

INITIAL SUBMITTAL OF THE ADMINISTRATIVE JPMS

FOR THE KEWAUNEE INITIAL EXAMINATION - AUG/SEP 2002

EMERGENCY RWP APPROVAL

K/A REFERENCE: Gen - 2.3.1 (2.6/3.0)
(NUREG-1122) 2.3.4 (2.5/3.1)
2.3.10 (2.9/3.3)

ALTERNATE PATH JPM _____ YES X NO

PERFORMANCE CHECKLIST:

SATISFACTORY - Properly performed critical step(s) and/or in sequence (if applicable)

UNSATISFACTORY - Improperly performed critical step(s) and/or out of sequence (if applicable)

X Procedure adequately addresses task elements.
Enter identifier here: EP-AD-11, Emergency
Radiation Controls

_____ Other document adequately describes necessary task elements.
Enter identifier here: _____

X Task elements described as attached.

DESIRED MODE OF EVALUATION:

APPLICABLE EVALUATION SETTING:

SIMULATE/WALKTHROUGH _____ DISCUSSION _____ PERFORM X IN-PLANT X CONTROL ROOM X

VALIDATED TIME FOR COMPLETION: 10 MINUTES

EMERGENCY RWP APPROVAL

EXAMINEE _____ EVALUATOR _____

START TIME _____ FINISH TIME _____

PERFORMANCE SAT UNSAT

JOB TITLE: AOT COT SRO STA

TOOLS/EQUIPMENT/REFERENCES:

EPIP-AD-11, Emergency Radiation Controls
EPIPF-AD-11-01, Emergency Radiation Work Permit

TASK STANDARDS:

The Emergency RWP is NOT approved due to the high dose expected to be received for the given activity.

SIMULATOR INFORMATION:

| TIME | FAIL | COMPONENT | OPTION | VALUE | RAMP | DELAY | ACT | COND |
|------|------|-----------|--------|-------|------|-------|-----|------|
| NONE | | | | | | | | |

NOTE: *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.*

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EMERGENCY RWP APPROVAL

READ AND PROVIDE TO THE EXAMINEE

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EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

For all two and three-way communications, make your report to me, the JPM evaluator. I will reply to your reports with the statement, "acknowledge." All actions in the plant are to be simulated and all actions in the simulator will be performed. Ensure you make it clear to me, the evaluator, of all actions you are taking so that credit may be given for completing each step of the task.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

- You are the Emergency Director.
- The plant has experienced a large break LOCA.
- Containment sump recirculation has been established with RHR Train B per ES-1.3, Transfer To Containment Sump Recirculation.
- RHR Train A is still lined up to the RWST.
- Prior to the event, RHR Pump A Pit Covers were removed for maintenance.
- The suction pressure gauge for RHR Pump A is reported to have blown off and is leaking into RHR Pump A pit.
- The gauge can be isolated by closing valve RHR-11276.
- The pump is in danger of being damaged by the rising water level.
- In lieu of shutting down and isolating the pump, an Auxiliary Operator has been directed to enter the RHR Pump pit and isolate the valve to prevent pump damage.
- The task should take 5-6 minutes to perform.
- The radiation level in the general area of RHR Pump A is 200,000 mR/hr (200 R/hr).

INITIATING CUES (IF APPLICABLE):

Evaluate the Emergency Radiation Work Permit for closing RHR-11276 and approve or deny the permit.

EMERGENCY RWP APPROVAL

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

| | | | |
|------------------|------------------------|-------|-------|
| START TIME _____ | STEP/SEQUENCE/CRITICAL | SAT | _____ |
| | 1 1 N | UNSAT | _____ |

ELEMENT: Refer to EP-AD-11, Emergency Radiation Controls.

STANDARD: EP-AD-11 is referenced.

CUE:

COMMENTS:

| | | | |
|--|------------------------|-------|-------|
| | STEP/SEQUENCE/CRITICAL | SAT | _____ |
| | 2 1 Y | UNSAT | _____ |

ELEMENT: Determine total expected dose for the task.

STANDARD: Initial conditions and/or EPIPF-AD-11.01, Emergency Radiation Work Permit, is referenced to determine total dose.

CUE:

NOTE: *Estimated dose and estimated man-hours are not filled in on the Emergency Radiation Work Permit in order to require the examinee to calculate these values. Estimated dose based on given conditions 16.7-20 Rem.*

COMMENTS:

EMERGENCY RWP APPROVAL

PERFORMANCE INFORMATION

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STEP/SEQUENCE/CRITICAL
3 2 Y

SAT _____
UNSAT _____

ELEMENT: Compare dose for the task to the limits of EPIP-AD-11.

STANDARD: Determines that the exposure limit for protection of valuable property (equipment) is 10 Rem from EPA Radiation Dose Guidelines Table (EPA-400). Dose estimated for the task is GREATER than the allowed limit.

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
4 3 Y

SAT _____
UNSAT _____

ELEMENT: Evaluate approval of EPIPF-AD-11-01, Emergency Radiation Work Permit.

STANDARD: The Emergency Radiation Work Permit is DENIED based on the radiation levels exceeding the allowable for equipment protection.

CUE:

COMMENTS:

TERMINATION CUE: THIS COMPLETES THE JPM.

COMPLETION TIME: _____

CLASSIFY AN EVENT PER THE EMERGENCY PLAN

K/A REFERENCE: Gen - 2.4.41 (2.3/4.1)
(NUREG-1122) Gen - 2.4.44 (2.1/4.0)

ALTERNATE PATH JPM _____ YES X NO

PERFORMANCE CHECKLIST:

SATISFACTORY - Properly performed critical step(s) and/or in sequence (if applicable)

UNSATISFACTORY - Improperly performed critical step(s) and/or out of sequence (if applicable)

X Procedure adequately addresses task elements.
Enter identifier here: EPIP-AD-02

_____ Other document adequately describes necessary task elements.
Enter identifier here: _____

X Task elements described as attached.

DESIRED MODE OF EVALUATION:

APPLICABLE EVALUATION SETTING:

SIMULATE/WALKTHROUGH X DISCUSSION _____ PERFORM _____ IN-PLANT _____ CONTROL ROOM X

VALIDATED TIME FOR COMPLETION: 20 MINUTES

CLASSIFY AN EVENT PER THE EMERGENCY PLAN

EXAMINEE _____ EVALUATOR _____

START TIME _____ FINISH TIME _____

PERFORMANCE SAT UNSAT

JOB TITLE: AOT COT SRO STA

TOOLS/EQUIPMENT/REFERENCES:

EPIP-AD-02, Emergency Class Determination, Rev AC
EPIPF-AD-07-01, Rev S

TASK STANDARDS:

A General Emergency is declared.
Identified critical sections of EPIPF-AD-07-01 are completed correctly and within the required time frame.

SIMULATOR INFORMATION:

| |
|------|
| NONE |
|------|

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CLASSIFY AN EVENT PER THE EMERGENCY PLAN

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DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

You are the Shift Manager.
The plant was manually tripped due to an RCS leak, which exceeded the makeup capacity of the charging pumps.
A complete loss of off-site power occurred after the trip, coupled with failures of both A and B Emergency Diesel Generators.
RCS pressure is 50 psig and lowering.
Pressurizer level is off-scale low.
Core Exit Thermocouples indicate 550 °F.
Containment pressure is 27 psig and rising.
Containment High Range Radiation Monitors R-40 and R-41 are indicating 200 R/hr.
Steam Generator A Narrow Range is at 20%, Steam Generator B Narrow Range level is at 16%.
Auxiliary feedwater flow is 300 gpm.
Wind speed and direction (both inland and at site) is 10 mph and 180°.
The control room crew is implementing the appropriate emergency procedures.
The Shift Manager is implementing the Emergency Plan.

INITIATING CUES (IF APPLICABLE):

You are implementing EPIP-AD-02 and are to perform the following:

- Per step 5.1 of EPIP-AD-02, classify the event based only on the above conditions.
- After classifying the event, complete Event Notice form EPIPF-AD-07-01 per step 5.1.7 of either EPIP-AD-03 or EPIP-AD-04 (procedure selection as appropriate based on the classification). This portion of the JPM is time critical.

CLASSIFY AN EVENT PER THE EMERGENCY PLAN

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

| | | |
|-------------------------|-------------------------------|--------------------|
| START TIME _____ | STEP/SEQUENCE/CRITICAL | SAT _____ |
| | 1 1 Y | UNSAT _____ |

ELEMENT: Determine the category of the event using Table 2-1 EPIP-AD-02.

STANDARD: Examinee determines that a General Emergency declaration is required based on Table EPIP-AD-02, Chart C.

- A LOCA has occurred.
- The SI and RHR pumps are not running (all de-energized).
- Containment pressure is greater than 23 psig with loss of all containment fan coil units and both trains of containment spray (all de-energized).

CUE:

COMMENTS:

| | | |
|--|-------------------------------|--------------------|
| | STEP/SEQUENCE/CRITICAL | SAT _____ |
| | 2 2 Y | UNSAT _____ |

ELEMENT: Appropriate sections of Event Notice form EPIPF-AD-07-01 filled out correctly.

STANDARD: EPIPF-AD-07-01 completed consistent with given conditions and within required time frame (< 15 minutes). Time critical portion starts at the time of declaration and ends when the Emergency Director approval is requested.
A completed Event Notice form is attached for grading purposes. Critical step items of the form include items 3, 4, and 9.

CUE: **When the examinee requests approval from the Emergency Director (Shift Manager), the JPM is complete.**

COMMENTS:

TERMINATION CUE: THIS COMPLETES THE JPM. **COMPLETION TIME:** _____

REVIEW A TAGOUT

K/A REFERENCE: Gen – 2.2.13 (3.6/3.8)
(NUREG-1122)

ALTERNATE PATH JPM _____ YES X NO

PERFORMANCE CHECKLIST:

SATISFACTORY - Properly performed critical step(s) and/or in sequence (if applicable)

UNSATISFACTORY - Improperly performed critical step(s) and/or out of sequence (if applicable)

X Procedure adequately addresses task elements.
Enter identifier here: GNP-03.03.01, Rev. K

_____ Other document adequately describes necessary task elements.
Enter identifier here: _____

X Task elements described as attached.

DESIRED MODE OF EVALUATION:

APPLICABLE EVALUATION SETTING:

SIMULATE/WALKTHROUGH _____ DISCUSSION _____ PERFORM X IN-PLANT _____ CONTROL ROOM _____

VALIDATED TIME FOR COMPLETION: 20 MINUTES

REVIEW A TAGOUT

EXAMINEE _____ EVALUATOR _____

START TIME _____ FINISH TIME _____

PERFORMANCE SAT UNSAT

JOB TITLE: AOT COT SRO STA

TOOLS/EQUIPMENT/REFERENCES:

Tag Number 02-9999
GNP-03.03.01, Tagout Processing, Rev. K
PMP 35-09, CVC-QA-1 Charging Pump Pulsation Dampener Maintenance, Rev P
N-CVC-35B-CL, Charging and Volumn Control Prestartup Checklist, Rev AK
Drawing OPERXK-100-36, Flow Diagram Chemical and Volumn Control Sys., Rev AU

TASK STANDARDS:

Two discrepancies identified during the review of Tagout.

REVIEW A TAGOUT

SIMULATOR INFORMATION:

Admin JPM – No simulator information needed.

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REVIEW A TAGOUT

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DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

Charging Pump B pulsation dampener maintenance is scheduled to be performed.
The computerized tagout system is out of service.
A handwritten tagout has been developed to isolate Charging Pump B.

INITIATING CUES (IF APPLICABLE):

The CRS directs you to perform a Tagout Placement Adequacy/Accuracy Verification for Tag Number 02-9999 and report any discrepancies.

REVIEW A TAGOUT

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

| | | |
|------------------|------------------------|-------------|
| START TIME _____ | STEP/SEQUENCE/CRITICAL | SAT _____ |
| | 1 1 N | UNSAT _____ |

ELEMENT: Obtain and review references as needed to determine tagging series adequacy.

STANDARD: As above. References include those on coversheet of the JPM.

NOTE: **The examiner should keep the examinee focused on the tag series review using available references (i.e. plant walk-down, review of requesting individual documentation, or review of individual tags is not necessary).**

CUE:

COMMENTS:

| | | |
|--|------------------------|-------------|
| | STEP/SEQUENCE/CRITICAL | SAT _____ |
| | 2 1 Y | UNSAT _____ |

ELEMENT: Determine if specified tag series boundaries are adequate for worker safety and scope of work.

STANDARD: Examinee identifies that the identified breaker for Charging Pump B is incorrect. Breaker equipment number and card location is identified as MCC62E-A5, and should be MCC62-A6.

CUE:

COMMENTS:

REVIEW A TAGOUT

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

STEP/SEQUENCE/CRITICAL
3 1 Y

SAT _____
UNSAT _____

ELEMENT: Determine if specified tag series boundaries are adequate for worker safety and scope of work.

STANDARD: Examinee determines that the required placement and restoration position for CVC-30B Casing Vent is reversed. Placement position for CVC-30B is listed as OPEN (should be CLOSED). Restoration position for CVC-30B is listed as CLOSED (should be OPEN).

CUE:

NOTE: *When examinee has indicated and discussed the identified discrepancies, the JPM can be terminated.*

COMMENTS:

TERMINATION CUE: THIS COMPLETES THIS JPM.

COMPLETION TIME: _____

PERFORM A PRECRITICAL CHECKLIST

K/A REFERENCE: Gen – 2.1.31 (4.2/3.9)
(NUREG-1122)

ALTERNATE PATH JPM _____ YES X NO

PERFORMANCE CHECKLIST:

SATISFACTORY - Properly performed critical step(s) and/or in sequence (if applicable)

UNSATISFACTORY - Improperly performed critical step(s) and/or out of sequence (if applicable)

X Procedure adequately addresses task elements.
Enter identifier here: N-0-02-CLB, Rev. AM

_____ Other document adequately describes necessary task elements.
Enter identifier here: _____

_____ Task elements described as attached.

DESIRED MODE OF EVALUATION:

APPLICABLE EVALUATION SETTING:

SIMULATE/WALKTHROUGH _____ DISCUSSION _____ PERFORM X IN-PLANT _____ CONTROL ROOM _____

VALIDATED TIME FOR COMPLETION: 10 MINUTES

PERFORM A PRECRITICAL CHECKLIST

EXAMINEE _____ EVALUATOR _____

START TIME _____ FINISH TIME _____

PERFORMANCE SAT UNSAT

JOB TITLE: AOT COT SRO STA

TOOLS/EQUIPMENT/REFERENCES:

N-0-02-CLB, Precritical Checklist

TASK STANDARDS:

Three discrepancies identified in steps, 2.3 and 2.4 of N-0-02-CLB, Precritical Checklist, Rev. AM.

PERFORM A PRECRITICAL CHECKLIST

SIMULATOR INFORMATION:

Simulator setup to include:

- “A” SI Accumulator at 22%.
- SI-11B in CLOSED position (indication)
- RHR Pump “B” has NO indicating lights lit (control power failure)

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INITIAL CONDITIONS:

N-0-02-CLB, Precritical Checklist was begun last shift and turned over to your crew.

INITIATING CUES (IF APPLICABLE):

The CRS directs you to complete the remaining portions of steps 2.3 and 2.4 of N-0-02-CLB, Precritical Checklist, Rev. AM as the First Operator and report any discrepancies.

PERFORM A RADIATION MONITOR
FUNCTIONAL TEST

K/A REFERENCE: Gen – 2.3.1 (2.6/3.0)
(NUREG-1122)

ALTERNATE PATH JPM _____ YES X NO

PERFORMANCE CHECKLIST:

SATISFACTORY - Properly performed critical step(s) and/or in sequence (if applicable)

UNSATISFACTORY - Improperly performed critical step(s) and/or out of sequence (if applicable)

X Procedure adequately addresses task elements.

Enter identifier here: N-RM-45, Radiation Monitoring System

_____ Other document adequately describes necessary task elements.

Enter identifier here: _____

X Task elements described as attached.

DESIRED MODE OF EVALUATION:

APPLICABLE EVALUATION SETTING:

SIMULATE/WALKTHROUGH _____ DISCUSSION _____ PERFORM X IN-PLANT _____ CONTROL ROOM X

VALIDATED TIME FOR COMPLETION: 15 MINUTES

PERFORM A RADIATION MONITOR
FUNCTIONAL TEST

EXAMINEE _____ EVALUATOR _____

START TIME _____ FINISH TIME _____

PERFORMANCE SAT UNSAT

JOB TITLE: AOT COT SRO STA

TOOLS/EQUIPMENT/REFERENCES:

N-RM-45, Radiation Monitoring System.
Key #290-294 for Keyswitch operations.
A-RM-45, Abnormal Radiation Monitoring System

TASK STANDARDS:

The functional test for radiation monitor R-11 is completed per N-RM-45.

SIMULATOR INFORMATION:

Initialize to a Cold Shutdown IC or a JPM specific saved IC.

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PERFORM A RADIATION MONITOR
FUNCTIONAL TEST

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DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

- You are the Reactor Operator.
- The unit is shutdown and is making preparations to start refueling operations.
- N-FH-53-CLC, Pre-Refueling Checklist, is being performed and a functional test of Containment Particulate Monitor R-11 is required.

INITIATING CUES (IF APPLICABLE):

The CRS has directed you to perform a functional test of R-11 per step 4.2.3 of N-RM-45.

PERFORM A RADIATION MONITOR
FUNCTIONAL TEST

PERFORMANCE INFORMATION

NOTE: CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.

| | | |
|------------------|------------------------|-------------|
| START TIME _____ | STEP/SEQUENCE/CRITICAL | SAT |
| | 1 1 Y | UNSAT _____ |

ELEMENT: Obtain key for radiation monitor testing

STANDARD: Key is requested from the Shift Manager.

CUE: **Key is provided to the examinee.**

NOTE: The key is normally kept in the Shift Manager's Key Locker.

COMMENTS:

| | | |
|--|------------------------|-------------|
| | STEP/SEQUENCE/CRITICAL | SAT |
| | 2 2 Y | UNSAT _____ |

ELEMENT: Place keyswitch to KEYPAD.

STANDARD: Key is inserted into keyswitch for R-11 and rotated to the KEYPAD position.

CUE:

COMMENTS:

| | | |
|--|------------------------|-------------|
| | STEP/SEQUENCE/CRITICAL | SAT |
| | 3 3 Y | UNSAT _____ |

ELEMENT: Enter Test mode.

STANDARD: Test Mode is entered by depressing the Test button for 5 seconds.

CUE:

COMMENTS:

PERFORM A RADIATION MONITOR
FUNCTIONAL TEST

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

STEP/SEQUENCE/CRITICAL
4 4 Y

SAT _____
UNSAT _____

ELEMENT: Select RELAYS ACTIVE.

STANDARD: Increase button is depressed to select RELAYS ACTIVE.

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
5 5 Y

SAT _____
UNSAT _____

ELEMENT: Enter Test 1.

STANDARD: Set button is depressed to enter Test 1. The following items are required to be verified:

- Count rate increasing.
- Alert alarm light ON.
- Radiation Indication Alert (Annunciator 47012-B) On.

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
6 6 Y

SAT _____
UNSAT _____

ELEMENT: Exit Test Mode.

STANDARD: Mode button is depressed to exit the Test Mode.

CUE:

COMMENTS:

PERFORM A RADIATION MONITOR
FUNCTIONAL TEST

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

STEP/SEQUENCE/CRITICAL
7 7 N

SAT _____
UNSAT _____

ELEMENT: Verify R-11 indications return to normal.

STANDARD: Count rate verified to return to normal background (pre-test) levels.

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
8 8 Y

SAT _____
UNSAT _____

ELEMENT: Reset alarm.

STANDARD: Reset button is depressed to reset alarm.

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
9 9 Y

SAT _____
UNSAT _____

ELEMENT: Enter Test Mode.

STANDARD: Test Mode is entered by depressing the Test button for 5 seconds.

CUE:

COMMENTS:

PERFORM A RADIATION MONITOR
FUNCTIONAL TEST

PERFORMANCE INFORMATION

NOTE: CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.

STEP/SEQUENCE/CRITICAL
10 10 Y

SAT _____
UNSAT _____

ELEMENT: Select RELAYS ACTIVE.

STANDARD: Increase button is depressed to select RELAYS ACTIVE.

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
11 11 Y

SAT _____
UNSAT _____

ELEMENT: Enter Test 2.

STANDARD: Set button is depressed to enter Test 2. The following items are required to be verified:

- Count rate increasing.
- Alert and High alarm lights ON
- Radiation Indication Alert (Annunciator 47012-B) ON.
- Radiation Indication High (Annunciator 47011-B) ON.
- Automatic actuations have occurred. NOTE: A list of valves/dampers receiving an automatic isolation signal is found in A-RM-45. These valves/dampers are:
 1. TAV-12/CD-34033, Cntmt Purge/Vent Supply.
 2. RBV-2/CV-31126, Cntmt Purge/Vent Supply B.
 3. RBV-5/CV-34006, Cntmt Purge/Vent Exhaust.
 4. RBV-3/CV-31124, Cntmt Purge/Vent Exhaust B.
 5. SA-7003B/MV-32148, Hydrogen dilution to Cntmt.
 6. LOCA-2B/MV-32146, Post LOCA H₂ Cntmt Vent Isol B.

CUE:

COMMENTS:

PERFORM A RADIATION MONITOR
FUNCTIONAL TEST

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

STEP/SEQUENCE/CRITICAL
12 12 Y

SAT _____
UNSAT _____

ELEMENT: Exit Test Mode

STANDARD: Mode button is depressed to exit the Test Mode.

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
13 13 N

SAT _____
UNSAT _____

ELEMENT: Verify R-11 indications return to normal.

STANDARD: Count rate verified to return to normal background (pre-test) levels.

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
14 14 Y

SAT _____
UNSAT _____

ELEMENT: Reset alarms.

STANDARD: Reset button is depressed to reset alarms.

CUE:

COMMENTS:

PERFORM A RADIATION MONITOR
FUNCTIONAL TEST

PERFORMANCE INFORMATION

NOTE: CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.

STEP/SEQUENCE/CRITICAL
15 15 Y

SAT _____
UNSAT _____

ELEMENT: Place Keyswitch to ON.

STANDARD: Key for R-11 is rotated to the ON position.

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
16 16 N

SAT _____
UNSAT _____

ELEMENT: Return components affected by auto actuation to their pretest position.

STANDARD: Examinee determines that Containment ventilation must be re-established.

CUE: Containment ventilation will be established by the BOP operator.

COMMENTS:

STEP/SEQUENCE/CRITICAL
17 17 N

SAT _____
UNSAT _____

ELEMENT: Inform supervision of test results.

STANDARD: The CRS is notified that the functional test of R-11 was completed satisfactorily.

CUE: CRS acknowledges the report.

COMMENTS:

TERMINATION CUE: THIS COMPLETES THE JPM.

COMPLETION TIME: _____

MANUALLY START THE CRPA RECIRCULATION
SYSTEM

K/A REFERENCE: Gen – 2.4.28 (2.3/3.3)
(NUREG-1122) 2.4.29 (2.6/4.0)
2.4.39 (3.3/3.1)

ALTERNATE PATH JPM _____ YES X NO

PERFORMANCE CHECKLIST:

SATISFACTORY - Properly performed critical step(s) and/or in sequence (if applicable)

UNSATISFACTORY - Improperly performed critical step(s) and/or out of sequence (if applicable)

X Procedure adequately addresses task elements.

Enter identifier here: E-ACC-25, Emergency Control Room A/C
System Operation

_____ Other document adequately describes necessary task elements.

Enter identifier here: _____

X Task elements described as attached.

DESIRED MODE OF EVALUATION:

APPLICABLE EVALUATION SETTING:

SIMULATE/WALKTHROUGH _____ DISCUSSION _____ PERFORM X IN-PLANT _____ CONTROL ROOM X

VALIDATED TIME FOR COMPLETION: 5 MINUTES

MANUALLY START THE CRPA RECIRCULATION
SYSTEM

EXAMINEE _____ EVALUATOR _____

START TIME _____ FINISH TIME _____

PERFORMANCE SAT UNSAT

JOB TITLE: AOT COT SRO STA

TOOLS/EQUIPMENT/REFERENCES:

E-ACC-25, Emergency Control Room A/C System Operation, Rev N.

TASK STANDARDS:

The Control Room Post Accident (CRPA) Recirculation System is aligned per step 4.2 of E-ACC-25.

SIMULATOR INFORMATION:

Initialize to any at power IC or specific saved IC for this JPM.

NOTE: If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.

NOTE: Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.

MANUALLY START THE CRPA RECIRCULATION
SYSTEM

READ AND PROVIDE TO THE EXAMINEE

THIS SECTION IS READ ONCE FOR THE ENTIRE PACKAGE OF JPMs. IT IS NOT REQUIRED TO REVIEW THIS SECTION FOR EVERY JPM BEING PERFORMED IN THE PACKAGE. THE INITIAL CONDITIONS AND INITIATING CUE(S)/TASKS TO BE PERFORMED SHOULD BE READ AND THEN PROVIDED TO THE EXAMINEE.

After I read you the initial conditions and initiating cue(s)/task to be performed for this JPM and provide you a copy of the same, you may review and begin. Once you have completed the task, indicate completion by handing back this form to the evaluator unless otherwise told.

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

For all two and three-way communications, make your report to me, the JPM evaluator. I will reply to your reports with the statement, "acknowledge." All actions in the plant are to be simulated and all actions in the simulator will be performed. Ensure you make it clear to me, the evaluator, of all actions you are taking so that credit may be given for completing each step of the task.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

You are the BOP Control Room Operator.
The Control Room has been notified by Security that an actual attack by hostile forces is in progress on the Kewaunee Nuclear Power Plant site.
The Emergency Plan has been activated.
The appropriate Emergency procedures are being implemented.
Security has also informed the Control Room that information has been received which indicates the possibility that the hostile forces may possess a chemical weapon.

INITIATING CUES (IF APPLICABLE):

The CRS has directed that the Control Room Post Accident Recirculation (CRPA) System be manually started per step 4.2 of E-ACC-25, Emergency Control Room A/C System Operation.

MANUALLY START THE CRPA RECIRCULATION
SYSTEM

PERFORMANCE INFORMATION

NOTE: CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.

| | | | | |
|------------------|------------------------|---|---|-------------|
| START TIME _____ | STEP/SEQUENCE/CRITICAL | | | SAT _____ |
| | 1 | 1 | Y | UNSAT _____ |

ELEMENT: Close ACC-1A/MD-32367, Control Room Fresh Air Inlet Damper A.

STANDARD: Control Room Fresh Air Inlet Damper A is CLOSED by momentarily positioning the Control Room Fresh Air Inlet Selector switch to ALT, ACC-1A green light ON, red light OFF.

CUE:

COMMENTS:

| | | | | |
|--|------------------------|---|---|-------------|
| | STEP/SEQUENCE/CRITICAL | | | SAT _____ |
| | 2 | 2 | Y | UNSAT _____ |

ELEMENT: Start CRPA Recirculation Fan A.

STANDARD: CRPA Recirculation Fan A is started by placing its control switches to START, red light ON, green light OFF.

CUE:

COMMENTS:

| | | | | |
|--|------------------------|---|---|-------------|
| | STEP/SEQUENCE/CRITICAL | | | SAT _____ |
| | 3 | 2 | Y | UNSAT _____ |

ELEMENT: Start CRPA Recirculation Fan B.

STANDARD: CRPA Recirculation Fan B is started by placing its control switches to START, red light ON, green light OFF.

CUE:

COMMENTS:

MANUALLY START THE CRPA RECIRCULATION
SYSTEM

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

STEP/SEQUENCE/CRITICAL
4 3 N

SAT _____
UNSAT _____

ELEMENT: ACC-3A, CRPA Recirculation Damper A, is OPENED.

STANDARD: ACC-3A/MD-32397 is OPENED by placing its control switch to OPEN, red light ON, green light OFF.

CUE:

COMMENTS:

NOTE: Control switch must be held in the OPEN position until damper is full open.

STEP/SEQUENCE/CRITICAL
5 3 Y

SAT _____
UNSAT _____

ELEMENT: ACC-3B, CRPA Recirculation Damper B, is OPENED.

STANDARD: ACC-3B/MD-32371 is OPENED by placing its control switch to OPEN, red light ON, green light OFF.

CUE:

COMMENTS:

NOTE: Control switch must be held in the OPEN position until damper is full open.

MANUALLY START THE CRPA RECIRCULATION
SYSTEM

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

STEP/SEQUENCE/CRITICAL
6 4 N

SAT _____
UNSAT _____

ELEMENT: Locally verify ACC-5, Control Room Outside Air Bypass Damper, is CLOSED.

STANDARD: Field operator contacted to verify the ACC-5 is CLOSED.

CUE: Field operator reports that damper ACC-5, Control Room Outside Air Bypass Damper, is CLOSED.

COMMENTS:

STEP/SEQUENCE/CRITICAL
7 5 N

SAT _____
UNSAT _____

ELEMENT: CRS is notified of the CRPA Recirculation System status.

STANDARD: CRS is notified that step 4.2 of E-ACC-25 is complete and the CRPA Recirculation System is running.

CUE: CRS acknowledges the report.

COMMENTS:

TERMINATION CUE: THIS COMPLETES THE JPM.

COMPLETION TIME: _____

PERFORM A MANUAL ESTIMATED CRITICAL
POSITION CALCULATION

K/A REFERENCE: Gen – 2.1.25 (2.8/3.1)
(NUREG-1122)

ALTERNATE PATH JPM _____ YES X NO

PERFORMANCE CHECKLIST:

SATISFACTORY - Properly performed critical step(s) and/or in sequence (if applicable)

UNSATISFACTORY - Improperly performed critical step(s) and/or out of sequence (if applicable)

X Procedure adequately addresses task elements.
Enter identifier here: N-CRD-49D, Calculating Estimated
Critical Position for Reactor Startup

_____ Other document adequately describes necessary task elements.
Enter identifier here: _____

X Task elements described as attached.

DESIRED MODE OF EVALUATION:

APPLICABLE EVALUATION SETTING:

SIMULATE/WALKTHROUGH _____ DISCUSSION _____ PERFORM X IN-PLANT _____ CONTROL ROOM X

VALIDATED TIME FOR COMPLETION: 20 MINUTES

PERFORM A MANUAL ESTIMATED CRITICAL
POSITION CALCULATION

EXAMINEE _____ EVALUATOR _____

START TIME _____ FINISH TIME _____

PERFORMANCE SAT UNSAT

JOB TITLE: AOT COT SRO STA

TOOLS/EQUIPMENT/REFERENCES:

Reactor Data Manual
N-CRD-49D, Calculating Estimated Critical Position for Reactor Startup.
Calculator

TASK STANDARDS:

The Estimated Critical Position is completed and critical boron concentration determined to be 934 ppm \pm 13.
Maximum and minimum Bank D rod positions is determined to be 171 steps (+0, -1) and 51 steps (+1,-0).

NOTE: A completed ECP calculation is included with this JPM for grading purposes. Some minor differences may exist due to reading of the various graphs in the Reactor Data Manual. When reading graphs, one half of one division above and below the value determined to be correct was allotted.

SIMULATOR INFORMATION:

NONE

NOTE: *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.*

NOTE: *Only this page needs to be retained in examinee's record if completed satisfactorily. If unsatisfactory performance is demonstrated, the entire JPM should be retained.*

PERFORM A MANUAL ESTIMATED CRITICAL
POSITION CALCULATION

READ AND PROVIDE TO THE EXAMINEE

THIS SECTION IS READ ONCE FOR THE ENTIRE PACKAGE OF JPMs. IT IS NOT REQUIRED TO REVIEW THIS SECTION FOR EVERY JPM BEING PERFORMED IN THE PACKAGE. THE INITIAL CONDITIONS AND INITIATING CUE(S)/TASKS TO BE PERFORMED SHOULD BE READ AND THEN PROVIDED TO THE EXAMINEE.

After I read you the initial conditions and initiating cue(s)/task to be performed for this JPM and provide you a copy of the same, you may review and begin. Once you have completed the task, indicate completion by handing back this form to the evaluator unless otherwise told.

You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed.

EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

For all two and three-way communications, make your report to me, the JPM evaluator. I will reply to your reports with the statement, "acknowledge." All actions in the plant are to be simulated and all actions in the simulator will be performed. Ensure you make it clear to me, the evaluator, of all actions you are taking so that credit may be given for completing each step of the task.

DURING THE JPM, ENSURE PROPER SAFETY PRECAUTIONS, FME, AND/OR RADIOLOGICAL CONCERNS AS APPLICABLE ARE FOLLOWED.

INITIAL CONDITIONS:

It is dayshift and you are the Reactor Operator.
The reactor tripped at 0600 yesterday.
The expected time of criticality is 1200 today (Noon).
Prior to the trip, the reactor had operated at 100% steady-state power for 2 weeks.
Core burnup is 8500 MWD/MTU.
Current boron concentration is 850 ppm.
 T_{AVE} will be 545 °F for the startup.
Criticality with Bank D at 100 steps is desired.
The computer is unavailable.

INITIATING CUES (IF APPLICABLE):

The CRS has directed you to perform an independent MANUAL Estimated Critical Position (ECP) calculation for a "Critical Boron – Fixed Rod Height" per step 4.2 of N-CRD-49D.

PERFORM A MANUAL ESTIMATED CRITICAL
POSITION CALCULATION

PERFORMANCE INFORMATION

NOTE: CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.

START TIME _____ STEP/SEQUENCE/CRITICAL SAT _____
1 1 N UNSAT _____

ELEMENT: Heading of ECP Datasheet is filled out.

STANDARD: All blocks filled out with the applicable given information. (see grading datasheet for entries).

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL SAT _____
2 1 N UNSAT _____

ELEMENT: Determine excess core reactivity based on core burnup.

STANDARD: Excess reactivity determined to be 9500 pcm \pm 50 using RD 13.2.

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL SAT _____
3 1 N UNSAT _____

ELEMENT: Calculate xenon worth.

STANDARD: RD 9.2 is used to determine full power equilibrium xenon (-2217.5 pcm \pm 2.5).
RD 9.1.2 is used to determine fraction of full power xenon present (0.69 \pm 0.005).
These two values are multiplied together to obtain xenon worth (-1530 pcm \pm 13)

CUE:

COMMENTS:

PERFORM A MANUAL ESTIMATED CRITICAL
POSITION CALCULATION

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

STEP/SEQUENCE/CRITICAL
4 1 N

SAT _____
UNSAT _____

ELEMENT: Determine Samarium worth.

STANDARD: Samarium worth is determined using RD 10.1 or 10.2 (-748 pcm \pm 5).

CUE:

NOTE: RD 10.1 will provide more accurate values of Samarium worth.

COMMENTS:

STEP/SEQUENCE/CRITICAL
5 1 N

SAT _____
UNSAT _____

ELEMENT: Determine temperature defect.

STANDARD: Temperature defect determined to be -2 °F (545-547 °F).
Isothermal Temperature Coefficient is determined using RD 8.3 (-16.0 pcm/°F \pm 0.25).
These two values are multiplied together to obtain the temperature defect (32 pcm \pm 0.5).

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
6 2 N

SAT _____
UNSAT _____

ELEMENT: Calculate total defect.

STANDARD: Total defect is determined by adding all previously calculated defects and worths (7254 pcm \pm 69)

CUE:

COMMENTS:

PERFORM A MANUAL ESTIMATED CRITICAL
POSITION CALCULATION

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

STEP/SEQUENCE/CRITICAL
7 3 N

SAT _____
UNSAT _____

ELEMENT: Determine rod worth at required rod height.

STANDARD: RD 5.1.1.1 or RD 5.1.1.2 is used to determine rod worth for Bank D at 100 steps (-621 pcm ±0).

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
8 4 N

SAT _____
UNSAT _____

ELEMENT: Determine net reactivity.

STANDARD: Rod worth is added to the total defect to obtain net reactivity (6633 pcm ±69).

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
9 5 N

SAT _____
UNSAT _____

ELEMENT: Determine critical reactivity.

STANDARD: Net reactivity obtained in above step is multiplied by -1.0 (sign change).

CUE:

COMMENTS:

PERFORM A MANUAL ESTIMATED CRITICAL
POSITION CALCULATION

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

STEP/SEQUENCE/CRITICAL
10 6 N

SAT _____
UNSAT _____

ELEMENT: Determine differential boron worth.

STANDARD: Differential boron worth is determined using RD 6.2 (-7.1 pcm/ppm ± 0.025).

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
11 7 Y

SAT _____
UNSAT _____

ELEMENT: Determine critical boron concentration.

STANDARD: Critical boron concentration is determined by dividing the critical reactivity by the differential boron worth (a value of 934 ppm ± 13 is required).

CUE:

COMMENTS:

STEP/SEQUENCE/CRITICAL
12 8 Y

SAT _____
UNSAT _____

ELEMENT: Determine maximum Bank D rod position.

STANDARD: Using the rod worth for Bank D found previously (-621 pcm), 400 pcm is added to obtain a value of -221 pcm. Using RD 5.1.1.1 or RD 5.1.1.2, a maximum Bank D position of 171 steps is obtained (171+0,-1).

CUE:

COMMENTS:

PERFORM A MANUAL ESTIMATED CRITICAL
POSITION CALCULATION

PERFORMANCE INFORMATION

NOTE: *CRITICAL STEPS ARE DENOTED WITH A "Y". FAILURE TO MEET THE STANDARDS FOR THIS ITEM CONSTITUTES FAILURE.*

| | STEP/SEQUENCE/CRITICAL | SAT |
|------------------|---|-------------|
| | 13 8 Y | UNSAT _____ |
| ELEMENT: | Determine minimum Bank D rod position. | |
| STANDARD: | Using the rod worth for Bank D found previously (-621 pcm), 400 pcm is subtracted to obtain a value of -1021 pcm. Using RD 5.1.1.1 or RD 5.1.1.2, a minimum Bank D position of 51 steps is obtained (51+1,-0) | |
| CUE: | | |
| COMMENTS: | | |

TERMINATION CUE: THIS COMPLETES THE JPM.

COMPLETION TIME: _____