 Tech Specs

General References: MP-14-OPS-GDL02, Operations Standards

*****READ TO THE STUDENT*****

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JPM Number: SRO-A1.1 Revision: 0

Simulator Requirements: none

Initial Conditions: You are the relieving Shift Manager. You have been presented with the Shift Log for your review.

Initiating Cues: Review the Shift Log as prior to shift turnover. Report to the examiner when you are completed. The examiner will act as the off-going Shift Manager to answer any questions.

****** NOTES TO EVALUATOR ******

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.

2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: SRO-A1.1 Revision: 0

Task Title: SRO Shift Turnover; Review Shift Log

Start Time: _____

STEP	1		**Performance Step:**	Review pertinent information identified on applicable shift logs relating to the past 12 hours. If coming on shift after days off, consider reviewing the last 24 hours. (from MP-14-OPS-GDL02, Att. 3, sheet 11 of 32)
GRADE			**Standards:**	Reviews logs relating to the past 12 hours for pertinent information which may include: • Unusual event in last 24 hours • Review of system status • Inoperable equipment and ACTION statements • Any work in progress
			Grade:	**SAT** _____ **UNSAT** _____
STEP	2	X	**Performance Step:**	Identify Inoperable equipment and ACTION statements
GRADE		X	**Standards:**	Candidate identifies that due to 3FWS*CTV41A inoperability, Tech Spec 3.6.3.a should have been entered on 7/14/02 at 21:45.
		X	**Standards:**	Candidate should also identify that this condition would have required a plant shutdown if it had not been corrected prior to 7/15/02 at 01:45
			Grade:	**SAT** _____ **UNSAT** _____

Cue: (If candidate identifies Tech Spec)	Under what conditions would a plant shutdown be required? If it had not been corrected prior to 7/15/02 at 01:45

PERFORMANCE INFORMATION

JPM Number: SRO-A1.1 Revision: 0

Task Title: SRO Shift Turnover; Review Shift Log

Cue: (If candidate identifies Tech Spec)	What times are specified under the action statement? Restore valve to operable status in 4 hours or be in HOT STANDBY in 6 hours and COLD SHUTDOWN in the following 30 hours.

Termination cue: The evaluation for this JPM is complete.
Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: SRO-A1.1 Revision: 0

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 10

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number: **SRO-A1.1**

Initial Conditions: **You are the relieving Shift Manager. You have been presented with the Shift Log for your review..**

Initiating Cues: **Review the Shift Log prior to shift turnover. The examiner will act as the off-going Shift Manager to answer any questions.**

Millstone Unit 3 Shift Log

07/15/02 05:58:02

Shift	A	B	C	D	E	F
SM						
STA						
US						
US						

Date/Time	Entry
07/14/02	Shift Hours: 1800-0600 Mode: 1 Reactor Power: 100% MWe: 1200 RCS Pressure: 2250 PSIA RCS Tavg: 587 Degrees Shift Manager: Ray Martin Unit Supervisor: Rich Sadler STA: Brian Koshmerl Shift Tech: John Favreau Reactor Operator: Jeff Cote BOP Operator: Kelly Underwood Secondary Rounds Operator: Chris Chatman Outside Rounds Operator: Bill Forrestt Plant Equipment Operator: Mike Frechette Radwaste Operator: Ricky Kauffman Primary Rounds Operator: Rob Wade
07/14/02 19:50	Performed RCS Dilution, 50 gallons @ 80 GPM.
07/14/02 20:42	3VPS-P1A. A STATION VACUUM PRIMING PUMP, started
07/14/02 20:44	3VPS-P1B. B STATION VACUUM PRIMING PUMP, stopped for AWO's
07/14/02 21:07	3VPS-P1B. B STATION VACUUM PRIMING PUMP, started to troubleshoot seal water pressure indication on 3VPS-P1A
07/14/02 21:09	3VPS-P1B. B STATION VACUUM PRIMING PUMP, stopped
07/14/02 21:41	Performed RCS Dilution, 50 gallons @ 80 GPM.
07/14/02 21:45	Received the Accumulator Low Press annunciator (MB5B 1-2) for 3FWS*CTV41A.
07/14/02 21:55	Primary rounds operator reports both accumulator pressures are reading 4600 psig for 3FWS*CTV41A.
07/14/02 22:01	Placed D Condensate Demin on Recycle.
07/14/02 22:05	Evening maintenance investigating 3FWS*CTV41A hydraulic system.
07/14/02 22:10	Accepted procedure 3665.2-1 Intake Structure Condition Determination satisfactorily.
07/14/02 22:10	Accepted procedure 3670.1-1 Mode 1-4 Daily and Shiftly Control Room Rounds satisfactorily.
07/14/02 22:11	Accepted procedure 3670.2-10 Shiftly Primary PEO Tech Spec Rounds (Mode 1-4) satisfactorily.
07/14/02 22:11	Accepted procedure 3670.2-11 Shiftly Secondary PEO Tech Spec Rounds (Mode 1-4) satisfactorily.
07/14/02 22:11	Accepted procedure 3670.2-12 Shiftly Radwaste PEO Tech Spec Rounds (Mode 1-4) satisfactorily.
07/14/02 22:12	Accepted procedure C SP 600.11-002 Millstone Station Common Plant Equipment Operator Logs satisfactorily.
07/14/02 22:20	Selecting Check N2 on 3FWS*CTV41A for maintenance.
07/14/02 22:44	D condensate demineralizer placed in service, G demineralizer removed from service.
07/15/02 00:12	Performed RCS Dilution, 50 gallons @ 80 GPM.
07/15/02 00:30	Maintenance has completed the PM on 3FWS*CTV41A and all connections are tight.
07/15/02 00:45	Placed 3FWS*CTV41A Hydraulic system in Control (CONT) at MB5.
07/15/02 01:11	Accumulator Low Press annunciator (MB5B 1-2) 3FWS*CTV41A has cleared.
07/15/02 01:16	Accepted procedure 3604C.2-1 Boration Flow Path Verification, MODE 1, 2, 3 satisfactorily.
07/15/02 01:17	Accepted procedure 3680.1-1 Main Generator Hydrogen Use Rate satisfactorily.

Shift Manager_____

Millstone Unit 3 Shift Log

07/15/02 05:58:02

07/15/02 01:17	Accepted procedure 3680.1-3 Containment Unidentified Leakage Trending satisfactorily.
07/15/02 01:21	Primary rounds operator reports both accumulator pressures are reading 5200 psig for 3FWS*CTV41A.
07/15/02 02:25	Performed RCS Dilution, 50 gallons @ 80 GPM.
07/15/02 04:07	3CNS-P3A, COMPONENT COOLING WATER MAKEUP PUMP, started to support CPF operations.
07/15/02 04:07	Chemistry placing TK11 on recirc for discharge.
07/15/02 04:40	Performed RCS Dilution, 50 gallons @ 80 GPM.

Shift Manager_____

Millstone Unit 3 Shift Log

Active LCO's

07/15/02 05:58:02

Shift	A	B	C	D	E	F
SM						
STA						
US						
US						

LCO	Action	EntryDate	ExpDate	Reason
3TRM-3.7.12.1	a	07/10/02 10:20	07/17/02 10:20	Diesel fire pump is inoperable due to failed battery surveillance SP788A. Diesel fire pump remains available
3TRM-3.7.12.3	a	01/15/99 20:57	01/15/99 21:57	Cable spreading Room CO2 System disabled per Temp Mod 3-01-035
3TRM-3.7.13	a	07/05/02 14:51	07/05/02 15:51	Pyrocrete on ceiling in Terry Turbine room failed surveillance criteria. Impairment # 34525 -02-H
3TRM-3.7.13	a	06/27/02 15:30	06/27/02 16:30	Fire Damper 3HVQ*DMPF9 failed surveillance CR-02-03738, Fire Impairment #34510-02-H
3TRM-3.7.13	a	06/02/01 01:00	06/02/01 02:00	Fire Seals 1317-2 and 1316-2 between Aux Bldg and turbine bldg tunnel do not meet design, 34074-01-H
3TRM-7.4.1	c.2	06/26/02 07:44	07/09/02 08:44	ELUs AB-21,23,24,25,28,45,60,72,73 inop, temporary lighting installed, temporary log established
3TRM-7.4.1	c.2	06/22/02 00:00	07/05/02 00:00	ELUs AB-4, AB-8, AB-9, and AB-16 inop, temporary lighting installed, temporary log established
REMODCM V.C.1	b	07/15/02 13:56	08/15/02 13:56	3CND-RE07 inoperable due to failed surveillance SP3450F.11

Shift Manager_____

KEY

Millstone Unit 3 Shift Log

Active LCO's

07/15/02 01:00:00

Shift	A	B	C	D	E	F
SM						
STA						
US						
US						

LCO	Action	EntryDate	ExpDate	Reason
3TRM-3.7.12.1	a	07/10/02 10:20	07/17/02 10:20	Diesel fire pump is inoperable due to failed battery surveillance SP788A. Diesel fire pump remains available
3TRM-3.7.12.3	a	01/15/99 20:57	01/15/99 21:57	Cable spreading Room CO2 System disabled per Temp Mod 3-01-035
3TRM-3.7.13	a	07/05/02 14:51	07/05/02 15:51	Pyrocrete on ceiling in Terry Turbine room failed surveillance criteria. Impairment # 34525 -02-H
3TRM-3.7.13	a	06/27/02 15:30	06/27/02 16:30	Fire Damper 3HVQ*DMPF9 failed surveillance CR-02-03738, Fire Impairment #34510-02-H
3TRM-3.7.13	a	06/02/01 01:00	06/02/01 02:00	Fire Seals 1317-2 and 1316-2 between Aux Bldg and turbine bldg tunnel do not meet design, 34074-01-H
3TRM-7.4.1	c.2	06/26/02 07:44	07/09/02 08:44	ELUs AB-21,23,24,25,28,45,60,72,73 inop, temporary lighting installed, temporary log established
3TRM-7.4.1	c.2	06/22/02 00:00	07/05/02 00:00	ELUs AB-4, AB-8, AB-9, and AB-16 inop, temporary lighting installed, temporary log established
REMODCM V.C.1	b	07/15/02 13:56	08/15/02 13:56	3CND-RE07 inoperable due to failed surveillance SP3450F.11
3.6.3	**a**	**07/14/02 21:45**	**07/15/02 01:45**	**Restore the inoperable valve, 3FWS*CTV41A, to operable status within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.**

Shift Manager_____

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: Evaluate Current Decay Heat Removal Requirements

JPM ID Number: SRO-A1.2 Revision: 0

II. Initiated:

Steve Jackson — 2/26/02
Developer — Date

III. Reviewed:

C Martin — 6/18/02
Technical Reviewer — Date

IV. Approved:

N/A
Cognizant Plant Supervisor (optional) — Date

M Wil — 6/19/02
Nuclear Training Supervisor — Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

JPM ID Number: SRO-A1.2 Revision: 0

Task Title: Evaluate Current Decay Heat Removal Requirements

System: Admin

Time Critical Task: ( ) YES (X) NO

Validated Time (minutes): 15

Task Number(s): 341-01-135, Evaluate Current Decay Heat Removal Requirements

Applicable To: SRO X RO _____ PEO _____

K/A Number: GEN.2.1.25 K/A Rating: 2.8 / 3.1

Method of Testing: Simulated Performance: _____ Actual Performance: X

Location: Classroom: X Simulator: _____ In-Plant:: _____

Task Standards: Maintaining defense in depth requirement for key safety systems and equipment associated with minimizing shutdown risk.

Required Materials: OP 3260A, Conduct of Outages, Rev. 013-04

General References: None

*****READ TO THE STUDENT*****

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JPM Number: SRO-A1.2 Revision: 0

Initial Conditions: Millstone Unit 3 is completing a refueling outage. Fuel has been reloaded and plant conditions are as described on the handout. A bus outage on 34C is being considered. SBO to Bus 34A Tie Breaker 34A1-2 (3NNS-ACB-AH) was damaged requiring replacement and repair of breaker electrical connections. The SBO may not be started or loaded during repair activities. Total duration of the bus outage is estimated as 2.5 hours.

Initiating Cues: You are the Unit Supervisor. Using OP3260A, Conduct of Outages, evaluate the current decay heat removal requirements and make a recommendation to the Shift Manager regarding the proposed bus outage.

****** NOTES TO EVALUATOR ******

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.

2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: SRO-A1.2 Revision: 0

Task Title: Evaluate Current Decay Heat Removal Requirements

Start Time: _____

STEP	1		**Performance Step:**	Locate correct procedure section.
GRADE			**Standards:**	Candidate refers to OP 3260A and locates Section 1.3, Decay Heat Removal Requirements
			Grade:	**SAT** _____ **UNSAT** _____
STEP	2		**Performance Step:**	VERIFY one train of RHR in operation. (step 1.3.2)
GRADE			**Standards:**	Refers to or remembers initial conditions and determines that the B RHR pump and train is in operation.
			Grade:	**SAT** _____ **UNSAT** _____
STEP	3	X	**Performance Step:**	IF in MODE 5, PERFORM one of the following to ensure a backup for decay heat removal (step 1.3.3) • MAINTAIN the non-operating RHR train available
GRADE		X	**Standards:**	Candidate analyses initial conditions and cues and determines that the non-operating RHR train will **NOT** be available.
			Grade:	**SAT** _____ **UNSAT** _____

PERFORMANCE INFORMATION

JPM Number: SRO-A1.2 Revision: 0

Task Title: Evaluate Current Decay Heat Removal Requirements

STEP	4	X	**Performance Step:**	VERIFY all of the following are satisfied to ensure two steam generators available and proper RCS condition are established to support natural circulation • Both available SG NR levels greater than 17%
GRADE		X	**Standards:**	Candidate refers to initial conditions: **B & C S/Gs filled to >50% NR**
			Grade:	**SAT** _____ **UNSAT** _____
			Performance Step:	VERIFY all of the following are satisfied to ensure two steam generators available and proper RCS condition are established to support natural circulation • Capability to feed available SG's with a MD AFW pump
			Grade:	**SAT** _____ **UNSAT** _____
GRADE		X	**Standards:**	Candidate refers to initial conditions: **B MDFW pump available to fill S/Gs**
			Performance Step:	VERIFY all of the following are satisfied to ensure two steam generators available and proper RCS condition are established to support natural circulation • Capability to release steam from available SGs
GRADE		X	**Standards:**	Candidate refers to initial conditions: **Steam release capability available**
			Grade:	**SAT** _____ **UNSAT** _____
			Performance Step:	VERIFY all of the following are satisfied to ensure two steam generators available and proper RCS

condition are established to support natural circulation
- RCS pressurized or capable of being pressurized to between 170 psia and 330 psia prior to core boiling

GRADE ____ **X** **Standards:** Candidate refers to initial conditions: **RCS re-pressurization contingency plans prepared**

Grade: **SAT** _____ **UNSAT** _____

Performance Step: VERIFY all of the following are satisfied to ensure two steam generators available and proper RCS condition are established to support natural circulation
- RCS openings being tracked

GRADE ____ **X** **Standards:** Candidate refers to initial conditions: **RCS openings being tracked**

Grade: **SAT** _____ **UNSAT** _____

Performance Step: VERIFY all of the following are satisfied to ensure two steam generators available and proper RCS condition are established to support natural circulation
- RCS loops associated with the available SGs: filled, swept, vented and unisolated

GRADE ____ **X** **Standards:** Candidate refers to initial conditions: **RCS Loops B & C filled, swept, vented and unisolated**

Grade: **SAT** _____ **UNSAT** _____

Performance Step: VERIFY all of the following are satisfied to ensure two steam

generators available and proper RCS condition are established to support natural circulation
- Pressurizer cold calibrated level >50% unless a steam bubble is established in the pressurizer

GRADE ____ **X** **Standards:** Candidate refers to initial conditions: **PZR Cold Calibrated Level >50%**

Grade: **SAT** _____ **UNSAT** _____

STEP 5 **X** **Performance Step:** IF natural circulation is the only available backup for decay heat removal, (only 1 RHR pump is available) PERFORM the following:

IF the time to core boiling is less than one hour, MAINTAIN one of the following:
- RCS pressure greater than 170 psia
- Contingency plan to re-pressurize the RCS to greater than 170 psia prior to core boiling

GRADE ____ **X** **Standards:**
1. Candidate uses initial condition information and Attachment 20 of OP 3260A to determine Time of Boil After Fuel Shuffle Vented Case and determines time to boil **2.3 hours.**
2. Determines time to boil >1 hour and steps need not be implemented (though the contingency plan does exist)

Grade: **SAT** _____ **UNSAT** _____

PERFORMANCE INFORMATION

JPM Number: SRO-A1.2 Revision: 0

Task Title: Evaluate Current Decay Heat Removal Requirements

STEP	6	X	**Performance Step:**	IF a Bus 34C or 34D bus outage is planned, PRESSURIZE the RCS to greater than 170 psia unless either: • The outage Bus Recovery Time is less than the time to core boiling, or • The non-outage bus can be re-energized by the SBO diesel generator prior to core boiling
GRADE		X	**Standards:**	1. Candidate analyses time to core boil (from previous step or calculates) compared to Bus Recovery Time from initial conditions. Determines Bus Recovery Time to be greater than time to core boiling 2. Candidate evaluates availability of SBO diesel. Since bus outage work prohibits starting or loading SBO diesel, candidate determines that the non-outage bus cannot be re-energized by SBO.
			Grade:	**SAT** _____ **UNSAT** _____
STEP	7	X	**Performance Step:**	Make a recommendation to the Shift Manager regarding the proposed bus outage.
GRADE		X	**Standards:**	Based on Bus Recovery Time to be greater than time to core boiling **and** the non-outage bus cannot be re-energized by SBO candidate recommends that the RCS should be pressurized to greater than 170 psia prior to commencing bus outage.
			Grade:	**SAT** _____ **UNSAT** _____
			Cue:	Make a recommendation to the Shift Manager regarding the proposed bus

PERFORMANCE INFORMATION

JPM Number: SRO-A1.2 Revision: 0

Task Title: Evaluate Current Decay Heat Removal Requirements

	outage.
Cue (contingency):	Are all conditions ready to support the bus outage?
Cue (contingency):	Would you recommend any changes in the current plant conditions to support the bus outage?

Termination cue: The evaluation for this JPM is complete.

Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: SRO-A1.2 Revision: 0

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 15

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number: **SRO-A1.2**

Initial Conditions: **Millstone Unit 3 is completing a refueling outage. Fuel has been reloaded and plant conditions are as described on the handout. A bus outage on 34C is being considered. SBO to Bus 34A Tie Breaker 34A1-2 (3NNS-ACB-AH) was damaged requiring replacement and repair of breaker electrical connections. The SBO may not be started or loaded during repair activities. Total duration of the bus outage is estimated as 2.5 hours.**

Initiating Cues: **You are the Unit Supervisor. Using OP3260A, Conduct of Outages, evaluate the current decay heat removal requirements and make a recommendation to the Shift Manager regarding the proposed bus outage.**

UNIT STATUS:

Millstone Unit 3 is completing a refueling outage. The plant is in Mode 5. Fuel has been reloaded and plant conditions are as described on the handout. A bus outage on 34C is being considered..

CRITICAL PARAMETERS		
	PARAMETER	VALUE
	B train of RHR in operation	
	B & C Steam Generators	filled to >50% NR
	B & C Steam Generators	Steam release capability available
	B MDFW pump	available to fill S/Gs
	Reactor Coolant System	• vented • openings being tracked • Loops B & C filled, swept vented and unisolated • RCS pressure = 45 psia • RCS temperature = 135°F
	PZR Cold Calibrated Level	>50%
	Rx Shutdown	for 30 days
	RCS re-pressurization contingency plans prepared	
	Outage Bus Recovery Time	2.5 hours
	SBO to Bus 34A Tie Breaker 34A1-2 (3NNS-ACB-AH) damaged requiring replacement and repair of breaker electrical connections	
	SBO may not be started or loaded during repair.	

1.3 **Decay Heat Removal Requirements**

1.3.1 IF the plant is in MODE 0, Go To step 1.3.9.

1.3.2 VERIFY one train of RHR in operation.

1.3.3 IF in MODE 5, PERFORM one of the following to ensure a *backup* for decay heat removal:

- MAINTAIN the non–operating RHR train available, or
- VERIFY all of the following are satisfied to ensure two steam generators available and proper RCS conditions are established to support natural circulation:
  - Both available SG NR levels greater than 17%
  - Capability to feed available SGs with a MD AFW pump
  - Capability to release steam from available SGs
  - RCS pressurized or capable of being pressurized to between 170 psia and 330 psia prior to core boiling
  - RCS openings being tracked
  - RCS loops associated with the available SGs; filled, swept, vented, and unisolated
  - Pressurizer cold calibrated level $\geq$ 50% unless a steam bubble is established in the pressurizer

1.3.4 IF natural circulation is the only available backup for decay heat removal, (only 1 RHR pump is available) PERFORM the following:

- IF the time to core boiling is less than one hour, MAINTAIN one of the following:
  - RCS pressure greater than 170 psia.
  - Contingency plan to re–pressurize the RCS to greater than 170 psia prior to core boiling.
- IF a Bus 34C or 34D outage is planned, PRESSURIZE the RCS to greater than 170 psia unless either:
  - The outage Bus Recovery Time is less than the time to core boiling, or
  - The non–outage bus can be reenergized by the SBO diesel generator prior to core boiling
- IF not in a Bus 34C or 34D outage, MAINTAIN an additional charging pump available but racked down (pump on the non–protected train is preferred).

NOTE

The RHR loop may be removed from operation for up to 1 hour each 8 hour period during the performance of CORE ALTERATIONS in the vicinity of the reactor vessel hot legs as allowed by T/S 3.9.8.1, and T/S 3.9.8.2.

1.3.5 IF in MODE 6, PERFORM one of the following to ensure a *backup* for decay heat removal:

- MAINTAIN greater than or equal to 23 ft of water above the top of the reactor vessel flange, or
- MAINTAIN the non–operating RHR train OPERABLE

Attachment 20
Time To Boil After Fuel Shuffle Vented Case
(RCS Pressure = 45 psia, Temperature = 140°F)

(Sheet 1 of 1)

Shutdown Time (days)	RCS Vented or N_2 Overpressure – Time to Boil (hours), RCS Loops Unisolated, Filled, Swept and Vented				
	0 Loop	1 Loop	2 Loops	3 Loops	4 Loops
1	0.4	0.5	0.6	0.6	0.7
2	0.5	0.6	0.7	0.8	0.9
3	0.5	0.7	0.8	0.9	1.0
4	0.6	0.8	0.9	1.0	1.2
5	0.7	0.9	1.0	1.1	1.3
6	0.7	1.0	1.1	1.2	1.4
7	0.8	1.0	1.2	1.3	1.5
8	0.8	1.1	1.3	1.4	1.6
9	0.9	1.2	1.3	1.5	1.6
10	0.9	1.2	1.4	1.6	1.7
12	1.0	1.3	1.5	1.7	1.9
14	1.1	1.4	1.6	1.8	2.0
16	1.1	1.5	1.7	1.9	2.1
18	1.2	1.6	1.8	2.0	2.3
20	1.3	1.7	1.9	2.1	2.4
25	1.4	1.9	2.1	2.4	2.6
30	1.6	2.0	2.3	2.6	2.9
35	1.7	2.2	2.5	2.8	3.1
40	1.8	2.4	2.7	3.0	3.4
45	1.9	2.6	2.9	3.3	3.6
50	2.1	2.7	3.1	3.4	3.8
60	2.3	3.0	3.4	3.8	4.2
70	2.5	3.3	3.7	4.2	4.6
80	2.7	3.6	4.0	4.5	5.0
90	2.9	3.8	4.4	4.9	5.4

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: Given a completed clearance boundary and reference material, review, amend and approve the clearance boundary.

JPM ID Number: SRO-A2 Revision: 0

II. Initiated:

Steve Jackson — 02/27/02
Developer — Date

III. Reviewed:

Martin — 6/18/02
Technical Reviewer — Date

IV. Approved:

Cognizant Plant Supervisor (optional) — Date

Nuclear Training Supervisor — 6/19/02 Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

JPM ID Number: SRO-A2 Revision: 0

Task Title: Given a completed clearance boundary and reference material, review, amend and approve the clearance boundary.

System: Tagging and Clearance

Time Critical Task: ( ) YES (X) NO

Validated Time (minutes): 10 min

Task Number(s): 341-01-079, Develop and/or modify, review, authorize, install, verify, and clear a tag clearance in accordance with plant and/or site procedural and safety requirements

Applicable To: SRO X RO _____ PEO _____

K/A Number: GEN.2.2.13, Knowledge of Tagging and Clearance Procedures K/A Rating: 3.6/3.8

Method of Testing: Simulated Performance: _____ Actual Performance: X

Location: Classroom: X Simulator: _____ In-Plant:: _____

Task Standards: Review and approve a tag clearance boundary

Required Materials: Completed work package boundary sheet
P&IDs
EE One-Line Electrical Drawings
OP 3300 series procedures

General References: WC 2, Tagging
OP 3250, Removing Equipment from Service for Maintenance

*****READ TO THE STUDENT*****

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JPM Number: SRO-A2 Revision: 0

Simulator Requirements: NONE

Initial Conditions: You are a licensed SRO. A tagout clearance boundary for the impeller replacement for the "B" Auxiliary Feedwater (FWA) pump has been developed.

Initiating Cues: Your task is to review the recommended tagout clearance boundary using available references so that the work package boundary sheet is ready for approval.

****** NOTES TO EVALUATOR ******

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.

2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: SRO-A2 Revision: 0

Task Title: Given a completed clearance boundary and reference material, review, amend and approve the clearance boundary.

Start Time: _____

STEP	1		**Performance Step:**	Reviews the Work Package Boundary Sheet and selects appropriate reference materials
GRADE			**Standards:**	Selects: P&ID EM-130B, (FWA), EE Drawing. 1M, OP 3322
			Grade:	**SAT** _____ **UNSAT** _____
STEP	2		**Performance Step:**	Reviews FWA-P1B-CS, "B" AFW Pump Control Switch
GRADE			**Standards:**	Uses selected references and determines the Pump Control Switch tagging is **correct.**
			Grade:	**SAT** _____ **UNSAT** _____
STEP	3	X	**Performance Step:**	Reviews power supply 34D5-2, 3FWA*P1B breaker racked down and red tagged.
GRADE		X	**Standards:**	Uses selected references and determines power supply 34D5-2 is **INCORRECT**. 34D15-2 is the correct breaker (EE Drawing. 1M,). Tag and tagged position are correct.
			Grade:	**SAT** _____ **UNSAT** _____

Cue: When error is identified: "What would you do to if you found this error?"

Cue: If the response is correct it then: "Correct the error."

PERFORMANCE INFORMATION

JPM Number: SRO-A2 Revision: 0

Task Title: Given a completed clearance boundary and reference material, review, amend and approve the clearance boundary.

STEP	4	X	**Performance Step:**	Reviews 3FWA*V16, SGAFW PP B DWST SUCT HDR ISOLATION, red tagged closed.
GRADE		X	**Standards:**	Uses selected references and determines that 3FWA*V16 selection, position and tagging is **correct.**
			Grade:	**SAT** _____ **UNSAT** _____
STEP	5	X	**Performance Step:**	**IDENTIFIES** that boundary 3FWA*V64, SGAFW PP B SUCT FM COND STOR TK is **missing**.
GRADE		X	**Standards:**	Uses selected references and determines that 3FWA*V64 should be **ADDED**. 3FWA*V64 is the correct boundary (P&ID EM-130B) CLOSED position and RED tagging is the **correct** tag and position.
			Grade:	**SAT** _____ **UNSAT** _____
			Cue:	When error is identified: "What would you do to if you found this error?"
			Cue:	If the response is add the valve then: "Correct the error."
STEP	6	X	**Performance Step:**	Reviews 3FWA*V32, SGAFW PP B DISCHARGE HDR ISOLATION, red tagged closed.
GRADE		X	**Standards:**	Uses selected references and determines that 3FWA*V32 selection is **INCORRECT**. 3FWA*V18 is the correct boundary (P&ID EM-130B) CLOSED position and RED tagging is **correct.**

PERFORMANCE INFORMATION

JPM Number: SRO-A2 Revision: 0

Task Title: Given a completed clearance boundary and reference material, review, amend and approve the clearance boundary.

Grade: **SAT** _____ **UNSAT** _____

Cue: When error is identified: "What would you do to if you found this error?"

Cue: If the response is correct if then: "Correct the error."

STEP	7	X	**Performance Step:**	Reviews 3FWA*V984 SGAFW PP B RTN TO DWST ISOL, red tagged closed.
GRADE		X	**Standards:**	Uses selected references and determines that 3FWA*V984 selection, position and tagging is **correct.**
			Grade:	**SAT** _____ **UNSAT** _____
STEP	8	X	**Performance Step:**	Reviews 3FWA*V976, SGAFW PP B SUCT HDR DRAIN, red tagged open.
GRADE		X	**Standards:**	Uses selected references and determines that 3FWA*V976 selection, position and tagging is **correct.**
			Grade:	**SAT** _____ **UNSAT** _____
			Comment:	3FWA*V960 could also be an acceptable drain path. Local observation would actually determine the best drain point. Candidate may comment on choice of drain point.
STEP	9	X	**Performance Step:**	Reviews 3FWA*V965, SGAFW PP B DISCHARGE VENT, red tagged open.
GRADE		X	**Standards:**	Uses selected references and determines that 3FWA*V965 selection, position and tagging is **correct.**
			Grade:	**SAT** _____ **UNSAT** _____

PERFORMANCE INFORMATION

JPM Number: SRO-A2 Revision: 0

Task Title: Given a completed clearance boundary and reference material, review, amend and approve the clearance boundary.

			Comment:	3FWA*V970 could also be an acceptable vent path. Local observation would actually determine the best vent point. Candidate may comment on choice of vent point.
STEP	10	X	**Performance Step:**	Reviews SPOOLPIECE, SERVICE WATER TO SGAFW PP B, red tagged removed.
GRADE	____	X	**Standards:**	Uses selected references and determines that SPOOLPIECE selection, position and tagging is **correct.**
			Grade:	**SAT** _____ **UNSAT** _____
STEP	11	____	**Performance Step:**	Amend and approve the clearance boundary
GRADE	____	____	**Standards:**	Makes indicated changes to the clearance boundary, and recommends approval as amended.
			Grade:	**SAT** _____ **UNSAT** _____
			Cue:	"Are you recommending the tagout clearance boundary?"

Termination Cue: The Evaluation For This JPM is Complete.

Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: SRO-A2 Revision: 0

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 10

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number: **SRO-A2**

Initial Conditions: **You are a licensed SRO. A tagout clearance boundary for the impeller replacement for the "B" Auxiliary Feedwater (FWA) pump has been developed.**

Initiating Cues: **Your task is to review the recommended tagout clearance boundary using available references so that the work package boundary sheet is ready for approval.**

WORK PACKAGE BOUNDARY SHEET

Clearance Number:

AWO Number: M30110525	**Clearance Adequate for Personnel Safety: Contact Person / Designee Sign**	**Date:**

Step Number	Tag Type	Tagged Position	Tag Serial #	Equipment ID	Equipment Description	Equipment Location	Notes	Tag Placed	Tag Verified	Worker Verified
1	YEL			3FWA-P1B-CS	B AFW PUMP CONTROL SWITCH		POWER IS RED TAGGED OFF			
2	RED	RACKED DOWN		34D5-2	3FWA*P1B					
3	RED	CLOSED		3FWA*V16	SGAFW PP B DWST SUCT HDR ISOLATION					
4	RED	CLOSED		3FWA*V32	SGAFW PP B DISCHARGE HDR ISOLATION					
5	RED	CLOSED		3FWA*V984	SGAFW PP B RTN TO DWST ISOL					
6	RED	OPEN		3FWA*V976	SGAFW PP B SUCT HDR DRAIN					

7	RED	OPEN		3FWA*V965	SGAFW PP B DISCHARGE VENT					
8	RED	REM		SPOOLPIECE	SW TO SGAFW PP B					

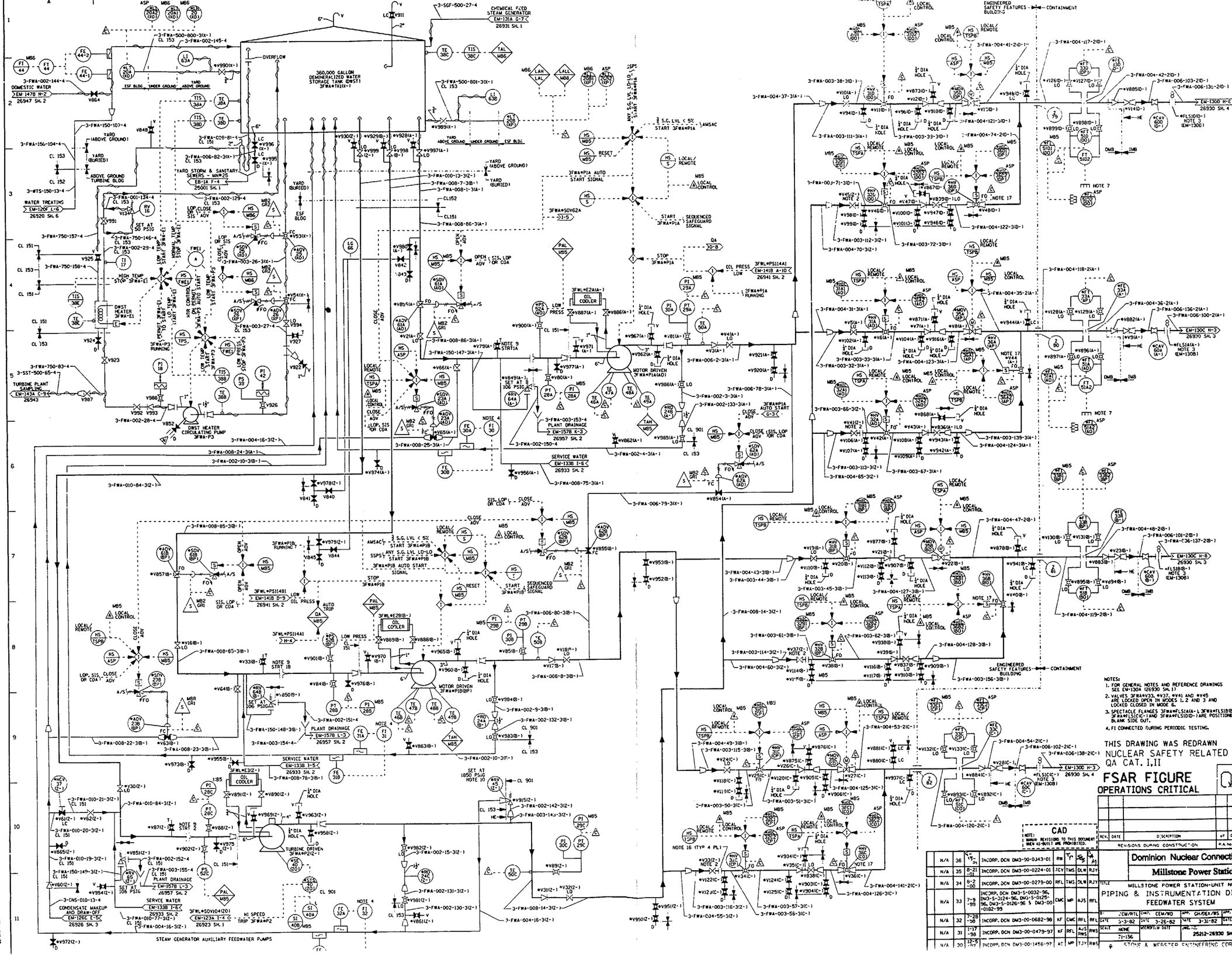
KEY---WORK PACKAGE BOUNDARY SHEET ---KEY

Clearance Number:

AWO Number: M30110525	**Clearance Adequate for Personnel Safety: Contact Person / Designee Sign**	**Date:**

Step Number	Tag Type	Tagged Position	Tag Serial Number	Equipment ID	Equipment Description	Equipment Location	Notes	Tag Placed	Tag Verified	Worker Verified
1	YEL			3FWA-P1B-CS	B AFW PUMP CONTROL SWITCH		POWER IS RED TAGGED OFF			
2	RED	RACKED DOWN		**34D15-2**	3FWA*P1B					
3	RED	CLOSED		3FWA*V16	SGAFW PP B DWST SUCT HDR ISOLATION					
4	**RED**	**CLOSED**		**3FWA*V64**	**SGAFW PP B SUCT FM COND STOR TK**					
5	RED	CLOSED		**3FWA*V18**	SGAFW PP B DISCHARGE HDR ISOLATION					
6	RED	CLOSED		3FWA*V984	SGAFW PP B RTN TO DWST ISOL					

7	RED	OPEN		3FWA*V976	SGAFW PP B SUCT HDR DRAIN					
8	RED	OPEN		3FWA*V965	SGAFW PP B DISCHARGE VENT					
9	RED	REM		SPOOLPIECE	SW TO SGAFW PP B					



NOTES:
1. FOR GENERAL NOTES AND REFERENCE DRAWINGS SEE EM-130A 26930 SH. 1?
2. VALVES 3FWA*V33, V37, V41 AND V45 ARE LOCKED OPEN IN MODES 1, 2 AND 3 AND LOCKED CLOSED IN MODE 6.
3. SPECTACLE FLANGES 3FWA*FLS1A(A-) & 3FWA*FLS1B(B-) & 3FWA*FLS1C(C-) AND 3FWA*FLS1D(D-) ARE POSITIONED BLANK SIDE OUT.
4. FI CONNECTED DURING PERIODIC TESTING.

THIS DRAWING WAS REDRAWN
NUCLEAR SAFETY RELATED
QA CAT. I,II

FSAR FIGURE
OPERATIONS CRITICAL

Q.A.

CAD
NOTE: MANUAL REVISIONS TO THIS DOCUMENT WHEN AS-BUILT ARE PROHIBITED.

REV.	DATE	DESCRIPTION	DT	CHK	CORR	APP
REVISIONS DURING CONSTRUCTION			P.A. No.			

N/A	36	4-15-99	INCORP. DCN DM3-99-0343-01	RW	TF	SBS	MJ	
N/A	35	8-21-01	INCORP. DCN DM3-00-0224-01	JCV	TMS	DLW	RJY	
N/A	34	8-2-00	INCORP. DCN DM3-00-0279-00	RFL	TMS	DLW	RJY	
N/A	33	7-9-99	INCORP. DCN DM3-S-0032-96, DM3-S-0124-96, DM3-S-0125-96, DM3-S-0126-96 & DM3-00-0182-99	CMC	MP	AJS	RFL	
N/A	32	7-28-98	INCORP. DCN DM3-00-0682-98	KF	CMC	RFL	RFL	
N/A	31	1-17-98	INCORP. DCN DM3-00-0479-97	KF	RFL	AJS RWS	RWS	
N/A	30	12-5-97	INCORP. DCN DM3-00-1456-97	AC	MP	TJY	RWS	

Dominion Nuclear Connecticut Inc.
Millstone Power Station

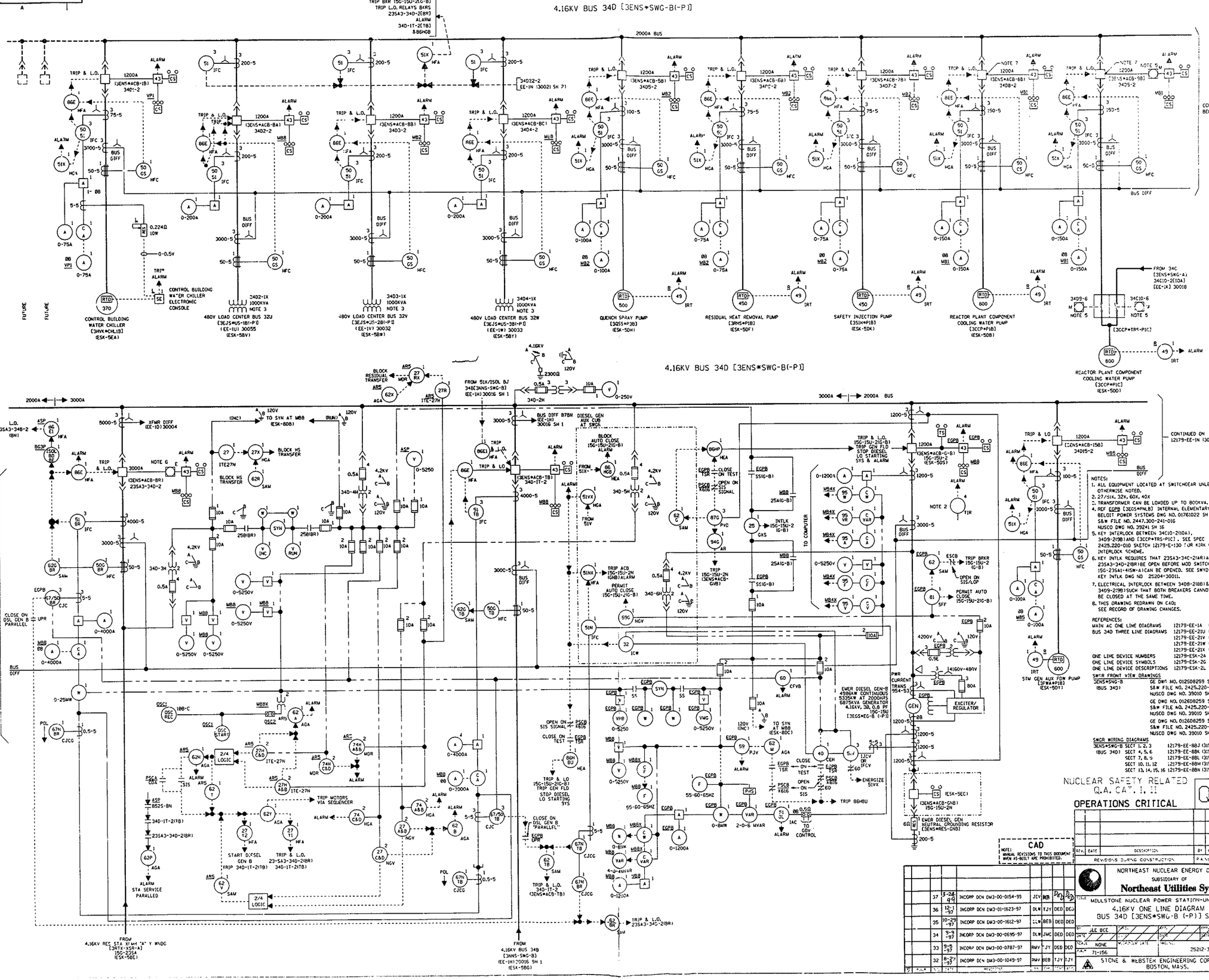
TITLE: MILLSTONE POWER STATION-UNIT NO. 3
PIPING & INSTRUMENTATION DIAGRAM
FEEDWATER SYSTEM

DES.	CEM/RTL	CHK'D	CEM/WD	APP.	GH/DEK/RS	APP.	RWA
DATE	3-3-82	DATE	3-26-82	DATE	3-31-82	DATE	4-7-82
SCALE	NONE	DRAWING NO.	71-136	SRC NO.	25212-26930 SH. 2 REV. 4		

STONE & WEBSTER ENGINEERING CORPORATION

DRAWING FORM

4.16KV BUS 34D [3ENS*SWG-B(-P)]



NOTES:
1. ALL EQUIPMENT LOCATED AT SWITCHGEAR UNLESS OTHERWISE NOTED.
2. 27/51x, 32x, 60x, 40x
3. TRANSFORMER CAN BE LOADED UP TO 800KVA.
4. REF EGPB [3EGS*PNLB] INTERNAL ELEMENTARY
   BELOIT POWER SYSTEMS DWG NO. 017611022 SH 2
   S&W FILE NO. 2447.300-241-01G
   NUSCO DWG NO. 39241 SH 16
5. KEY INTERLOCK BETWEEN 34C10-2(10A), 3409-2(9B) AND [3CCP*TRS-P1C]. SEE SPEC 2425.220-010 SKETCH 12179-E-130 FOR KIRK KEY INTERLOCK SCHEME.
6. KEY INTLK REQUIRES THAT 23SA3-34C-2(AR) AND 23SA3-34D-2(BR) BE OPEN BEFORE MOD SWITCH 15G-23SA1-41SM-A(CAN BE OPENED. SEE SWYD KEY INTLK DWG NO 25204-30011.
7. ELECTRICAL INTERLOCK BETWEEN 3408-2(BB) & 3409-2(9B) SUCH THAT BOTH BREAKERS CANNOT BE CLOSED AT THE SAME TIME.
8. THIS DRAWING REDRAWN ON CAD; SEE RECORD OF DRAWING CHANGES.

REFERENCES:

MAIN AC ONE LINE DIAGRAMS	12179-EE-1A (30001)
BUS 34D THREE LINE DIAGRAMS	12179-EE-21U (30135)
	12179-EE-21V (30136)
	12179-EE-21W (30137)
	12179-EE-21X (30138)
ONE LINE DEVICE NUMBERS	12179-ESK-2A
ONE LINE DEVICE SYMBOLS	12179-ESK-2G THRU 2K
ONE LINE DEVICE DESCRIPTIONS	12179-ESK-2L THRU 2P
SWGR FRONT VIEW DRAWINGS 3ENS*SWG-B (BUS 34D)	GE DWG NO. 012608259 SH 1 S&W FILE NO. 2425.220-010-417 NUSCO DWG NO. 39010 SH 417
	GE DWG NO. 012608259 SH 2 S&W FILE NO. 2425.220-010-418 NUSCO DWG NO. 39010 SH 418
	GE DWG NO. 012608259 SH 3 S&W FILE NO. 2425.220-010-419 NUSCO DWG NO. 39010 SH 419
SWGR WIRING DIAGRAMS 3ENS*SWG-B (BUS 34D)	SECT 1, 2, 3 : 12179-EE-88J (31526 SH 1)
	SECT 4, 5, 6 : 12179-EE-88K (31526 SH 2)
	SECT 7, 8, 9 : 12179-EE-88L (31526 SH 3)
	SECT 10, 11, 12 : 12179-EE-88M (31526 SH 4)
	SECT 13, 14, 15, 16 12179-EE-88N (31526 SH 5)

NUCLEAR SAFETY RELATED
Q.A. CAT. I, II

OPERATIONS CRITICAL

Q.A.

REV.	DATE	DESCRIPTION	BY	CHK	ECAD APP.
		REVISIONS DURING CONSTRUCTION			

CAD
NOTE: MANUAL REVISIONS TO THIS DOCUMENT WHEN IS-BUILT ARE PROHIBITED.

37	5-24-97	INCORP DCN DM3-00-0154-99	JCV	RCS	PED	PED
36	12-1-97	INCORP DCN DM3-01-1623-97	DLW	TJY	DED	DED
35	10-29-97	INCORP DCN DM3-00-1612-97	CLW	BEB	DED	DED
34	9-9-97	INCORP DCN DM3-00-0695-97	DLW	JMC	DED	DED
33	9-9-97	INCORP DCN DM3-00-0787-97	RMV	JJY	DED	DED
32	8-27-97	INCORP DCN DM3-00-1049-97	DMV	BEB	TJY	TJY

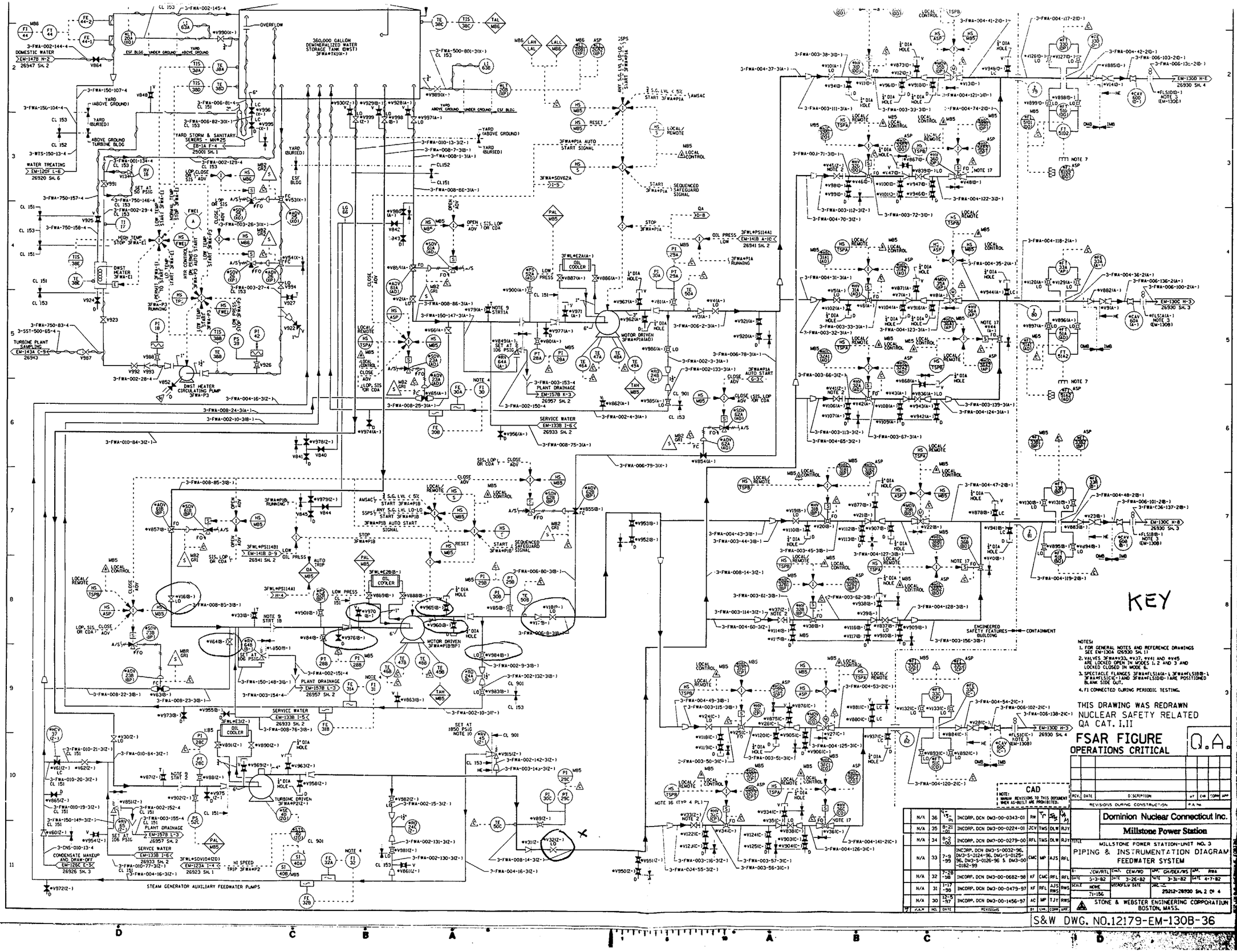
NORTHEAST NUCLEAR ENERGY COMPANY
SUBSIDIARY OF
Northeast Utilities System

MILLSTONE NUCLEAR POWER STATION-UNIT NO. 3

4.16KV ONE LINE DIAGRAM
BUS 34D [3ENS*SWG-B (-P)] SH 1

DRAWN BY JEE BCE	DATE	CHECKED BY	DATE
SCALE NONE		WORKING DATE	
CALC. 71-156			25212-30020

STONE & WEBSTER ENGINEERING CORPORATION
BOSTON, MASS.



NO.	DATE	REVISIONS	BY	CHK	CORR	APP
N/A	36	12-5-97	INCORP. DCN DW3-00-1456-97	AC	MP	TJY	RWS
N/A	35	8-21-00	INCORP. DCN DW3-00-0224-01	JCV	TMS	DLW	RJY
N/A	34	8-2-00	INCORP. DCN DW3-00-0279-00	RFL	TMS	DLW	RJY
N/A	33	7-5-99	INCORP. DCN DW3-S-0032-96, DW3-S-0124-96, DW3-S-0125-96, DW3-S-0126-96 & DW3-00-0182-99	CMC	MP	AJS	RFL
N/A	32	7-28-98	INCORP. DCN DW3-00-0682-98	KF	CMC	RFL	RFL
N/A	31	1-19-98	INCORP. DCN DW3-00-0479-97	KF	RFL	AJS RWS	RWS
N/A	30	12-5-97	INCORP. DCN DW3-00-1456-97	AC	MP	TJY	RWS

4.16KV BUS 34D [3ENS*SWG-B(-P)]

Incorrect

KEY

NUCLEAR SAFETY RELATED
Q.A. CAT. I
OPERATIONS CRITICAL

Q.A.

CAD
NOTE: MANUAL REVISIONS TO THIS DOCUMENT WHEN AS-BUILT ARE PROHIBITED.

REV.	DATE	DESCRIPTION	BY	CHK	CORR	APP
REVISIONS DURING CONSTRUCTION						
37	3-24-99	INCORP DCN DW3-00-0154-99	JCV	RCB	DED	DEU
36	12-1-97	INCORP DCN DW3-01-1623-97	DLW	TJY	DED	DEU
35	10-29-97	INCORP DCN DW3-00-1612-97	CLW	BEB	DED	DEU
34	9-9-97	INCORP DCN DW3-00-0695-97	DLW	JMC	DED	DED
33	9-5-97	INCORP DCN DW3-00-0787-97	RMV	JY	DED	DED
32	8-29-97	INCORP DCN DW3-00-1049-97	RMV	BEB	TJY	TJY

NORTHEAST NUCLEAR ENERGY COMPANY
SUBSIDIARY OF
Northeast Utilities System

MILLSTONE NUCLEAR POWER STATION-UNIT NO. 3
4.16KV ONE LINE DIAGRAM
BUS 34D [3ENS*SWG-B (-P)] SH 1

DRAWN	CHECKED	DESIGN VERIFIED	APPROVED
JAE BCE			
DATE	DATE	DATE	DATE

SCALE	WORKSHOP DATE	DWG. NO.
NONE		25212-30020
PLAN 71-156		

STONE & WEBSTER ENGINEERING CORPORATION
BOSTON, MASS.

S&W DWG. NO. 12179-EE-1M

NOTES:
1. ALL EQUIPMENT LOCATED AT SWITCHGEAR UNLESS OTHERWISE NOTED.
2. 27/51X, 32X, 60X, 40X
3. TRANSFORMER CAN BE LOADED UP TO 8000KVA.
4. REF EGPB [3EGS*PNL8] INTERNAL ELEMENTARY BELOIT POWER SYSTEMS DWG NO. 01761022 SH 2 S&W FILE NO. 2447.300-241-016 NUSCO DWG NO. 39241 SH 16
5. KEY INTERLOCK BETWEEN 34C10-2(10A), 3409-2(18B) AND [3CCP*TRS-P(C) . SEE SPEC 2425.220-010 SKETCH 12179-E-130 FOR KIRK KEY INTERLOCK SCHEME.
6. KEY INTLK REQUIRES THAT 23SA3-34C-2(4R) AND 23SA3-340-2(8R)BE OPEN BEFORE MOD SWITCH 15C-23SA1-41SW-A(CAN BE OPENED. SEE SWTO KEY INTLK DWG NO 25204-30011.
7. ELECTRICAL INTERLOCK BETWEEN 34D8-2(8B)& 3409-2(9B) SUCH THAT BOTH BREAKERS CANNOT BE CLOSED AT THE SAME TIME.
8. THIS DRAWING REDRAWN ON CAD; SEE RECORD OF DRAWING CHANGES.

REFERENCES:

MAIN AC ONE LINE DIAGRAMS	12179-EE-1A (30001)
BUS 34D THREE LINE DIAGRAMS	12179-EE-21U (30135)
	12179-EE-21Y (30136)
	12179-EE-21W (30137)
	12179-EE-21X (30136)
ONE LINE DEVICE NUMBERS	12179-ESK-2A
ONE LINE DEVICE SYMBOLS	12179-ESK-2G THRU 2K
ONE LINE DEVICE DESCRIPTIONS	12179-ESK-2L THRU 2P
SWGR FRONT VIEW DRAWINGS	
[3ENS*SWG-B (BUS 34D)	GE DWG NO. 012608259 SH 1 S&W FILE NO. 2425.220-010-417 NUSCO DWG NO. 39010 SH 417
	GE DWG NO. 012608259 SH 2 S&W FILE NO. 2425.220-010-418 NUSCO DWG NO. 39010 SH 418
	GE DWG NO. 012608259 SH 3 S&W FILE NO. 2425.220-010-419 NUSCO DWG NO. 39010 SH 419

SWGR WIRING DIAGRAMS

[3ENS*SWG-B (BUS 34D)	SECT 1, 2, 3 12179-EE-88J (31526 SH 1)
	SECT 4, 5, 6 12179-EE-88K (31526 SH 2)
	SECT 7, 8, 9 12179-EE-88L (31526 SH 3)
	SECT 10, 11, 12 12179-EE-88M (31526 SH 4)
	SECT 13, 14, 15, 16 12179-EE-88N (31526 SH 5)

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: Review and Approve a Radioactive Liquid Waste Discharge Permit

JPM ID Number: SRO-A3 Revision: 0

II. Initiated:

Steve Jackson
Developer

02/25/02
Date

III. Reviewed:

Martin
Technical Reviewer

6/18/02
Date

IV. Approved:

N/A
Cognizant Plant Supervisor (optional)

Date

Nuclear Training Supervisor

6/19/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

JPM ID Number: SRO-A3 Revision: 0

Task Title: Review and Approve a Radioactive Liquid Waste Discharge Permit

System: Radioactive Liquid Waste System

Time Critical Task: ( ) YES (X) NO

Validated Time (minutes): _____

Task Number(s): 068-01-064, Discharge the contents of a Low Level Waste Drain Tank
068-03-001, Adhere to the requirements of the Radwaste Management Program

Applicable To: SRO X RO _____ PEO _____

K/A Number: GEN- 2.3.6 K/A Rating: 2.1/3.1

Method of Testing: Simulated Performance: X Actual Performance: X

Location: Classroom: _____ In-Plant:: X Simulator: X

Task Standards: Review and Approve a Radioactive Liquid Waste Discharge Permit

Required Materials: OP 3335D, Radioactive Liquid Waste System, Rev. 016-04
Liquid Discharge Permit
Screen Print of Rad Monitor LWS70-1

General References: None

*****READ TO THE STUDENT*****

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JPM Number: SRO-A3 Revision: 0

Simulator Requirements: None

Initial Conditions: The unit is at 100% power with all systems in normal line-ups. The "A" and "B" Service Water pumps and all Circulating Water pumps are running.

Initiating Cues: The Radwaste PEO has presented OP 3335D sign off copy and a Liquid Discharge Permit for discharging the "A" Waste Test Tank to the Circulating Water discharge tunnel for your approval. Review the permit using the supporting documentation, approve the permit and report to the examiner.

****** NOTES TO EVALUATOR ******

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.

2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: SRO-A3 1 Revision: 0

Task Title: Review and Approve a Radioactive Liquid Waste Discharge Permit

Start Time: _____

STEP 1 X **Performance Step:** Go to the correct procedure step, OP3335D, Section 4.25.4.j

GRADE ____ X **Standards:** Locates the correct procedure step. Candidate may review previous steps.

Grade: **SAT** _____ **UNSAT** _____

Cue: Steps 4.25.1, 2, & 3 and step 4.25.4.a through i have been completed.

STEP 2 X **Performance Step:** PERFORM Independent Verification of liquid effluent monitor alarm and alert settings. [step 4.25.4.j.1)]

GRADE ____ X **Standards:** Locates liquid effluent monitor alarm and alert settings on Liquid Discharge Permit.

GRADE ____ X **Standards:** Locates liquid effluent monitor alarm and alert current settings on RMS Console.

Comments: Since this JPM is done in a classroom setting the RMS Console is not available. When candidate requests information and specifies that he would access the RMS screen for LWS70-1, Liquid Waste discharge process radiation monitor, exercise the cue.

Cue: This is the screen for LWS70-1 (hand candidate screen printout).

GRADE ____ X **Standards:** Compares permit settings and RMS information and identifies that RMS is incorrect. Recommends changing RMS to match the permit.

PERFORMANCE INFORMATION

JPM Number: SRO-A3 Revision: 0
1
Task Title: Review and Approve a Radioactive Liquid Waste Discharge Permit

Initials procedure after receiving the cue.

Cue: IF candidate identifies error, state that the setpoints have been corrected.

Grade: **SAT** _____ **UNSAT** _____

STEP	3	X	**Performance Step:**	Refer to CHEM Form 3800P-001 and CHECK "EST Activity this Discharge (Ci) on Liquid Discharge Permit is less than action level specified. [step 4.25.4.j.2)]
GRADE	____	X	**Standards:**	COMPARE CHEM Form 3800P-001 and CHECK "EST Activity this Discharge (Ci) to Discharge permit "Estimated activity this discharge (Ci)". Determines that values are below the limits. Initials procedure.

Grade: **SAT** _____ **UNSAT** _____

Cue: Step 4.25.4.j.3) is N/A since no limits are exceeded.

STEP	4	X	**Performance Step:**	CHECK required dilution flowrate is met. [step 4.25.4.j.4)]
GRADE	____	X	**Standards:**	COMPARES permit requirement of 2 SWP and 3 CWP to actual plant condition of 2 SWP and 6 CWP. Determines that dilution flow is met. Initials procedure.

Grade: **SAT** _____ **UNSAT** _____

Termination Cue: The Evaluation of this JPM is Complete
Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: SRO-A3 Revision: 0

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO X

Validated Time (minutes): 10

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number: **SRO-A3**

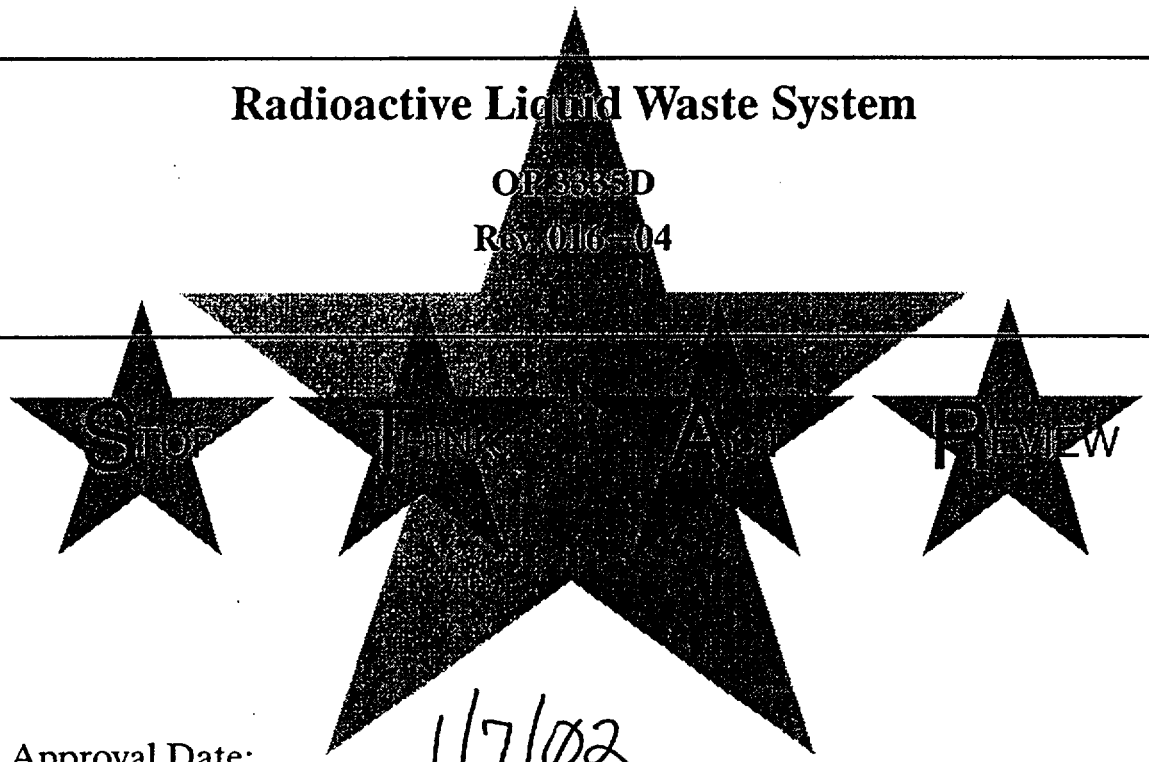
Initial Conditions: **The unit is at 100% power with all systems in normal line-ups. The "A" and "B" Service Water pumps and all Circulating Water pumps are running.**

Initiating Cues: **The Radwaste PEO has presented OP 3335D sign off copy and a Liquid Discharge Permit for discharging the "A" Waste Test Tank to the Circulating Water discharge tunnel for your approval. Review the permit using the supporting documentation, approve the permit and report to the examiner.**

MILLSTONE NUCLEAR POWER STATION
SYSTEM OPERATING PROCEDURE

Radioactive Liquid Waste System

OP 3335D
Rev. 016-04



Approval Date: 1/7/02

Effective Date: 1/18/02

Level of Use
Continuous

14) PRESS "SELECT/REMOVE."

15) ENTER "2.00E−05" and PRESS "ENTER."

16) PRESS "END SELECT."

17) VERIFY key locked mode switch in "PROTECT." (03)

NOTE

If initial check source fails, repeat check prior to declaring monitor inoperable. If second source check is satisfactory, monitor is to be considered in−service and functional.

h. ENTER "ACS" and PRESS "ENTER" to perform source check (3RMS−CNSL1).

i. CHECK "SOURCE CHECK FAILED" message *not* received (3RMS−CNSL1).

j. REQUEST SM/US Refer To Discharge Permit and PERFORM the following:

1) Independent Verification of liquid effluent monitor alarm and alert settings.

2) Refer To CHEM Form 3800P−001, "Unit 3 Liquid Radwaste Discharge Goals," and CHECK "EST Activity this Discharge (Ci)" on Liquid Discharge Permit is less than action level specified.

3) IF action levels or goals are met or exceeded, Refer To CP 3800P, "Unit 3 Liquid Waste Management," for guidance on further processing of the affected tank.

4) CHECK required dilution flow rate is met.

FORM APPROVED.: C. J. Schwarz DATE.: 5/16/97 PORC MTG NO.: 3-97-105

MILLSTONE UNIT #3 LIQUID DISCHARGE PERMIT NO. 4463 (2001-69338)

nk.....: WTT-A Date/time sampled...: 9-NOV-2001 17:35
Sampled by.....: _____ Date/time on recirc.: 9-NOV-2001 14:00
TSS (ppm).: _____ (tank limit = 45 ppm) pH.: 4.7
Boric acid conc (ppm).: 4330.0
<<< 2 circulators must be in operation during a discharge >>>

Independent samples taken >>> yes no (circle one)

Isotope	Activity (uCi/ml)	MPC (uCi/ml)	Activity/MPC
CO-58	3.522E-07	1.000E-04	3.522E-03
CO-60	4.720E-07	5.000E-05	9.441E-03
SB-125	4.779E-06	1.000E-04	4.779E-02
XE-133	4.240E-07		
XE-135	1.920E-07		
CS-137	1.268E-07	2.000E-05	6.342E-03
H-3	1.720E-01	3.000E-03	5.733E+01
Totals	6.346E-06 (@)		5.740E+01

Dissolved gas conc (uCi/ml) = 6.161E-07 (limit = 4.0E-1) _____ Tech
Minimum recirc time using 1 pump is 175. (min)
Sample saved for composite.....: _____ Date _____ Tech
Release limit (Ci).....: 6.700E-03
tal activity released to date (Ci).....: 1.613E-03
stimated volume this discharge (gal).....: 21000.
Estimated activity this discharge (Ci).....: 5.044E-04 (@)
Estimated total activity released (Ci).....: 2.117E-03 (@)

(@) these values do not include activity due to tritium

(1) Reduction factor.....: 1.742E-02 SM/US init

(2) Required dilution flow rate.....: 480000. (gpm) _____
3 circ water, 2 service water pump(s)
(3) Normal rate limit (flow rate=#1*#2*0.1)..: 150. (gpm) _____
(4) Liquid effluent monitor alert setting....: 1.500E-04 (uCi/ml) _____
(5) Liquid effluent monitor alarm setting....: 2.000E-04 (uCi/ml) _____
(6) Rad monitor source check completed at....: _____ _____Oper

Maximum approved rate.....: _____ (gpm) _____
(Authorization required to exceed normal rate limit.)

Dual verification of release rate calculation --->>> yes no _____(circle one)

*** DISCHARGE ***

DATE	TIME	DILUTION FLOW RATE (gpm)	TANK LEVEL (gallons)	DISCHARGE RATE (gpm)	OPERATOR

Start _____ _____ _____ _____ _____ _____

End _____ _____ _____ _____ _____ _____

Liquid eff monitor reading 15 min after start of discharge _____ (uCi/ml)
(This shall be a 10 minute average reading)

Liquid eff monitor reading after chamber flush _____ (uCi/ml)

Total liquid waste discharged = _____ (gal) * 3785 = _____ (ml)

SM/US _____ Date _____ Time _____

CHEM FORM 3809A-1 REV.1

[signature] Approval | 10/22/[illegible] Approval Date | 10/29/97 Effective Date | N/A PORC Mtg. No.

COPY

Unit 3 Liquid Radwaste Discharge Goals

Year: 2002

	Normal at Power Operations		Refueling and Cold Shutdown Outages		Annual Goal
	Action Level	Monthly Goal	Action Level	Monthly Goal	
Volume	150,000 gal/month	166,700 gal/month	150,000 gal/month	166,700 gal/month	2,000,000 gal
Activity	5.4E-03 Ci/month	5.4E-03 Ci/month	1.46E-02 Ci/month	1.46E-02 Ci/month	0.12 Ci
	1.1E-03 Ci/discharge		3.0E-03 Ci/discharge		

[signature] 1/7/02
Radwaste Coordinator / Date

Tank Limits: Using Mode 1-3 Ci/disch limit of 1.1E-03 Ci

Mode 1-3 LLWDT = 7.3E-05 µCi/ml

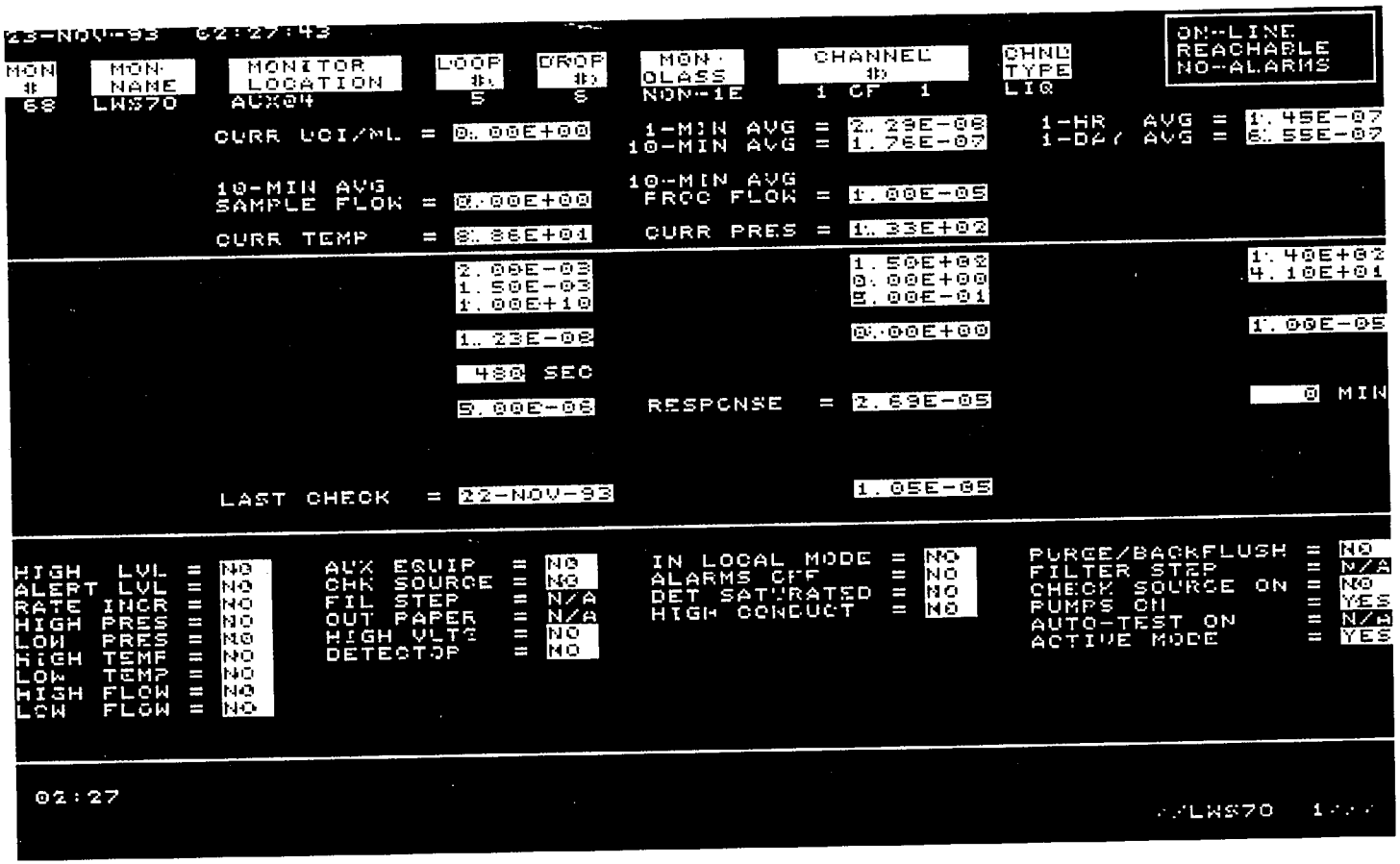
WTT = 1.4E-05 µCi/ml

Using Mode 4-6 Ci/disch limit of 3.0E-03 Ci

Mode 4-6 LLWDT = 2.0E-04 µCi/ml

WTT = 4.0E-05 µCi/ml

Chem Form 3800P-1
Rev. 0


23-NOV-93 02:27:43
MON # 68
MON NAME LWS70
MONITOR LOCATION AUX@4
LOOP #: 5
DROP #: 8
MON CLASS NON-IE
CHANNEL # 1 CF 1
CHNL TYPE LIQ
ON-LINE
REACHABLE
NO-ALARMS
CURR UCI/ML = 0.00E+00
1-MIN AVG = 2.29E-08
10-MIN AVG = 1.76E-07
1-HR AVG = 1.45E-07
1-DAY AVG = 8.55E-07
10-MIN AVG SAMPLE FLOW = 0.00E+00
10-MIN AVG PROC FLOW = 1.00E-05
CURR TEMP = 8.86E+01
CURR PRES = 1.33E+02
2.00E-03
1.50E-03
1.00E+10
1.23E-08
480 SEC
5.00E-08
1.50E+02
0.00E+00
8.00E-01
0.00E+00
RESPONSE = 2.69E-05
1.05E-05
1.40E+02
4.10E+01
1.00E-05
0 MIN
LAST CHECK = 22-NOV-93
HIGH LVL = NO
ALERT LVL = NO
RATE INCR = NO
HIGH PRES = NO
LOW PRES = NO
HIGH TEMP = NO
LOW TEMP = NO
HIGH FLOW = NO
LOW FLOW = NO
AUX EQUIP = NO
CHK SOURCE = NO
FIL STEP = N/A
OUT PAPER = N/A
HIGH VLTG = NO
DETECTOR = NO
IN LOCAL MODE = NO
ALARMS OFF = NO
DET SATURATED = NO
HIGH CONDUCT = NO
PURGE/BACKFLUSH = NO
FILTER STEP = N/A
CHECK SOURCE ON = NO
PUMPS ON = YES
AUTO-TEST ON = N/A
ACTIVE MODE = YES
02:27
../LWS70 1...

JOB PERFORMANCE MEASURE APPROVAL WORKSHEET

I. JPM Title: Provide the State a Protective Action Recommendation

JPM ID Number: SRO-A4 Revision: 0

II. Initiated:

Steve Jackson
Developer

2/25/02
Date

III. Reviewed:

Martin
Technical Reviewer

6/18/02
Date

IV. Approved:

N/A
Cognizant Plant Supervisor (optional)

Date

Nuclear Training Supervisor

6/19/02
Date

JOB PERFORMANCE MEASURE GUIDE

Facility: Millstone Unit 3

JPM ID Number: SRO-A4 Revision: 0

Task Title: Provide the State a Protective Action Recommendation

System: Admin, SERO

Time Critical Task: (X) YES ( ) NO

Validated Time (minutes): 10

Task Number(s): 345-05-006, Provide the State a Protective Action Recommendation

Applicable To: SRO X RO _____ PEO _____

K/A Number: GEN.2.4.44 K/A Rating: 4.0

Method of Testing: Simulated Performance: _____ Actual Performance: X

Location: Classroom: X Simulator: X In-Plant:: X

Task Standards: Provide the State a Protective Action Recommendation

Required Materials: MP-26-EPI-FAP01-001, Control Room DSEO, Rev. 000
MP-26-EPI-FAP06, Classification and PARs, Rev. 000
MP-26-EPI-FAP06-005, Control Room PARs, Rev. 000
MP-26-EPA-REF-08B, Millstone E-Plan Resource Book, Rev. 001
(Emergency Phone List / previously EPUG-08),

General References: MP-26-EPI-FAP06-001, EAL Tables, Rev. 000

*****READ TO THE STUDENT*****

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objectives for this JPM will be satisfied. You may use any approved reference material normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgements, and log entries as if the evolution was actually being performed.

JPM Number: SRO-A4 Revision: 0

Simulator Requirements: none

Initial Conditions: The Initial Conditions are covered in the Event Description.

Initiating Cues: You are the Shift Manager. You have assumed responsibility in the Control Room DSEO role. You are implementing EPI-FAP01-001, Control Room DSEO, section E. You have classified the event as a General Emergency - Alpha (GE-A) based on events in progress and the Incident Report Form (IRF) has been reviewed, approved and transmitted. Your task is to determine the State Protective Action Recommendation of the following event. Report to the examiner the conditions that support your recommendation, and inform the examiner when you have completed the task.

****** NOTES TO EVALUATOR ******

1. Critical steps for this JPM are indicated by an "X" after the step number. For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. The students performance is graded by an "S" for satisfactory or a "U" for unsatisfactory on each step.

2. When the student states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question the student for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM Number: SRO-A4 Revision: 0

Task Title: Provide the State a Protective Action Recommendation

Record Start Time: _____

STEP	1		**Performance Step:**	Recognize that EPI-FAP06 is applicable
GRADE			**Standards:**	Reviews EPI-FAP01 section E, "bullet" 8 for applicability and transitions to EPI-FAP06-005, Control Room PARs
			Grade:	**SAT** _____ **UNSAT** _____
			Comments:	Examinee may transition directly to EPI-FAP06-005.
STEP	2	X	**Performance Step:**	Refer to Section B: CR PAR Process Flowchart and determine the appropriate PAR
GRADE		X	**Standards:**	Reviews flowchart and diagnoses that all 3 barriers are lost and transitions down to "ALPHA - 10 Mile PARs"
			Grade:	**SAT** _____ **UNSAT** _____
STEP	3	X	**Performance Step:**	If PARs are warranted out to 10 miles: 1. Record the current wind direction in degrees (from): 2. Check the appropriate row on the PAR table
GRADE		X	**Standards:**	Records **190°**
GRADE		X	**Standards:**	Identifies correct zones to **evacuate** as **A** and **B** and **Montville** and **Waterford** in **C** and **Ledyard** in **E,** and **shelter** ALL other zones
			Grade:	**SAT** _____ **UNSAT** _____
			Comments:	Evacuate and Shelter recommendations must **both** be identified

PERFORMANCE INFORMATION

JPM Number: SRO-A4 Revision: 0

Task Title: Provide the State a Protective Action Recommendation

Cue: (contingency) Are any "Shelter" recommendations indicated?

STEP	4	X	**Performance Step:**	Contact the DEP Dispatcher in Hartford
GRADE		X	**Standards:**	Obtains telephone number from EPUG-08B and attempts to call
			Grade:	**SAT** _____ **UNSAT** _____

Cue: Examiner acts as DEP Dispatcher

STEP	5	X	**Performance Step:**	Identify self and read Evacuate and Shelter recommendations from Section B, "ALPHA - 10 Mile PARs."
GRADE		X	**Standards:**	Identifies self and state recommended zones to **evacuate** as **A** and **B** and **Montville** and **Waterford** in **C** and **Ledyard** in **E,** and **shelter** ALL other zones
			Grade:	**SAT** _____ **UNSAT** _____

Cue: Acknowledge receipt of PARs

STEP	6		**Performance Step:**	Request the dispatcher inform the DEP Duty Officer that a PAR has been issued
GRADE			**Standards:**	Requests the dispatcher inform the DEP Duty Officer that a PAR has been issued
			Grade:	**SAT** _____ **UNSAT** _____

Cue: Acknowledge receipt of request

PERFORMANCE INFORMATION

JPM Number: SRO-A4 Revision: 0

Task Title: Provide the State a Protective Action Recommendation

STEP	7		**Performance Step:**	Log date and time of notification
GRADE			**Standards:**	Uses either Auto-Log, SERO Log Sheet from EPI-FAP15-012 or other means to log date and time of DEP notification
			Cue:	Acknowledge candidate's attempt to log date and time of notification.
			Grade:	**SAT** _____ **UNSAT** _____
			Comments:	Mark Time. Time should be **less than 15 minutes**
			Comments:	Go to termination cue.

Termination Cue: The evaluation for this JPM is complete

Record Stop Time: _____

VERIFICATION OF JPM COMPLETION

JPM Number: SR0-A4 Revision: 0

Date Performed: _____

Student: _____

Evaluator: _____

For the student to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task? YES _____ NO _____

Validated Time (minutes): 10

Actual Time to Complete (minutes): _____

Result of JPM: _____ ("S" for satisfactory, "U" for unsatisfactory)

Result of oral questions (if applicable):

Number of Questions: _____

Number of Correct Responses: _____

Score: _____

Areas for Improvement:

STUDENT HANDOUT

JPM Number: **SRO-A4**

Initial Conditions: **The Initial Conditions are covered in the Event Description.**

Initiating Cues: **You are the Shift Manager. You have assumed responsibility in the Control Room DSEO role. You are implementing EPI-FAP01-001, Control Room DSEO, section E. You have classified the event as a General Emergency - Alpha (GE-A) based on events in progress and the Incident Report Form (IRF) has been reviewed, approved and transmitted. Your task is to determine the State Protective Action Recommendation of the following event. Report to the examiner the conditions that support your recommendation, and inform the examiner when you have completed the task.**

INITIATING CUE:

The plant is in Mode 3 performing a startup after a 24 outage to repair a TDFWP vibration problem.

CRITICAL PARAMETERS			
TIME	INFORMATION		SOURCE
0	RO reports pressurizer level going down rapidly.		MB indications
15	The following parameters exist:		MB indications
	RCS pressure	120 psia	
	PZR level	offscale low	
	CTMT Pressure	35 psia and rising	
	CETCs Subcooling	0°F	
	SPDS	Red Path - Integrity Orange Path - CTMT	
	CTMT temperature	230°F and rising	
	CTMT radiation RE04A/05A	575 R/hr and rising	
	Rx Tripped/SI Actuated	Operating normally	
	CDA Actuated	Operating normally	
	Security reports steam escaping from the containment equipment hatch.		Security report
	Met Tower- All levels of the Met Tower indicate the wind is from the South **(190°)** at 4 mph		PPC indication

Classification: NRC: GENERAL EMERGENCY State Posture Code: ALPHA
MP3 EAL: All Three Barriers (BG1)

EAL Table Designation: **CNB4** (Loss Ctmt) Steam escaping from the equipment hatch,
RCB2 (Loss RCS) subcooling <32°F,
FCB3 (Loss of fuel Clad) RE-04A/05A reading > 500 R/hr

2/13/02
Approval Date

2/14/02
Effective Date

Document Action Request

SPG# 020306 - 101438

A

Initiated By: Tom Gilbert Date 3/6/02 Department: EPSD Ext.: 3465

Document No.: MP-26-EPI-FAP06-005 Rev. No.: 000 Minor Rev.: 01

Title: Control Room Protective Action Recommendations

For New Documents only → ☐ QA RI Title

B

Reason for Request/Action (attach commitments, CRs, ARs, OEs etc)

Feedback from LORT. Assignment 01007179-02
Add '142ft level' to section A, #2A
Add 'from' in section B #1 table

Continued ☐

C D

Select one *(See MP-05-DC-SAP01 sect 2.3 to determine type of change)*

☐ Intent Change *(SQR Independent, RCD, Env Screen Required)* Other reviews may be required. See MP-05-DC-FAP 01.1 att 3 | ☐ Edit Corr.: | ☒ Non-Intent Change *(Only SQR Independent Review and Env. screen Required)*

Editorial Correction Approval

Plant Mgmt Staff Member - Approval

TPC Interim Approval

(1) Plant Mgmt Staff Member Print/Sign/Date

(2) SM/SRO/CFH Print/Sign/Date

E

Procedure Request/Feedback Disposition

Priority: ☒ Perform Now ☐ Perform Later

Activity: ☐ Revision ☒ Minor Revision *See DC-GDL01 for guidance* ☐ Cleanup Rev ☐ Biennial Review ☐ Cancellation ☐ Supercedure

☐ TPC ☐ OTC ☐ Place in VOID

F

Reviews continued ☐		Print	Sign	Date	SQR Qualified Yes	SQR Qualified No	SQR Qualified Dept.	✔ If Comments
	☐				☐	☐		
	☐				☐	☐		
RCD	☑	Tom Gilbert		3/7/02	☑	☐	EPD	
50.54Q	☒	Tom Gilbert		3/7/02	☑	☐	EPD	
Env Screen	☒	Tom Gilbert		3/7/02	☑	☐	EPD	
Licensing Basis	☐							
Tech Independent	☒	KR Burgess	KR Burgess	3/7/02			EPD	✓

G

An NRRL Update Required ☒ YES

H

1. ☒ **SQR Program Final Review and Approval**

Approval ☒ Disapproval ☐

Thomas Rigney 3-7-02
SQR Qualified Independent Reviewer / Date

Paul C. Dobbs
Dept Head / Responsible Individual

3/8/02
Approval Date

2 Final Review and Approval

☐ SORC ☐ RI/DH *(Ref Mans, GDLs, Handbooks)*

DH / RI Sign
Meeting No

SORC Signature

DH / RI Signature

Approval Date

I

Effective Date: 3/13/02

3/8/02
Approval Date

3/13/02
Effective Date

Control Room Protective Action Recommendations

NOTE

The State must be notified within 15 minutes after a decision is made to issue or update PARs. Prior to State EOC activation:

- If a General Emergency BRAVO is declared, State officials automatically implement a PAR to evacuate a 2 mile radius. The Incident Report Form serves as PAR notification in this instance.
- If a General Emergency ALPHA is declared with actions only necessary out to 5 miles, State officials automatically implement a PAR to evacuate a 5 mile radius. The Incident Report Form serves as PAR notification in this instance.
- If a General Emergency ALPHA is declared with actions necessary out to 10 miles, PARs are verbally transmitted to the 24 hour DEP Dispatcher in Hartford.

Section A: Evaluating Protective Action Recommendations (PARs)

☐ 1. Refer To Section B, "CR PAR Process Flowchart" and determine the appropriate PAR.

2. IF PARs are warranted out to ten miles, perform the following:

☐ a) Record the current wind direction in degrees (**from 142 ft level**): _____ ①

☐ b) Check the appropriate row on the PAR table.

3. Perform PAR notification as follows:

☐ a) IF conditions **do not** warrant PARs out to 10 miles, transmit the Incident Report Form to serve as notification of necessary PARs.

☐ b) IF conditions **do** warrant PARs out to 10 miles, verbally transmit PARs to the DEP Dispatcher in Hartford as follows:

(1) Contact the DEP Dispatcher in Hartford (number is in EPA-REF08B). ①

(2) Identify yourself and read the applicable EVACUATE and SHELTER recommendations from Section B, "ALPHA - 10 Mile PARs."

(3) Request the dispatcher inform the DEP Duty Officer that a PAR has been issued.

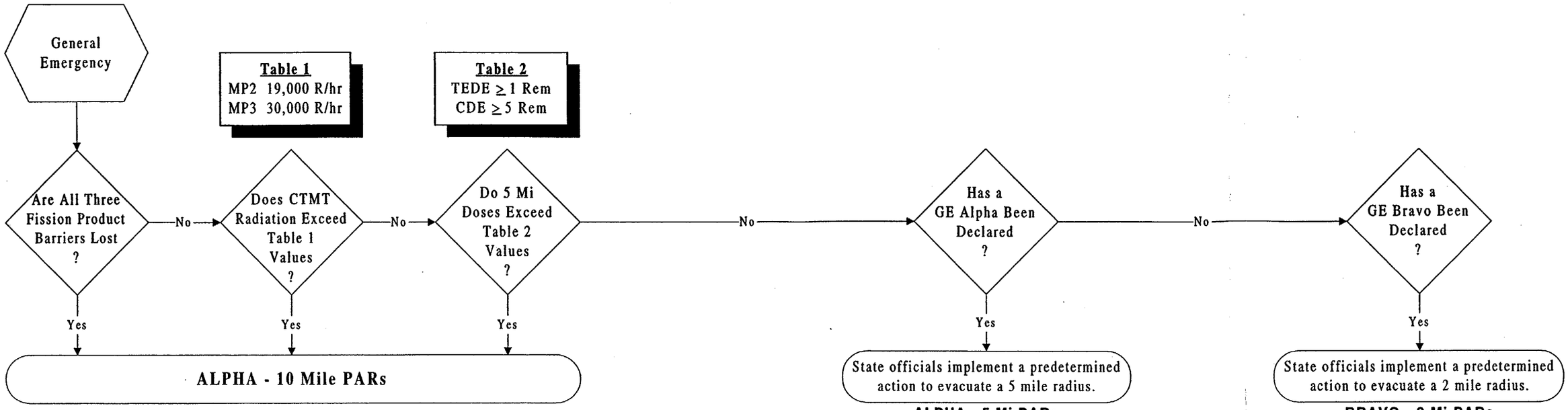
(4) Log the date and time of notification.

NOTE

The DEP Duty Officer will call back to verify the PAR and obtain additional information relative to public safety.

☐ 3. IF necessary, Refer To and review EPI-FAP06 Att 4, "PAR Zone Descriptions."

Section B: Control Room PAR Process Flowchart



1. EVACUATE THE FOLLOWING ZONES

✓	Wind From	Zones to Evacuate
	030°-051°	**A** and **B**
	052°-088°	**A** and **B** and **Old Lyme** in **D**
	089°-093°	**A** and **B** and **D**
	094°-138°	**A** and **B** and **D** and **East Lyme** in **C**
	139°-154°	**A** and **B** and **C** and **Lyme** in **D**
	155°-177°	**A** and **B** and **C**
	178°-186°	**A** and **B** and **Montville** and **Waterford** in **C**
	187°-193°	**A** and **B** and **Montville** and **Waterford** in **C** and **Ledyard** in **E**
	194°-218°	**A** and **B** and **E** and **Montville** and **Waterford** in **C**
	219°-229°	**A** and **B** and **E** and **Waterford** in **C**
	230°-244°	**A** and **B** and **E**
	245°-257°	**A** and **B** and **Groton City & Town** in **E**
	258°-286°	**A** and **B** and **F** and **Groton City & town** in **E**
	287°-316°	**A** and **B** and **F**
	317°-339°	**A** and **B**
	340°-029°	**A** and **B** and **Plum Island**

2. SHELTER ALL OTHER ZONES

①

3.5. Government Agencies State

Connecticut Department of Agriculture	
Shellfish Sanitation Unit	203-874-0696 (Business hours)
	203-783-9976 (Fax)
(After hours call DEP Dispatch)	860-424-3333 (24 hr)
Connecticut Department of Transportation (D.O.T) Highway Operations Center	860-594-3447 (24 hr)
Connecticut Department of Environmental Protection	860-424-3333 (24 hr)
Division of Radiation , Hartford,CT	
Edward L. Wilds	860-424-3029 (B) Secretary answers
	860-376-3469 (H)
Denny Galloway	860-424-3525 (B)
	860-464-1627 (H)
	860-424-4065 (Fax) 4063 (Backup)
(If unavailable)	860-424-3029 (B) Secretary
Water Management Hartford, CT	860-424-3000 DEP office info.
	860-424-3018 Permitting
	860-424-3018 Water Management
	8:00 a.m. - 5:00 pm (Business hours)
	860-424-3704 Water Planning
	860-724-7135 Security Ext. 5200
Oil and Chemical Spill Unit Hartford, CT	860-424-3024 (Business hours, Director)
DEP Dispatch (All divisions)	*860-424-3338 (24 hr) Primary
	860-424-4066 (Fax)
Governor's Office-	860-566-4840 (B) (8:00 - 5:00) Main Switchboard
Troop K	
Colchester, CT (Area 4 Coordinator) Anthony Scalora	1-800-546-0713 Ext. 7560/7561
	Direct dial (860) 537-7560/7561
	Pager # 860-842-9753
	860-537-7564 (Fax)
State Office of Emergency Management Hartford, Connecticut (Headquarters)	860-566-3180 (24 hr)
John Wiltse	860-566-3180