JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-802-4101-192	Revision 1
JPM Title Obtain and Interpret Electrical Drawings	Duration 10 minutes	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO

Evaluator: _____

Validating Representatives Name: K. Griffin / S. Schmus

JPM Type: **Normal** / Alternate Path / Time Critical

Evaluation Method: **Perform** / Walkthrough / Discuss

(Circle method used) Plant / **Simulator** / **Classroom**

Start Time _____

Stop Time _____

Total Time: _____

PERFORMANCE EVALUATION SUMMARY							
Element	S	U	Comments	Element	S	U	Comments
1.							
2.							
3.							
*** 4.**							
*** 5.**							
*** 6.**							
*** 7.**							

OPERATOR FUNDAMENTALS OBSERVATION				
Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.				
Operator Fundamental	**Meets all Expectations**	**Opportunity for Improvement**	**Does not meet Expectations**	**Comment Number**
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ **PASS** _____ **FAIL**

Evaluator Signature / Date: _____ /

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Information

System:

C1100 – Control Rod Drive System

Task:

Obtain and Interpret Station Electrical, Mechanical and I&C Diagrams

References: Required (R) / Available (A)

6I721-2155-06, Schematic Diagram RPS Trip System A System Relays (A)

44.010.045, RPS - Scram Discharge Volume High Water Level Trip System A, Channel A1/A Float Switch Calibration/Functional Test (A)

Tools and Equipment Required:

Computer terminal with WebARMS/Documentum access (R)

Initial Conditions:

- You are an extra licensed operator assigned to shift.
- Plant conditions are stable in MODE 1 at 100% Power.
- 44.010.045, RPS-Scram Discharge Volume High Water Level Trip System A, Channel A1/A Float Switch Calibration/Functional Test is in progress.
- During testing of the C11-N013A, Scram Discharge Volume Water Level High Float Switch, annunciator 3D94, Disch Water Vol Hi Level Channel Trip did NOT alarm as expected and the RPS Test Box Indicating light remained OFF.
- I&C has determined that the float switch is faulty.
- A troubleshooting plan is in place.

Initiating Cue(s):

The CRS directs you to determine the following using station references:

1. The Schematic Diagram on which the components below were found and its most current revision number.
2. The fuse that must be pulled to de-energize C11-N013A Float Switch.
3. The location of the fuse (Panel and Terminal Number) identified in Step 2.
4. The RPS Channel A1 relay that will be impacted when the fuse identified in Step 2 is pulled.

Document your results below:

Terminating Cue(s):

Terminate the JPM when information is provided to the examiner.

Task Standard:

The task is satisfactorily met if the examinee accesses WebARMS and obtains Schematic Diagram 6I721-2155-06, Schematic Diagram RPS Trip System A System Relays, records that the Schematic Diagram and current revision used are 6I721-2155-06, Revision W, and then interprets the drawing to determine that:

- Fuse C71A-F1A must be pulled to de-energize C11-N013A Float Switch.
- The location of the fuse is panel H11-P609 on Terminal Board DD.
- RPS Channel A1 relay that will be impacted when this fuse is pulled is C71A-K1A.

JPM Title Obtain and Interpret Electrical Drawings	No.: JP-OP-802-4101-192 Revision: 1 Page 4

Licensed Operator Exam Information (required for NRC exams)

Safety Function:

SF1 – Reactivity Control

K/A Reference: (from NUREG 1123)

K/A SYSTEM: Generic

K/A STATEMENT:

2.2.41 Ability to obtain and interpret station electrical and mechanical drawings (reference potential) …….. ..... 3.5 / 3.9

Maintenance Rule Safety Classification:

C1100-08

Maintenance Rule Risk Significant? (Yes or No)

No

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE:	**Provide Cue Sheet to Examinee.**		
1.	Access WebARMS/Documentum to view the required electrical drawing.	1.	Accesses WebARMS/Documentum.
2.	Locates RPS Schematic Diagram 6I721-2155-06.	2.	Locates RPS Schematic Diagram 6I721-2155-06.
3.	Locates Float Switch C11-N013A, on the drawing.	3.	Locates C11-N013A, SDV Float Switch, on the drawing in section F-8.
NOTE: The following steps can be performed in any order.			
*** 4.**	Determine that fuse C71A-F1A must be pulled.	*** 4.**	Determines that fuse **F1A** must be pulled.
*** 5.**	Determine location of fuse C71A-F1A.	*** 5.**	Determines that fuse F1A is in panel H11-**P609** on Terminal Board **DD**.
*** 6.**	Determine that relay C71-K1A will be impacted when Fuse F1A is pulled.	*** 6.**	Determines that relay **K1A** will be impacted.
*** 7.**	Identify diagram number and current revision number of document used to perform this investigation.	*** 7.**	Identifies that 6I721-**2155**-**06**, Revision **W** was used.
CUE:	Terminate JPM when the requested information is provided to the evaluator.		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

JPM Title Obtain and Interpret Electrical Drawings	No.: JP-OP-802-4101-192 Revision: 1 Page 6

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

Generic Notes and Cues:

None

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee.

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used, and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

EVALUATOR KEY

Schematic Diagram (and current revision) used: **6I721-_2155__-__06_____. Revision: __W__**
Fuse that must be pulled to de-energize C11-N013A Float Switch: **C71A-__F1A_**
Location of the fuse (Panel and Terminal Board Number): **H11-_P609_____, Terminal Board: __DD_____**
RPS Channel A1 relay impacted when fuse is pulled: **C71A-_K1A_____**

Cue

Initial Conditions:

- You are an extra licensed operator assigned to shift.
- Plant conditions are stable in MODE 1 at 100% Power.
- 44.010.045, RPS-Scram Discharge Volume High Water Level Trip System A, Channel A1/A Float Switch Calibration/Functional Test is in progress.
- During testing of the C11-N013A, Scram Discharge Volume Water Level High Float Switch, annunciator 3D94, Disch Water Vol Hi Level Channel Trip did NOT alarm as expected and the RPS Test Box Indicating light remained OFF.
- I&C has determined that the float switch is faulty.
- A troubleshooting plan is in place.

Initiating Cue(s):

The CRS directs you to determine the following using station references:

1. The Schematic Diagram on which the components below were found and its most current revision number.
2. The fuse that must be pulled to de-energize C11-N013A Float Switch.
3. The location of the fuse (Panel and Terminal Number) identified in Step 2.
4. The RPS Channel A1 relay that will be impacted when the fuse identified in Step 2 is pulled.

Document your results below:

Cue Sheet: (JP-OP-802-4101-192)

Initial Conditions:

- You are an extra licensed operator assigned to shift.
- Plant conditions are stable in MODE 1 at 100% Power.
- 44.010.045, RPS-Scram Discharge Volume High Water Level Trip System A, Channel A1/A Float Switch Calibration/Functional Test is in progress.
- During testing of the C11-N013A, Scram Discharge Volume Water Level High Float Switch, annunciator 3D94, Disch Water Vol Hi Level Channel Trip did NOT alarm as expected and the RPS Test Box Indicating light remained OFF.
- I&C has determined that the float switch is faulty.
- A troubleshooting plan is in place.

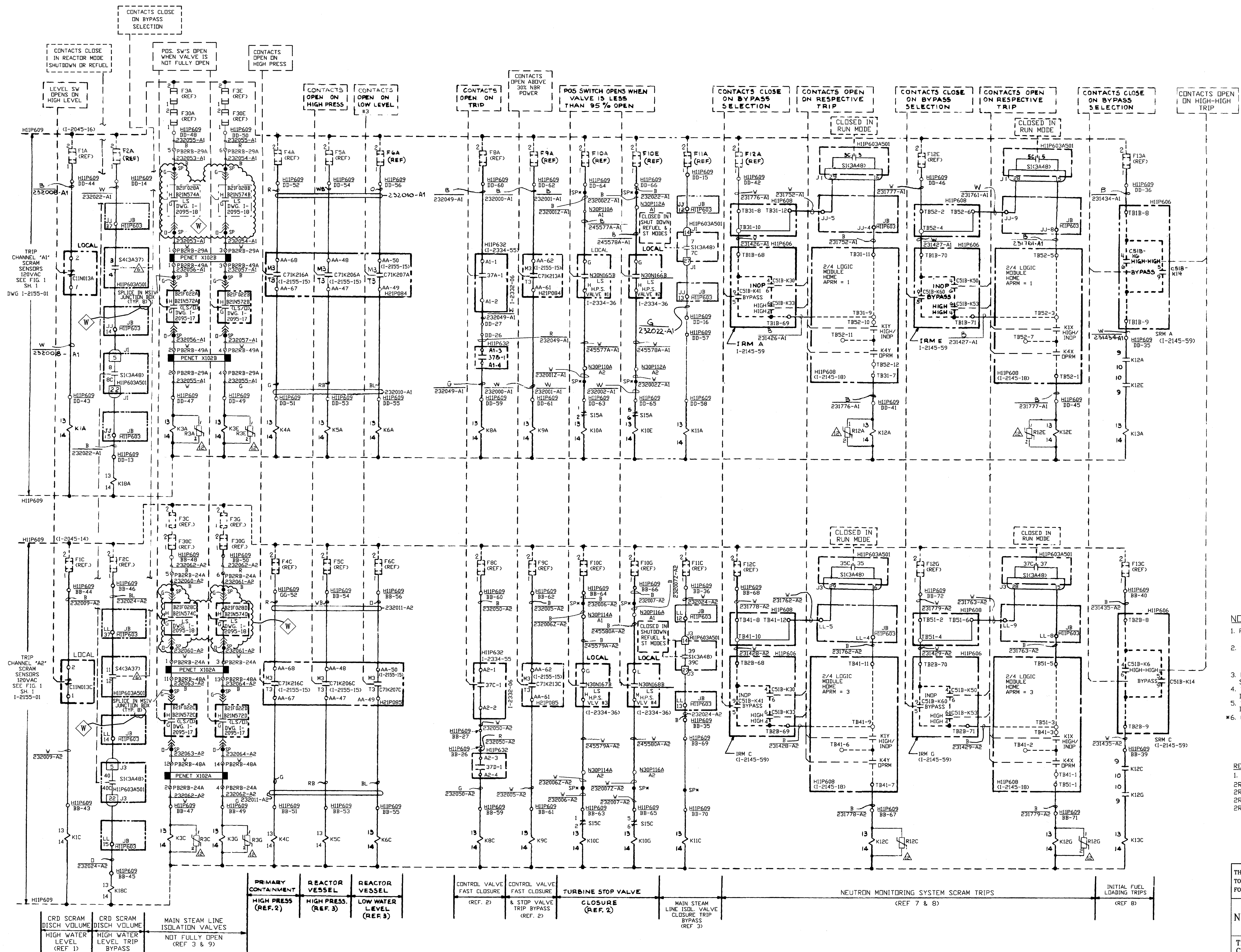
Initiating Cue(s):

The CRS directs you to determine the following using station references:

1. The Schematic Diagram on which the components below were found and its most current revision number.
2. The fuse that must be pulled to de-energize C11-N013A Float Switch.
3. The location of the fuse (Panel and Terminal Number) identified in Step 2.
4. The RPS Channel A1 relay that will be impacted when the fuse identified in Step 2 is pulled.

Document your results below:

Schematic Diagram (and current revision) used: **6I721-_____-_____. Revision: _____**
Fuse that must be pulled to de-energize C11-N013A Float Switch: **C71A-_____**
Location of the fuse (Panel and Terminal Board Number): **H11- _____, Terminal Board _____**
RPS Channel A1 relay impacted when fuse is pulled: **C71A-_____**



NOTES:

1. FOR NOTES & REFERENCES SEE DWG I-2155-01.
2. SEE DECO SPEC. 3071-128, STD., EJ, (LATEST REVISION) FOR FUSE SIZE AND TYPE.
3. FOR RLYS DEV. ON RANGE MONITORS SEE DWG I-2145-23 & 24
4. SEE DWG I-2155-03 FOR SWITCH DEVELOPMENT
5. SEE DWG I-2155-04 FOR RELAY DEVELOPMENT

*6. CABLES TO BE SPLICED TO HI-TEMP IN CONDUIT PULLSLEEVES NEAR PRESSURE RELIEF DOORS AT TURBINE BLDG. 2ND FLOOR MEZZANINE. REF. DWG. I-2334-36

REFERENCE DWGS.

1. RPS TERMINAL BLOCKS

2RB24A & B	E-2839-22
2RB29A & B	E-2839-23
2RB48A & B	E-2839-32
2RB49A & B	E-2839-33

6I721-2155-06
LATEST REVISION W

THIS IS AN OVERLAP DRAWING. REFER TO PRACTICE STANDARDS PEPS-0019 FOR INFORMATION ON THIS PROGRAM.

NUCLEAR SAFETY RELATED ★

THIS IS A MICROSTATION PRODUCED DRAWING. CHANGES OR REVISIONS MUST BE BROUGHT TO THE ATTENTION OF THE PLANT ENGINEERING DESIGN GROUP TO ENSURE THAT CONFIGURATION CONTROL IS MAINTAINED.

THE INDIVIDUAL CONDUCTORS OF MULTICONDUCTOR CABLES COULD BE IDENTIFIED USING EITHER OF THE FOLLOWING TWO CODES (PER IPCEA S-19-81).

COLOR CODE	B	W	R	G	O	BL	WB	RB	GB	OB	BLB	BW
NUMERIC CODE	1	2	3	4	5	6	7	8	9	10	11	12

THIS DRAWING WAS REFORMATTED BY MICROSTATION AT REVISION "T". ALL PREVIOUS APPROVAL SIGNATURES ARE ON FILE ON MICROFILM IN DOCUMENT CONTROL.

W DCD'S INCORPORATED:
EDP 80144.052, REV. Ø

OTHER REVISIONS:

PREPARED BY	DATE	CHECKED BY	DATE
WJ ADLER	2/23/22	R. HALAGAN	2/24/22
APPROVED BY: Mike McLaughlin For Dave Kakoczki			04/19/22

A PORTION OF THIS DRAWING IS AFFECTED BY THE FOLLOWING:

TC	CHANGE DOCUMENT

EDP POSTING ENTRIES REQUIRE THE ADDITION OF THE ARMS STATUS CODE: EITHER "AFC" OR "ASB"

PREPARED BY | DATE
CHECKED BY | DATE
APPROVED BY | DATE
OTHER APPROVALS | DATE

INC. CODE: T

Detroit Edison — Fermi 2

TITLE: SCHEMATIC DIAGRAM REAC. PROT. SYS. TRIP SYSTEM "A" SYSTEM RELAYS

APERTURE CARD TITLE: S/D RPS TRIP SYSTEM A RELAYS

PLANT IDENTIFICATION SYSTEM NUMBER: C7101

ARMS RECIPIENT #

DOCUMENT TYPE CODE: DDDINC

NUC OPS FILE NO. 1801

DATE ISSUED TO IS: 4-19-2022

DRAWING NUMBER: 6I721-2155-06

REV. W

JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-802-4101-231	Revision 0
JPM Title Determine Stay Time and Rest Time for Hot Work	Duration 10 minutes	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO

Evaluator: _____

Validating Representatives Name: __K. Griffin / S. Schmus_____

JPM Type: **Normal** / Alternate Path / Time Critical

Evaluation Method: **Perform** / Walkthrough / Discuss

(Circle method used) Plant / **Simulator** / **Classroom**

Start Time _____

Stop Time _____

Total Time: _____

PERFORMANCE EVALUATION SUMMARY							
Element	S	U	Comments	Element	S	U	Comments
1.							
*** 2.**							
*** 3.**							
4.							

OPERATOR FUNDAMENTALS OBSERVATION				
Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.				
Operator Fundamental	**Meets all Expectations**	**Opportunity for Improvement**	**Does not meet Expectations**	**Comment Number**
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ **PASS** _____ **FAIL**

Evaluator Signature / Date: _____ /

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Information

System:

N/A

Task:

Determine Stay Time for work in Hot and/or Cold Environments

References: Required (R) / Available (A)

Fermi 2 Safety Handbook Section 21: Hot and Cold Environments / Temperature Extremes (A)

Tools and Equipment Required:

None

Initial Conditions:

- You are an extra licensed operator assigned to shift.
- There is a small steam leak in the Turbine Building Steam Tunnel.
- Using a camera, an isolation valve has been identified.
- The activity needed to isolate the leak has been identified as LIGHT.
- RP has determined that Single PCs are required for entry.
- The maximum temperature identified on the Kestrel WBGT device in the TB Steam Tunnel is 103°F.
- The Nuclear Operator assigned to the task is properly trained on heat stress conditions, symptoms, avoidance, etc., and has been briefed on the specific job.
- No other heat stress prevention equipment will be used.

Initiating Cue(s):

Using Section 21, Hot and Cold Environments / Temperature Extremes, of the Fermi 2 Safety Handbook, determine the **Stay Time** allowed for the Nuclear Operator (NO) to isolate the leak and record that time below.

Assuming it takes 12 minutes for the NO to isolate the leak, determine the required **Rest Time** before the NO can return to normal work activities and record that time below.

Record the information below and provide it to the JPM evaluator.

Terminating Cue(s):

Terminate the JPM when Stay Time and Rest Time information is provided to the examiner.

Task Standard:

The task is satisfactorily met if the examinee, using the information provided, calculates an allowable Stay Time of 35 minutes and a Required Rest Time of 20 (a value between 20 and 21 is acceptable) minutes in accordance Section 21 of the Fermi 2 Safety Handbook.

JPM Title Determine Stay Time and Rest Time for Hot Work	No.: JP-OP-802-4101-231 Revision: 0 Page 4

Licensed Operator Exam Information (required for NRC exams)

Safety Function:

15 – Safety and Radiation Control

K/A Reference: (from NUREG 1123)

K/A SYSTEM: Generic

K/A STATEMENT:

2.1.25 Ability to interpret reference materials, such as graphs, curves, and tables (reference potential)..... 3.9 / 4.2

Maintenance Rule Safety Classification:

N/A

Maintenance Rule Risk Significant? (Yes or No)

No

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE:	**Provide Cue Sheet and Section 21 of the Fermi 2 Safety Handbook to Examinee.** **NOTE:** The Safety Handbook can be obtained by going to the Fermi 2 Nucleus Web Page (nucleus.deco.com) and clicking on Industrial Safety on the left-hand column (Quick Links). Then by clicking on the Safety Handbook icon. Then by scrolling down to the applicable section (Section 21).		
CUE:	**IF the examinee asks for any of the information needed in Steps 4.1-4.5, refer the examinee to the Cue sheet provided.**		
1.	[5.1 – 5.6] Obtains information necessary to determine work time limits from the cue. Refers to Section 4.0, Work Time Limits.	1.	Refers to Section 5.0, Work Time Limits. From the CUE, determines: 5.1 NO has received training on heat stress. 5.2 WBGT is 103°F. 5.5 Work Rate/metabolism is LIGHT. 5.6 Protective clothing requirements are Single PCs.
***2.**	[5.7] Use the temperature, work rate/metabolism, and protective clothing requirements to determine work time limits.	***2.**	Determines Stay Time from Table 21-2, Wet Globe Temperatures – Stay Times: • Refers to columns for Single PCs. • Refers to LIGHT column based on work demand. • Refers to WBGT row of **<u>104°F</u>**. **<u>NOTE</u>**: Step 4.3 states "When WBGT is an odd number, not listed on Table 21-2, use the <u>next higher temperature</u> to determine stay time requirements. *** Determines Stay Time is <u>35 minutes</u>.**
***3.**	[5.8] Use previously determined Stay Time, and the given formula, to determine Rest Time.	***3.**	Determines rest time using the following formula: Rest Time = (Actual Work Exposure Time/Work Time Limit) * 60 minutes. Rest Time = (12 min/35 min) * 60 min. *** Determines Rest Time is <u>20.57 minutes (between 20 and 21 min is acceptable)</u>.**
4.	Record Stay Time and Rest Time and provide to evaluator.	4.	Records allowable Stay Time and required Rest Time.
CUE:	Terminate JPM when the requested information is provided to the evaluator.		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

JPM Title Determine Stay Time and Rest Time for Hot Work	No.: JP-OP-802-4101-231 Revision: 0 Page 6

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

Generic Notes and Cues:

None

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee.

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

EVALUATOR KEY

Allowable Stay Time: ___35 minutes___
Required Rest Time: ___20 (between 20 and 21) minutes____

Cue Sheet: (JP-OP-802-4101-213)

Initial Conditions:

- You are an extra licensed operator assigned to shift.
- There is a small steam leak in the Turbine Building Steam Tunnel.
- Using a camera, an isolation valve has been identified.
- The activity needed to isolate the leak has been identified as LIGHT.
- RP has determined that Single PCs are required for entry.
- The maximum temperature identified on the Kestrel WBGT device in the TB Steam Tunnel is 103°F.
- The Nuclear Operator assigned to the task is properly trained on heat stress conditions, symptoms, avoidance, etc., and has been briefed on the specific job.
- No other heat stress prevention equipment will be used.

Initiating Cue(s):

Using Section 21, Hot and Cold Environments / Temperature Extremes, of the Fermi 2 Safety Handbook, determine the **Stay Time** allowed for the Nuclear Operator (NO) to isolate the leak and record that time below.

Assuming it takes 12 minutes for the NO to isolate the leak, determine the required **Rest Time** before the NO can return to normal work activities and record that time below.

Record the information below and provide it to the JPM evaluator.

Allowable Stay Time: _____

Required Rest Time: _____

Cue Sheet: (JP-OP-802-4101-231)

Initial Conditions:

- You are an extra licensed operator assigned to shift.
- There is a small steam leak in the Turbine Building Steam Tunnel.
- Using a camera, an isolation valve has been identified.
- The activity needed to isolate the leak has been identified as LIGHT.
- RP has determined that Single PCs are required for entry.
- The maximum temperature identified on the Kestrel WBGT device in the TB Steam Tunnel is 103°F.
- The Nuclear Operator assigned to the task is properly trained on heat stress conditions, symptoms, avoidance, etc., and has been briefed on the specific job.
- No other heat stress prevention equipment will be used.

Initiating Cue(s):

Using Section 21, Hot and Cold Environments / Temperature Extremes, of the Fermi 2 Safety Handbook, determine the **Stay Time** allowed for the Nuclear Operator (NO) to isolate the leak and record that time below.

Assuming it takes 12 minutes for the NO to isolate the leak, determine the required **Rest Time** before the NO can return to normal work activities and record that time below.

Record the information below and provide it to the JPM evaluator.

Allowable Stay Time: _____
Required Rest Time: _____

1. PURPOSE AND SCOPE

The purpose of this section is to outline the hazards and precautions necessary to minimize and prevent adverse health effects when working in areas with temperature extremes. This includes both indoor and outdoor activities.

This procedure does not apply to Emergency Operations.

This procedure must be considered for all tasks using heavy or impermeable protective clothing (such as acid suits, Tyvec and plastics).

2. GENERAL REQUIREMENTS

2.1. All jobs in high temperature environments shall address heat stress controls in the planning stages. The work plan shall stipulate work time limits and use of body-cooling devices if necessary.

2.2. All activities performed in an environment that requires heat stress stay times less than or equal to 10 minutes is considered High Risk to Industrial Safety and shall have a risk plan developed per MWC15

2.3. To prevent heat illness and dehydration due to perspiration, individuals who work in high temperature environments should drink large quantities of water or electrolyte replacement fluid at their rest breaks.

2.4. The individuals who work in high temperature environments shall periodically rest in a cooler area.

2.5. Work group supervisors shall inform their workers of heat stress precautions before they work in hot environments

2.6. When a job requires extended time in high temperatures, an air-conditioned room ("cool room") should be located as close to the work area as feasible and used as a recovery area.

2.7. Work group supervisors shall contact Industrial Safety for guidance in controlling heat stress for jobs with 15 minutes or less stay times ***OR***, when temperature is at or above 104°F WBGT.

2.8. Any individual who begins to feel symptoms of heat illness shall immediately notify the work group supervisor, exit the area, remove suit (if worn), rest in a cool area, and drink water or an electrolyte replacement fluid. If symptoms persist, request medical aid through the Control Room (ext. 6-1250 *or* 250).

3. RESPONSIBILITIES

3.1. **Managers and Supervisors**

3.1.1. Evaluate the work environment before allowing any employee to start work in a high temperature environment.

3.1.2. Ensure employees have been trained in the hazards, symptoms, and means to mitigate heat stress.

3.1.3. Determine what work regimentation, precautions, and/or protective equipment will be used before starting work and that all employees are aware of them.

3.1.4. Contact Industrial Safety for assistance in evaluating high temperature work areas and determining precautions and/or restrictions to be imposed as needed.

3.1.5. When box in the column in table 21-2 is shaded for the work activity and temperature, Industrial Safety **SHALL** be contacted. The Hexan 2.0 Heat Stress calculator developed by EPRI will be used to determine the appropriate stay and recovery times.

3.2 Employees

3.2.1 Notify supervisor of any medical conditions (including medications, health conditions, recent illnesses, etc.) that could preclude working in a high temperature area.

3.2.2 Comply with all restrictions, precautions, and work regimen imposed for the task(s) being performed in a high temperature work area.

3.2.3 Know the symptoms of heat stress and mitigation methods.

2.2.4 Leave the work area immediately if the symptoms of heat stress are felt or if observed by other employees. Do not leave without telling someone you are leaving (should not be working alone) and both of you must leave.

3.2.5 Always work in teams of two or more employees if work is controlled by Tables 21-2, Stay Times.

For organizations such as Operations, Radiation Protection, Security, or Radwaste, while performing their usual work, the two-person requirement does not apply as long as the workers:

a. Know the symptoms of heat stress and mitigation methods.

b. Leave the work area immediately when showing signs of heat stress.

c. Immediately notify their supervisor of heat stress.

3.2.6 Adhere to all work restrictions that may limit or prohibit exposure to high temperature work.

NOTE:

If the workers come out of the work environment for ANY reason AND are working under a stay time, they SHALL NOT re-enter the work area until they have completed the cool off cycle. Rapid body temperature changes can cause blood pressure and heart rate to change which can lead to a worker losing consciousness.

3.3 Nuclear Training

2.4.1 Ensure a program is developed to provide employee orientation on the symptoms of heat stress and methods to minimize/avoid heat stress.

3.4 Industrial Safety

2.4.1 Provide assistance in the evaluation of work areas for heat stress potential and in the establishment of restrictions, precautions, stay times, rest times, or other controls as necessary to safely perform work in high temperature work areas.

3.4.2 The Hexan 2.0 Heat Stress calculator developed by EPRI can be utilized to determine the appropriate stay and recovery times.

4.0 PROCEDURE

4.1 All personnel who are required to work in a high temperature work area must be oriented to the hazards involved.

4.2 All high temperature work regimen will require personnel to work in teams of two or more.

4.3 When WBGT is an odd number not listed on Table 21-2 use the next higher temperature to determine the stay time requirements.

4.4 A work regimen will be established when required by Tables 21-2.

4.5 Stay times shall not be exceeded without the approval of the employee's immediate supervisor and only for emergency situations.

4.6 Personnel experiencing any of the symptoms of heat stress are required to leave the area immediately and let your co-worker know. He/she will leave with you.

4.7 Adhere to all work restrictions that may limit or prohibit exposure to high temperature work.

5.0 WORK TIME LIMITS

The work group **Supervisor** shall:

5.1 Ensure personnel working in high temperature areas have received training on heat stress conditions, symptoms, avoidance, etc. and have been briefed on the specific job, stay times, and PPE to use.

5.2 Determine the temperature (WBGT) of the work area. The maximum temperature identified on the Kestrel WBGT device will be used for stay time calculations.

5.3 See Figure 21-5: for Kestrel WBGT Device Instructions

5.4 The WBGT instrumentation may take up to 15 – 20 minutes to equilibrate depending on the temperature.

5.5 Identify the work rate/metabolism using Table 21-1, Metabolic Rates.

5.6 Identify protective clothing requirements.

5.7 Use the temperature, work rate/metabolism, and protective clothing requirements to determine work time limits:

5.8 Determine rest times using the following formula.

$$\text{Rest time estimate} = \frac{\text{Actual work exposure time}}{\text{Work time limit}} \times 60 \text{ minutes}$$

NOTE:
Rest time should take place in a cool environment, less than 80°F with the individual dressed in light weight clothing.

5.9 Take into consideration the physical condition of the employees.

5.10 Notify employees of stay times, keep track of actual stay times in exceptionally hot environments, and determine rest time based on the formula in step 4.7.

6.0 HEAT STRESS PREVENTION EQUIPMENT

6.1 Work group supervisors shall determine the types of heat stress prevention equipment to be used.

6.2 The types of equipment that may be available, and guidelines for their use, are:

6.2.1 Ice Vests

a. Choose proper size vest so that vest fits snugly; wear a dry T-shirt under the vest to avoid ice burn.

b. Monitor your condition and exit the work area as soon as the ice has melted. Ice vests provide body cooling only while ice is melting; body temperature will increase quickly after the ice has melted.

c. Frisk ice vests used in contaminated areas and have them cleaned before re-use.

6.2.2 Phase-Change Vests

a. Choose proper size vest so that vest fits snugly.

b. Monitor your condition and exit the work area as soon as the phase change material has melted. These vests provide body cooling only while the material is melting; body temperature will increase quickly after it has melted.

c. Frisk these vests used in contaminated areas and have them cleaned before re-use.

6.2.3 Supplied Air Hoods/Helmets

a. Use supplied air hoods/helmets only as respirators. Their use in contaminated areas must be approved by Radiation Protection.

b. If used on a job requiring respiratory protection for non-radiological hazards, verify that Industrial Safety has issued a Non-Radiological Respiratory Protection Permit, MRP09001, specifying this type of respiratory protection.

c. When they are authorized for use, the supplied air hoods/helmets supply respirable air and cooling air to the body.

7.0 MONITORING WORK AREA TEMPERATURES IN EXCEPTIONALLY HOT ENVIRONMENTS

NOTE:
Organizations such as Operations, Radiation Protection, Security or Radwaste while performing normal plant rounds ARE NOT required to fill out the Temperature Record Form.

7.1 Work group supervisors shall use the Temperature Record Form, Figure 21-4, to record work area temperatures in exceptionally hot environments:

7.2 For WBGT - determine the wet bulb globe temperature (WBGT) using a Kestrel Heat Stress Tracker or equivalent WBGT monitor. Determine the temperature upon initial entry into the work area and every 2 hours thereafter.

7.3 Record temperatures on one Temperature Record Form per shift in each exceptionally hot environment where work is in progress.

7.4 Work group supervisors shall use the temperature data to adjust stay time and rest breaks, when necessary, to ensure that they are safe and adequate to protect the workers.

7.5 Send completed Temperature Record Forms to Industrial Safety at the end of the work.

8.0 DEFINITIONS

Acclimatization: A physiological change which occurs as an adaptation to working in hot environments over a period of time. This adaptation results in increased sweating, earlier onset of sweating, more even distribution of sweating, decreased salt loss, a lower basal core temperature and decreased cardiovascular demands. Both heat and physical labor are required to initiate this change.

Action Time (Stay Time): The length of time a healthy, acclimated worker should be able to work in a heat environment, based on environmental conditions such as type of clothing being worn, work being performed, and individual health and metabolism.

Check Time: The prescribed time intervals for which the physical condition of a worker must be evaluated to determine if work can be safely continued after reaching the Action Time.

Dry Bulb Temperature (Ambient): The temperature as measured with a standard thermometer without respect to humidity or Radiant Heat.

Emergency Operations: Activities performed that are related to an immediate safety issue (personnel, industrial, radiological or nuclear) to protect personnel or the public. This includes rescue, fire suppression, emergency medical care, emergency site security incidents, and placing plant equipment in a safe condition.

Exposure Time: Actual time spent in a heat stress environment.

Globe Temperature: A temperature measurement which calculates contributions of radiant heat using a specially designed thermometer encased in a blackened copper globe.

Heat Cramps: Painful cramps caused by the loss of body salts and fluid during sweating.

Heat Exhaustion: The body's response to loss of water and salt from heavy sweating. Signs include headache, nausea, dizziness, weakness, irritability, thirst, and heavy sweating.

Heat Rash: A skin irritation caused by sweat that does not evaporate from the skin.

Heat Stroke: The most serious form of heat-related illness that occurs when the body is unable to regulate its core temperature. Sweating stops and the body can no longer rid itself of excess heat. Signs include confusion, loss of consciousness, and seizures.

Heat Syncope (Fainting): May occur when persons not accustomed to the Heat stay in one position for periods of time. This allows the blood to pool in enlarged blood vessels and lower parts of the body. Insufficient blood is returned to the heart and brain.

High Heat Environment: Environmental or physical conditions in which a worker may be susceptible to heat stress or heat illness. These conditions may exist outdoors or indoors. a. These conditions may include but are not limited to tasks performed in the following types of areas:

(1) Areas of unusually high heat or humidity (i.e., drywell, steam or hot water leak areas, hot exterior weather conditions, near cooling towers, hot wells, heater bays)
(2) Areas with significant sources of radiant heat (i.e., boiler rooms, diesel generator area, steam piping and other heated vessels or the reactor cavity).

Radiant Heat: Electromagnetic Heat transferred from one higher temperature mass to another without direct contact.

Recovery Areas: Areas, preferably indoors, which workers who have been in adverse climate may rest, recover, and rehydrate and should be 80°F or below.

Recovery Time: The amount of time required by an exposed worker’s physiological state to return to its pre-exposure condition.

Self Determination: The method by which an individual may begin to recognize the early warning signs of heat related illness. Self-determination can be used to shorten assigned stay times.

Wet Bulb Globe Temperature (WBGT): A composite temperature used to estimate the effect of temperature, humidity, wind speed, and radiant heat.

TABLE 21-1

METABOLIC RATES

Work Demand	Type of Activity	Examples
Light	Sitting with moderate arm and trunk movement	Bench work
	Sitting with moderate arm and leg movement	Supervising or monitoring areas or equipment
	Standing, light work at machine or bench	Stationery welding
	Standing, light work with some walking and minimal climbing	Inspections and surveys with minimal climbing
Moderate (MOD)	Standing with moderate work and some walking	Painting
	Walking with moderate lifting or pushing	Floor cleaning
	Walking with occasional ladder or stair climbing	Insulation removal or installation Fitting and welding light pieces Surveys and inspection with moderate climbing
Heavy	Walking with frequent stair or ladder climbing	Scaffold erection
	Heavy lifting, pushing or pulling	Transporting equipment by hand Shoveling

TABLE 21-2

WET BULB GLOBE TEMPERATURES – MAXIMUM ALLOWABLE STAY TIMES

	WORK CLOTHES			Single PC with modesty			Double PCs with modesty			OREX ULTRA PC with modesty			PLASTICS or Equiv. with modesty		
	Work Demand			Work Demand			Work Demand			Work Demand			Work Demand		
WBGT	LIGHT	MOD	HEAVY	LIGHT	MOD	HEAVY	LIGHT	MOD	HEAVY	LIGHT	MOD	HEAVY	LIGHT	MOD	HEAVY
120°F	**20**														
118°F	**20**					CONTACT INDUSTRIAL SAFETY FOR WORK IN SHADED AREA									
116°F	**25**														
114°F	**25**	**15**		**15**											
112°F	**30**	**20**		**20**											
110°F	35	**20**		**25**			**20**								
108°F	45	**25**		**25**	**15**		**20**			**20**					
106°F	50	**25**		**30**	**20**		**25**	**15**		**20**					
104°F	60	**30**	**15**	35	**20**		**25**	**20**		**25**	**15**		**15**		
102°F	75	35	**20**	45	**25**		**30**	**20**		**25**	**20**		**20**		
100°F	90	40	**20**	50	**25**		40	**20**		**30**	**20**		**25**	**15**	
98°F	105	45	**25**	60	**30**	**15**	45	**25**		40	**20**		**30**	**15**	
96°F	130	50	35	7**5**	35	**20**	55	**30**		45	**25**		**30**	**20**	
94°F	165	55	40	90	40	**20**	70	**30**	**20**	55	**30**		40	**20**	
92°F	195	70	45	105	45	**25**	80	35	**20**	70	**30**	**20**	45	**25**	
90°F	230	85	55	130	50	35	100	40	**25**	80	35	**20**	55	**30**	
88°F	NL	110	70	165	55	40	120	45	**30**	100	40	**25**	65	**30**	**15**
86°F	NL	170	85	195	70	45	150	50	35	120	45	**30**	80	35	**20**
84°F	NL	240	115	230	85	55	180	60	40	150	50	35	100	40	**25**
82°F	NL	NL	180	NL	110	70	210	75	45	180	60	40	120	45	**30**
80°F	NL	NL	NL	NL	180	90	NL	95	65	210	75	45	150	50	35
78°F	NL	NL	NL	NL	NL	120	NL	150	80	NL	95	65	180	60	40
76°F	NL	NL	NL	NL	NL	NL	NL	210	100	NL	150	80	210	75	45
74°F	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	210	100	NL	100	60
72°F	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	140	NL	150	75
70°F	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	220	NL	210	100
68°F	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	140
66°F	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	240

Instructions for Using Tables

1. Select the type of clothing that will be worn.
2. Determine and select the metabolism for the work activity from Table 21-1, Metabolic Rates.
3. Select the temperature expressed in degrees Fahrenheit from table
4. The stay time range is at the intersection of the WBGT row and the Clothing/Metabolism column.

BOLD Numbers = **Ice Vest required**. Stay time for Metabolic rates are: Light = 30; Moderate = 20; Heavy = 10. For established stay times in the table add the corresponding Light, Moderate, or Heavy number of minutes listed in this paragraph to number in the table.

NOTE:

Ice/Cool Vests and Cool Suites extend the stay times; however, they should only be worn as long as they provide cooling. **IF** ice packs thaw, the heat stress risk INCREASES and are ineffective **AND** standard stay times would apply.

FIGURE 21-4: Temperature Record Form

Fermi 2

Part 1: Identification (Work Group Supervisor)

A.) Date and Shift	B.) Work Location	C.) Number of Workers	
D.) Type of Work Activity		E.) Work Oder	( )NA

Part 2: Pre-Work Checklist (Work Group Supervisor)

☐ WBGT taken and recorded (Use MAXIMUM temperature recorded for stay time calculations)

☐ Contact Industrial Safety at 6-4785 or 6-1269 **IF** job has 15 minute or less stay time **OR** temperature is at or above 104°F WBGT

☐ Recovery Area is available

☐ Employees are informed of their stay time and recovery time

☐ Employees' current physical condition is adequate for work in hot temperature extremes

☐ If ice/cool vests are required based on job duration and temperature extremes, users have been briefed on their use

Part 3: Temperature Record (Work Group Supervisor/Delegate)

A. Temperature Record for One Shift

Start	WBGT Temp	Stay Time	Rest Time	Print Name I.D. Number	Initials
Start Shift					
2 hrs. later					
2 hrs later					
2 hrs later					
2 hrs later					
2 hrs later					
2 hrs later					
2 hrs later					

B. Completed By

Printed Name Initials Date

C. Work Group Supervisor

Printed Name Initials Date

Make a Copy and Send Completed Forms to Industrial Safety After Each Work Day

FIGURE 21-5: Kestrel WBGT Device Instructions

NOTE:

-Use "Maximum" WBGT temperature value recorded for determination of stay times.
-Ensure that the "black bulb" is not touching any surface and or obstructed to the surrounding air.
-Place WBGT device as close to the area to be worked as possible to ensure an accurate reading.
-If help is needed to set-up WBGT device contact Industrial Safety 6-4785 or 6-1269

COLD ENVIRONMENTS

9.0 HYPOTHERMIA

Hypothermia results when the body loses heat faster than it can produce it. It is continued loss of heat, occurring in a natural or man-made environment despite protective clothing and bodily defenses. When this occurs, blood vessels in the skin constrict in an attempt to conserve vital internal heat. Hands and feet are affected first, and then involuntary shivers begin. These are usually the first warning signs of hypothermia. Further heat loss produces difficulty of speech, loss of memory, loss of manual dexterity, collapse, and finally, death.

Outdoor workers are likely victims of hypothermia if they do not take necessary precautions to ward off exposure and exhaustion.

Guideline: When the outside temperature falls below 0 degrees Fahrenheit, outside work should be limited to critical tasks and activities.

10.0 EFFECTS OF COLD ENVIRONMENTS ON THE BODY

Temperature of hands and feet can fall as much as 40 - 50 degrees F (23-28 degrees C) below normal body temperature without lasting harm.

The body's sense of cold is a relative factor. Many cases of exposure have occurred in temperatures well above freezing. How cold the body gets depends on many things in addition to air temperature. Moisture on skin and clothes can conduct heat away from the body much faster than when the skin is dry.

Heat is lost from the body through evaporation even in cold environments. The amount of heat loss from the water evaporating from the skin is not reduced greatly in the cold under ordinary conditions. In fact, water loss decreases even less as the environment becomes colder, since there is an increase in the quantity of water loss in respiration compensating for the lesser amount lost from skin.

11.0 WIND CHILL INDEX FOR EVALUATING COLD STRESS

Wind chill is the effect when the wind blows away the thin layer of air that acts as an insulator between the skin and the surrounding air. Thus, in still air at 30 degrees F, the body feels cool, but the same temperature with a wind 25 miles per hour, the skin gets bitterly cold.

The wind chill index is the best cold stress indices:

Wind Speed in MPH	Actual Thermometer Reading (°F)									
	50	40	30	20	10	0	-10	-20	-30	-40
	EQUIVALENT TEMP(°F)									
Calm	50	40	30	20	10	0	-10	-20	-30	-40
5	48	37	27	16	6	-5	-15	-26	-36	-47
10	40	28	16	4	-9	-21	-33	-46	-58	-70
15	36	22	9	-5	-18	-36	-45	-58	-72	-85
20	32	18	4	-10	-25	-39	-53	-67	-82	-96
25	30	16	0	-15	-29	-44	-59	-74	-88	-104
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109
35	27	11	-4	-20	-35	-49	-67	-82	-98	-113
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116
Over 40 mph (little added effect)	**Little Danger (for properly clothed person)**				**Increasing Danger (Danger from freezing of exposed flesh)**			**Great Danger**		

The body's circulatory response to cold reduces blood flow to the skin and extremities. ***Frostbite***, also called congelation, describes the damage that results when tissue temperature falls below freezing as a result of exposure to cold. Superficial frostbite can damage the skin and the tissues immediately below it?

12.0 CONTROL MEASURES AGAINST 'COLD STRESS'

Clothing is a barrier between the body and the environment for transfer of heat affecting it. Frostbite and hypothermia can be controlled by wearing clothing appropriate to specific types of cold environments. Usually such clothing combines a wind and water-proof layer and multiple, light inner layers designed to produce a dead air space between the body and the outer layer. However, keep in mind that cold weather gear may have an effect on maneuverability.

Additional defenses include vigorous activity and rubbing affected tingling surfaces to stimulate local circulation. **Numb surfaces should not be rubbed.** If practical, treat affected parts with warm water or warm compresses.

To prevent cold stress:

a) Determine the ***Equivalent Temperature*** from the WIND CHILL INDEX, and

b) Use the following chart:

Recommended Maximum Daily Time Exposure Limits For Controlling Employee Exposure To Low Temperatures:		
Temperature Range		**Maximum Daily Exposure**
Fahrenheit	**Celsius**	
30 to 0	0 to -18	No limit, providing person is properly clothed.
0 to -30	-18 to -34	Total work time: 4 hours. Alternate 1 hour in and 1 hour out of the low-temperature area.
-30 to -70	-34 to -57	Two periods of 30 minutes each, at least 4 hours apart. Total low temperature work time allowed = 1 hour. OR Since some differences exist among individuals, could also work 15-minute periods, but not over 4 periods per 8 hour shift.
-70 to -100	-57 to -73	Maximum permissible work time = 5 min during an 8-hour working day. At these extreme temperatures, completely enclosed headgear, equipped with a breathing tube running under the clothing and down the leg to preheat the air, is recommended.

HEAT STRESS FACT SHEET

The body is continually producing heat every second that it lives. This heat comes from the breakdown of food that the body uses to supply the energy it needs to support its life processes. About 75% of the energy consumed by the body ends up in the form of heat, which in turn heats up the body. Increased physical activity produces even more body heat. To maintain a normal acceptable body temperature, this heat must be brought to the skin surface and exchanged with the air surrounding the body.

The physiological process that maintains the balance between heat production and heat removal is a complex one involving the central nervous system, the circulatory system, the skin, and the muscles. The situation is similar to the working system for the automobile engine. In the engine, energy and heat are produced in the block. Water is pumped through the block where it absorbs heat, then through the radiator, where the heat is exchanged with the atmosphere. The rate of circulation is controlled by a thermostat, which opens when the engine is hot. Similarly, in the body the blood carries heat from the core of the body to the skin. The amount of blood flowing to the skin can be increased or decreased. The rate of heat loss can be increased if necessary, by wetting the skin with perspiration. When water evaporates, the water molecules absorb a large quantity of heat. The heat gained by the water molecules as they evaporate is lost from the wetted skin surface. Under conditions of excessive heat stress, this evaporative cooling becomes the major avenue for achieving heat balance.

Heat stress problems arise when the body produces more heat than it can get rid of. When this happens, a variety of illnesses can occur depending on the duration and severity of stress and the effectiveness of steps taken to relieve the stress.

WARNING: If you or your co-workers experience any signs of heat stress, leave the area, **AND** notify your supervisor immediately.

WARNING: Alcohol and caffeine intake before work will cause the body to lose water and prevent the body's ability to properly regulate heat in extremely hot environments.

Dehydration: The water lost from the body as perspiration must be replaced by drinking water if dehydration is to be prevented. Dehydration rapidly leads to decreases in performance and work capacity and to heat exhaustion. Perspiration production of 8 to 10 quarts each working day is not uncommon in hot environments. This means that water must be replaced at the rate of at least one quart each hour. When perspiration is heavy, a better practice is to drink about a cup of cool (no cold) water every 10 to 20 minutes throughout the workday.

Salt Intake: Moderation is needed when increasing salt intake because too much salt actually reduces heat tolerance, and for persons with high blood pressure, increased salt intake can actually aggravate the condition to a dangerous level.

Each of the heat stress illnesses is described in the following table.

ILLNESS	SYMPTOMS	CAUSES	ACTION
EXCESSIVE HEAT STRAIN	Heart rate over 3 minutes is greater than 180 bpm minus the individual's age in years (180 – age) Recovery heart rate 1 minute after peak work effort is still greater than 110 bpm	Body cannot get rid of heat faster than it is being generated.	Rest in a cool environment and fluid replacement will result in full recovery.
HEAT CRAMPS	Involve mainly the hand, arm, leg, and abdominal muscles.	Result from excessive loss of salt in the perspiration without adequate replacement. not very common and occur mostly when perspiration is heavy, water replacement is adequate, but salt intake is low. For heat adjusted (acclimatized) workers, the usual diet contains enough salt because their perspiration is low in salt.	Drinking electrolyte replacement fluid is the best and safest way to maintain fluid and salt balance at the same time.
HEAT EXHAUSTION	Body temperature is usually normal and the skin is cool, wet, and pale major symptoms are giddiness, headache, weakness, fainting, vomiting, and a rapid, weak pulse.	Caused by an insufficient blood flow to the brain because too much blood has been diverted to the skin in an effort to cool the body.	Rest in a cool environment and fluid replacement will result in full recovery. This type of heat illness is usually caused by inadequate fluid intake to make up for the body water lost in the perspiration.
HEAT STROKE AN URGENT MEDICAL EMERGENCY	Usually, collapse and coma with high body temperature are the first symptoms, and the victim's skin may be red, hot, and dry.	Results from a high body temperature that is caused by a failure of the body's cooling system. The high body temperature accompanying heat stroke can be fatal if it is not lowered.	Treatment consists of rapid reduction of the body temperature by immersion in ice bath, alcohol spray, or fans and wet sheets. Age, obesity, lack of physical fitness and hard physical work are factors that increase the chances of heat stroke. Heat stroke is a serious medical emergency and requires speedy medical attention to save the victim's life.

COLD STRESS FACT SHEET

Temperature of hands and feet can fall as much as 40-50°F below normal body temperature without lasting harm. Superficial or deep local tissue freezing will occur at thermometer readings of 30°F regardless of wind speed. For exposed skin, continuous exposure should not be permitted when the effective chill temperature is -25°F or colder.

The body's sense of cold is a relative factor. Many cases of exposure have occurred in temperatures well above freezing. How cold the body gets depends on many things in addition to air temperature. Moisture on skin and clothes can conduct heat away from the body much faster than when the skin is dry.

Heat is lost from the body through evaporation even in cold environments. The amount of heat loss from the water evaporating from the skin is not reduced greatly in the cold under ordinary conditions. In fact, water loss decreases even less as the environment becomes colder, since there is an increase in the quantity of water loss in respiration compensating for the lesser amount lost from skin. Two of the most common cold stress ailments are frostbite and hypothermia (see information on each below).

WARNING: If you or your co-workers experience any signs of cold stress, leave the area, **AND** notify your supervisor immediately.

WARNING: Alcohol and caffeine intake before work will cause the body to constrict blood vessels and prevent the body's ability to properly regulate temperature.

Each of the cold stress illnesses is described in the following table.

ILLNESS	SYMPTOMS	CAUSES	ACTION
FROSTBITE	Redness and stinging or burning pain followed by white or grayish-yellow, firm, waxy-looking skin, swelling, throbbing, or the absence of pain. When thawed the skin is usually reddened and painful, and blisters may form. In moderate to severe cases, the skin may turn black due to tissue death and superficial or deep gangrene.	Freezing and destruction of tissue due to cold – typically ears, mouth, cheeks, nose, fingers, and toes. Tissue destruction is much greater when thawing is followed by refreezing. Contributing factors include contact with wet materials or metal, wind, and lack of adequate clothing. Some additional factors include alcohol consumption, extreme age, and some medical conditions, e.g. atherosclerosis, beta-blocker medications.	Cover affected areas with extra clothing or a warm, dry cloth if person is still exposed to the cold. Place hands under the armpit for additional warmth if hands are affected. Place palms of hands over ears if they are affected. Handle the affected area gently. DO NOT massage. DO NOT rub the area with snow or anything else. Move the person to a warm environment ASAP. DO NOT allow a person with frostbitten feet or toes to walk – this may result in additional damage to the affected areas. Remove any wet or cold clothing. Loosen constricting clothing from affected area. Frostbite beyond redness and stinging that subsides when the affected area is warmed is a serious medical condition.
HYPOTHERMIA	Hands and feet are cold and pale followed by involuntary shivering. Additional signs and symptoms include dizziness, nausea, numbness, lethargy, slurred speech, visual impairment, clumsiness, mental confusion, hallucinations, drowsiness or sleepiness, loss of consciousness, and finally, death. Hypothermia is a life-threatening situation, especially when shivering stops and lethargy and confusion increase, which is considered an emergency.	Results when the body loses heat faster than it can produce it and the body temperature decreases to < 95°F. Some contributing factors include a person's immobility, damp or wet clothing, wind chill, or direct contact with a cold surface.	Move the person to a warm environment as soon as possible. Handle very gently – any jarring or sudden motion may trigger a severe medical condition. Remove any wet or cold clothing. Loosen constricting clothing from affected area. DO NOT massage the arms or legs – this may worsen muscle damage. Keep the person resting comfortably. If severe hypothermia, keep the person warm and get the person to the nearest emergency facility.

JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-802-4101-421	Revision 6
JPM Title Verify Offsite Electrical Lineup	Duration 8 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ SRO / RO

Evaluator: _____

Validating Representatives Name: _D. Roberts / J. Walters_____

JPM Type: **Normal** / Alternate Path **/** Time Critical Start Time _____

Evaluation Method: **Perform** / Walkthrough / Discuss Stop Time _____

Location: Plant / **Simulator** / Classroom Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
1.				***11.**							
*** 2.**				***12.**							
3.				13.							
*** 4.**											
*** 5.**											
*** 6.**											
7.											
*** 8.**											
9.											
***10.**											

OPERATOR FUNDAMENTALS OBSERVATION				
Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.				
Operator Fundamental	**Meets all Expectations**	**Opportunity for Improvement**	**Does not meet Expectations**	**Comment Number**
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS:

_____ PASS _____ FAIL

Evaluator Signature / Date: _____ /_____

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Information

System:

S2000/S4000 – 120/345KV Switchyards

Task:

57520 - Perform Control Room - Mode 1, 2, 3 Surveillances

References: Required (R) / Available (A)

24.000.01, Situational Surveillances/LCO Action Tracking, Attachment 28b (R)

Tools and Equipment Required:

None

Initial Conditions:

- You are the CRLNO.
- EDG-14 was just declared INOPERABLE.
- The CRS has entered LCO 3.8.1 Condition A.

Initiating Cue(s):

The CRS directs you to perform 24.000.01, Attachment 28b.

Terminating Cue(s):

24.000.01 Attachment 28b is turned in for review.

Task Standard:

The task is satisfactorily met if the examinee accurately completes 24.000.01, Attachment 28b, as indicated by:

- Bus 101 voltage verified and initialed to be reading approximately 120VAC.
- Verifies, records, and initials that at least one acceptable 120KV lineup is met.
- Verifies, records, and initials that offsite power to Division 1 onsite 4160V busses is correct.
- Verifies, records and initials that Acceptance Criteria for Division 1 AC Sources is met.
- Bus 301 voltage verified and initialed to be reading approximately 120VAC.
- Verifies, records, and initials that at least one acceptable 345KV lineup is met.
- Verifies, records, and initials that offsite power to Division 2 onsite 4160V busses is correct.
- Verifies, records and initials that Acceptance Criteria for Division 2 AC Sources is met.

JPM Title Verify Offsite Electrical Lineup	No.: JP-OP-802-4101-421 Revision: 6 Page 4

Licensed Operator Exam Information (required for NRC exams)

Safety Function:

N/A

K/A Reference: (from NUREG 1123)

K/A SYSTEM: GENERIC

K/A STATEMENT:

2.1.31 Ability to locate control room switches, controls, and indications, and to determine that they correctly reflect the desired plant lineup (CFR 41.10 / 45.12) ..... 4.6 / 4.3

Maintenance Rule Safety Classification:

N/A

Maintenance Rule Risk Significant? (Yes or No)

N/A

PERFORMANCE EVALUATION

Start Time _____

ELEMENT		STANDARD	
CUE:	**Provide examinee with Cue Sheet and marked up 24.000.01 Attachments 28a & 28b.**		
1.	[1.1.1] Record Bus 101 voltage.	1.	Records Bus 101 voltage.
*** 2.**	[1.1.2] Verify indicated voltage is approximately 120 VAC.	*** 2.**	Records initials verifying voltage is ~120 VAC.
3.	[1.1.3] If indicated bus voltage is <116 VAC, notify the SM, otherwise NA.	3.	Records NA in the initials block.
CUE:	**If asked, inform examinee that Breaker GD was opened mid-shift at ITC's request.**		
*** 4.**	[1.1.4] Verify one the following lineups is met: • For Shoal/Toll Road 1 Line supplying, Breaker GD is CLOSED. • For Radka/Toll Road 2 Line supplying, Breaker GK and GH are CLOSED. • For Swan Creek/Toll Road 3 Line Supplying, Breakers GM and GH are CLOSED.	*** 4.**	Checks off on one (or more) of the following boxes, indicating that (at least) one of the lineups is met, and initials that at least one of the lineups is correct: • For Shoal/Toll Road 1 Line supplying, Breaker GD is OPEN (does **NOT** check this box). • For Radka/Toll Road 2 Line supplying, Breaker GK and GH are CLOSED. • For Swan Creek/Toll Road 3 Line Supplying, Breakers GM and GH are CLOSED.
*** 5.**	[1.1.5] Verify the following breakers are CLOSED: • TRANS 1 SEC POS A BKR CONTROL • SS TRANS 64 PRI POS D BKR CONTROL • Bus 64B-B6 • Bus 64C-C6	*** 5.**	Checks off **each box*** indicating that each breaker is CLOSED and initials step.
*** 6.**	[1.2] Verify steps 1.1.2, 1.1.4, and Step 1.1.5 were completed satisfactorily.	*** 6.**	Places a check mark next to step 1.2 and initials the Acceptance Criteria.
7.	[1.3.1] Record Bus 301 voltage.	7.	Records 120V Bus 301 voltage.
*** 8.**	[1.3.2] Verify indicated voltage is approximately 120 VAC.	*** 8.**	Records initials verifying voltage is ~120 VAC.
9.	[1.3.3] If indicated bus voltage is <118.1 VAC, notify the SM, otherwise NA	9.	Records NA in the initials block.

ELEMENT		STANDARD	
***10.**	[1.3.4] Verify one the following lineups is met: • For BRTN 2 Line supplying, Breaker DF is CLOSED. • For BRTN 2 Line supplying, Breakers DM, CM, and CF are CLOSED with Main Generator off line. • For BRTN 3 Line, Breaker BM is CLOSED • For BRTN 3 Line, Breakers BT, CM and CF are CLOSED with Main Generator off line.	***10.**	Checks off one or more of the following boxes, indicating that (at least) one of the lineups is met, and initials that at least one of the lineups is correct: • For BRTN 2 Line supplying, Breaker DF is CLOSED. • For BRTN 3 Line, Breaker BM is CLOSED. Does **NOT** check off boxes for Main Generator off line.
***11.**	[1.3.5] Breakers 65E-E6 and 65F-F6 are closed.	***11.**	Initials that Breakers 65E-E6 and 65F-F6 are closed.
***12.**	[1.4] Verify Step 1.3.2 **and** Step 1.3.4 **and** 1.3.5 were completed satisfactorily.	***12.**	Records initials in the Acceptance Criteria block.
13.	[1.5] Sign for completed and record Name, Initials and Signature	13.	Records date and time of completion, and records Name, Initials and Signature.
CUE:	**Terminate JPM when 24.000.01 Attachment 28b is turned in for review.**		

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____

*** Critical Step**

JPM Title Verify Offsite Electrical Lineup	No.: JP-OP-802-4101-421 Revision: 6 Page 7

Evaluator Notes:

This JPM can be performed in the Simulator or the Control Room.

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

Generic Notes and Cues:

None

System Specific Notes and Cues:

None

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee.

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

IC-20 or any full power IC.

Malfunctions:

Number	Title	Value	Delay	Ramp
N/A				

Remote Functions:

Number	Title	Value	Delay	Ramp
R30RF0009	EDG 11 Control Mode Switch	MPO	0	0

Override Functions:

Number	Title	Value	Delay	Ramp
N/A				

Special Instructions:

1. Initialize to desired IC, and place the simulator in **RUN**.
2. Open Shoal Line Breaker GD.
3. Insert the remote function listed above.
4. Silence and acknowledge all alarms, and place the simulator in **FREEZE**.

Cue Sheet: (JP-OP-802-4101-421)

Initial Conditions:

- You are the CRLNO.
- EDG-14 was just declared INOPERABLE.
- The CRS has entered LCO 3.8.1 Condition A.

Initiating Cue(s):

The CRS directs you to perform 24.000.01, Attachment 28b.

Cue Sheet: (JP-OP-802-4101-421)

Initial Conditions:

- You are the CRLNO.
- EDG-14 was just declared INOPERABLE.
- The CRS has entered LCO 3.8.1 Condition A.

Initiating Cue(s):

The CRS directs you to perform 24.000.01, Attachment 28b.

DEMONSTRATING OPERABILITY OF AC SOURCES - MODE 1, 2, 3

1.0 AC Sources—Operating

1.1 For Bus 101 supplying SST64, perform the following (H11-P811);

1.1.1 Record Bus 101 voltage:

_____ V AC

1.1.2 Verify indicated voltage is approximately 120V AC.

INITIALS

1.1.3 If indicated bus voltage < 116V AC, notify the SM, otherwise NA.

INITIALS

1.1.4 Verify one of the following lineups is met:

For Shoal/Toll Road 1 Line supplying, Breaker GD is CLOSED. ❑

For Radka/Toll Road 2 Line supplying, Breakers GK and GH are CLOSED. ❑

For Swan Creek/Toll Road 3 Line supplying, Breakers GM and GH are CLOSED. ❑

INITIALS

1.1.5 Verify the following breakers are CLOSED:

TRANS 1 SEC POS A BKR CONTROL ❑

SS TRANS 64 PRI POS D BKR CONTROL ❑

Bus 64B-B6 ❑

Bus 64C-C6 ❑

INITIALS

DEMONSTRATING OPERABILITY OF AC SOURCES - MODE 1, 2, 3

1.2 Verify Step 1.1.2, Step 1.1.4, **and** Step 1.1.5 were completed satisfactorily. ❑

ACCEPTANCE CRITERIA _____
INITIALS

1.3 Perform the following (H11-P811):

1.3.1 Record Bus 301 voltage.

_____ V AC

1.3.2 Verify indicated bus voltage is approximately 120V AC.

_____
INITIALS

1.3.3 If indicated bus voltage < 110.4V AC, notify the SM; otherwise, NA.

_____
INITIALS

1.3.4 Verify one of the following lineups is met:

For BRTN 2 Line supplying, Breaker DF is CLOSED. ❑

For BRTN 2 Line supplying, Breakers DM, CM, and CF are CLOSED with Main Generator off line. ❑

For BRTN 3 Line, Breaker BM is CLOSED. ❑

For BRTN 3 Line, Breakers BT, CM and CF are CLOSED with Main Generator off line. ❑

_____
INITIALS

DEMONSTRATING OPERABILITY OF AC SOURCES - MODE 1, 2, 3

1.3.5 Breakers 65E-E6 and 65F-F6 are closed.

_____
INITIALS

1.4 Verify Step 1.3.2 **and** Step 1.3.4 **and** 1.3.5 were completed satisfactorily.

ACCEPTANCE CRITERIA _____
INITIALS

1.5 Completed _____ _____
DATE TIME

Name	**Initials**	**Signature**

JOB PERFORMANCE MEASURE

Job Position SRO / RO	No. JP-OP-802-4101-435R	Revision 0
JPM Title Notify Hospital for Contaminated Injured Worker	Duration 21 minutes*	Page 1

*2 times Duration for ILO Exams

Examinee: _____ RO / NO

Evaluator: _____

Validating Representatives Name: A. Snowberger (SRO) / K. Griffin (RO)

JPM Type: **Normal** / Alternate Path **/** Time Critical — Start Time _____

Evaluation Method: **Perform** / Walkthrough / Discuss — Stop Time _____

Location: Plant / **Simulator** / **Classroom** — Total Time: _____

PERFORMANCE EVALUATION SUMMARY											
Element	S	U	Comment	Element	S	U	Comment	Element	S	U	Comment
*** 1.**											
2.											
*** 3.**											
*** 4.**											
5.											

OPERATOR FUNDAMENTALS OBSERVATION

Monitor operator fundamentals during the JPM set. Rate each area based on the criteria by placing a checkmark in the appropriate column. Indicate the comment number associated with the observation.

Operator Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations	Comment Number
Monitoring				
Control				
Conservatism				
Teamwork				
Knowledge				

OVERALL EVALUATOR COMMENTS: _____

_____

_____

REMEDIAL CONTENT: _____

_____ PASS _____ FAIL

Evaluator Signature / Date: _____ /

JPM Observation Criteria

Fundamental	Meets all Expectations	Opportunity for Improvement	Does not meet Expectations
Monitoring	Equipment status monitored at proper frequency, using multiple means if available. Understood which indications were critical.	Some monitoring was performed but undue focus on task or lack of system knowledge prevented ideal monitoring.	Did not recognize key equipment status indicators, too much focus on single indications and ignored total system status.
Control	Task preview used to prepare for job. Aware of control bands and maintained them. Configuration control maintained.	Adequate control of system maintained throughout task but some improvements could be made such as better manual control or greater depth of knowledge for anticipating system response.	No anticipation of results of actions. Unaware or control bands or not able to maintain them. Lack of knowledge of how to control system parameters.
Conservatism	Low threshold for identification of problems. Questioning attitude. Uses “stop when unsure” if needed. Sensitive to nuclear safety.	Some opportunities existed to question before proceeding, High focus on task completion without consideration for other system affects.	Proceeds even when unsure with unanswered questions. High threshold for problem conditions.
Teamwork	Routinely communicates system status changes to the team. Communicates actions before taking them.	Communicated most status and actions. Some improvement would be warranted.	Routinely takes action without informing the team.
Knowledge	Able to anticipate system response based on solid system knowledge. Good working knowledge of generic fundamentals to predict and monitor system response.	Plant, system, or generic fundamental knowledge has some gaps.	Unable to predict system response, unsure of generic fundamentals concepts related to plant operation. Only relied on procedure for operating knowledge.

JPM Information

System:

N/A

Task:

74001 - Request offsite ambulance/paramedic, fire, or hospital support

References: Required (R) / Available (A)

EP-225, Radiological Medical Emergencies (R)
Form EP-290005, Hospital Support Request Form (R)
Form EP-290004, Ambulance/Paramedic Support Request Form (R)
Form EP-290006, Secondary Alarm Station Report (R)
General Regulatory Reporting Requirements List (GRRR List) (A)

Tools and Equipment Required:

RERP Forms (above)

Initial Conditions:

- You are the CRLNO.
- The plant is in a planned refueling outage.
- Radiation Protection, First Responder, and Site Nurse have responded to a medical emergency in the Reactor Water Cleanup (RWCU) Pump Room A.
- The first responder reports there is a contaminated injured man and is in urgent need of an ambulance and a paramedic.
- The man is approximately 40 years old.
- The injured man has a compound fracture of the right upper leg and has lost a large amount of blood.
- Radiation Protection has informed the Control Room that actions in Step 5.2.1 of EP-225, Radiological Medical Emergencies, are necessary for a contaminated injured man.
- Point Aux Peaux access is closed.

Initiating Cue(s):

The SM directs you to request offsite assistance in accordance with EP-225, Radiological Medical Emergencies, and EP-290, Emergency Notifications, using the forms provided.

Terminating Cue(s):

Forms EP-290004, EP-290005, and EP-290006 complete and phone calls made.

Task Standard:

The task is satisfactorily met if the examinee requests ambulance and hospital support, in accordance with EP-225 Radiological Medical Emergencies, by filling out the following forms and making the required phone calls in accordance with the attached KEY for each form:

- Form EP-290005, Hospital Support Request Form
- Form EP-290004, Ambulance/Paramedic Support Request Form
- Form EP-290006, Secondary Alarm Station Report

JPM Title Notify Hospital for Contaminated Injured Worker	No.: JP-OP-802-4101-435R Revision: 0 Page 4

Licensed Operator Exam Information (required for NRC exams)

Safety Function:

N/A

K/A Reference: (from NUREG 1123)

K/A SYSTEM: Generic

K/A STATEMENT:

2.3.12 Knowledge of radiological safety principles and procedures pertaining to licensed operator duties, such as response to radiation monitor alarms, containment entry requirements, fuel handling responsibilities, access to locked high-radiation areas, or alignment of filters……. .....3.2 / 3.7

Maintenance Rule Safety Classification:

N/A

Maintenance Rule Risk Significant? (Yes or No)

No

JPM Title Notify Hospital for Contaminated Injured Worker	No.: JP-OP-802-4101-435R Revision: 0 Page 5

PERFORMANCE EVALUATION Start Time _____

ELEMENT	STANDARD
CUE: Provide examinee with CUE Sheet, copy of EP-225 and the required forms. **IF asked the details of injured individual's radiological status and the Body Map (Attachment 1 of EP-225) are with patient and will go with the patient during transport to the hospital**	
*** 1**. Complete Form EP-290004, Ambulance/Paramedic Support Request Form.	*** 1**. Form EP-290004 is completed IAW the attached key. Critical aspects of this step are marked ***CT** on the key.
CUE: Inform the examinee to simulate the phone call. **CUE: For Form EP-290004, inform the examinee that Nate Drew is the Dispatcher, response time will be 25 minutes, arriving from Promedica Monroe. The examinee's phone number is 734-586-4771.**	
2. Complete Phone call to Frenchtown Township Rescue Squad.	2. Phone call is complete.
NOTE: Completion of forms EP-290005 & EP-290006 may be performed in any order.	
*** 3**. Complete Form EP-290006, Secondary Alarm Station Report.	*** 3**. Form EP-290006 is completed IAW the attached key. Critical aspects of this step are marked ***CT** on the key.
CUE: Inform the examinee to simulate the phone call. **CUE: When phone call is made, state: "Secondary Alarm Station, this is Officer Jones."** **CUE: For Item 4 on Secondary Alarm Station Report, the location is Warehouse A loading dock ramp door.**	
*** 4**. Complete Form EP-290005, Hospital Support Request Form.	*** 4**. Form EP-290005 is completed IAW the attached key. Critical aspects of this step are marked ***CT** on the key.
5. Complete phone call to ProMedica Monroe Hospital.	5. Phone call is complete.
CUE: Inform the examinee to simulate the phone call to the primary hospital. **CUE: Transport the injured person to the primary hospital, charge nurse is <u>George Fayne</u>.**	
CUE: Terminate JPM when forms have been filled out and phone calls have been made.	

_____ SATISFACTORY _____ UNSATISFACTORY

Stop Time _____ *** Critical Step**

JPM Title Notify Hospital for Contaminated Injured Worker	No.: JP-OP-802-4101-435R Revision: 0 Page 6

Evaluator Notes:

ENSURE ALL INDUSTRIAL AND PERSONNEL SAFETY PRACTICES ARE USED AND ENFORCED AT ALL TIMES.

Generic Notes and Cues:

None

System Specific Notes and Cues:

N/A

Task Performance and Cues:

The Elements of this JPM are step by step in accordance with the procedure. The Standard is that the procedure is performed as written. The Cues are as listed above for indication or as each step is completed the appropriate information is reported to the examinee.

Critical Steps:

Critical Tasks are identified by asterisk (*) and **bolded** steps on the cover sheet. Verify that the latest revision of the procedure is used and critical tasks are correctly identified.

FOLLOW-UP DOCUMENTATION QUESTIONS

Reason for follow-up question(s):

Question:

Reference:

Response:

Question:

Reference

Response:

Simulator Setup

IC#:

N/A

Malfunctions:

Number	Title	Value	Delay	Ramp
N/A				

Remote Functions:

Number	Title	Value	Delay	Ramp
N/A				

Override Functions:

Number	Title	Value	Delay	Ramp
N/A				

Special Instructions:

N/A

KEY (EP-290004)

AMBULANCE/PARAMEDIC SUPPORT REQUEST FORM

For any medical emergency requiring ambulance support:

- Dial 734-243-7070

Date: Today Time: Now

SCRIPT:

- This is Examinee's Name (name) calling from Fermi 2.
- There are injured personnel onsite and your assistance is required immediately.
- There are **1** (number) personnel injured. ***CT**
- They are / are not (circle one) contaminated. ***CT**

NOTE: Dispatch must be informed if injured person has been assessed by onsite medical professional.

- The description of the injury is as follows:
  The injured man has a compound fracture of the right upper leg and has lost a large amount of blood ***CT**
- The injured person (if known) is:
  - ☒ Male ☐ Female
  - Approximately/actually 40 years old.
  - This ☐ IS ☒ IS NOT a cardiac emergency.
- Use the Fermi Drive access gate.
- Transport the victim(s) to: ☒ ProMedica Monroe Regional Hospital (PRIMARY)***CT**
  ☐ Beaumont Hospital – Trenton (BACK-UP)
- Take the following precautions:
  Measures for treatment of potentially contaminated person.
- My call back phone number is (734) 586-4771 (Or number at desk where call is placed) ***CT**

END AMBULANCE/PARAMEDIC CALL

CALL SECONDARY ALARM STATION

☐ COMPLETE EP-290006 to facilitate the call to SAS.

OTHER ACTIONS

☐ COMPLETE EP-290005 for Hospital Support Request.

☐ REFER to EP-225, "Radiological Medical Emergencies," for completing applicable immediate and follow-up actions.

☐ FORWARD completed form to Manager, RERP.

FOR TRAINING USE ONLY

KEY (EP-290006)

SECONDARY ALARM STATION REPORT

Secondary Alarm Station: Control Room – Security Direct Line or 6-5215

1. Support organization contacted / Status of personnel and vehicles arriving:

   ☐ Fire Dept.
   - Vehicles expected: 1 (one) Engine, 1 (one) Tower Truck, 1 (one) Rescue
   - Personnel expected: 6 (six)

   ☒ Ambulance/Paramedics

   ☒ Life Threatening Medical Emergency: ***CT (The critical component is communication of the expected number of vehicles/personnel that will arrive onsite, NOT the determination of the type of emergency).**

   - Vehicles expected: 1 (one) Frenchtown Rescue, 1 (one) Ambulance
   - Personnel expected: 2 (two) Frenchtown, 2 (two) Ambulance

   ☐ Non-Life Threatening Medical (Ambulance Transport ONLY):
   - Vehicles expected: 1 (one) Ambulance
   - Personnel expected: 2 (two)

   ☐ Other: _____

2. Owner-controlled area access gate to be used:

   ☒ Fermi Drive (Primary) ***CT**

   ☐ Point Aux Peaux (only use if Fermi Drive Gate is not accessible)

3. Expected Time of Arrival: +25 minutes from now

4. Location of emergency / Location for staging responders: Warehouse A Loading Dock

5. Contact Name: Officer Jones Date: Today Time: Now

6. IF transport to hospital is required, THEN complete the Hospital Support Request Form (EP-290005).

7. FORWARD completed form to Manager, RERP.

KEY (EP-290005)

HOSPITAL SUPPORT REQUEST FORM

NOTE: ProMedica Monroe Regional Hospital is the primary hospital. Beaumont Hospital – Trenton should only be used if conditions prevent the use of ProMedica Monroe Regional Hospital.

ProMedica Monroe Regional Hospital: **734-240-8404 (ask for Charge Nurse)**

Beaumont Hospital – Trenton: **734-671-3134, 734-671-3881, or 734-362-6764**

Date: Today Time: Now

SCRIPT

- This is Examinee's Name (name) calling from Fermi 2.
- What is your name please? (name) George Fayne
- There are injured personnel onsite and an ambulance service has been requested for transport.
- There are 1 (number) personnel injured.***CT**
- They are / are not (circle one) contaminated. ***CT**
- **NOTE: IF** there are contaminated personnel, **THEN** state: ***CT**

"You are requested to implement your Radiological Emergency Response Plan."

- Their injuries include: ***CT**

Compound fracture of upper right leg.
Significant blood loss.

- There are 0 (number) personnel suffering from excessive radiation exposure.
- My call back phone number is 734-586-4711 (or number at desk where call is made) ***CT**

END HOSPITAL CALL

OTHER ACTIONS

☐ FORWARD completed form to Manager, RERP.

Cue: (JP-OP-802-4101-435)

Initial Conditions:

- You are the CRLNO.
- The plant is in a planned refueling outage.
- Radiation Protection, First Responder, and Site Nurse have responded to a medical emergency in the Reactor Water Cleanup (RWCU) Pump Room A.
- The first responder reports there is a contaminated injured man who is in urgent need of an ambulance and a paramedic.
- The man is approximately 40 years old.
- The injured man has a compound fracture of the right upper leg and has lost a large amount of blood.
- Radiation Protection has informed the Control Room that actions in Step 5.2.1 of EP-225, Radiological Medical Emergencies, are necessary for a contaminated injured man.
- Point Aux Peaux access is closed.

Initiating Cue(s):

The SM directs you to request offsite assistance in accordance with EP-225, Radiological Medical Emergencies, and EP-290, Emergency Notifications, using the forms provided.

Cue Sheet: (JP-OP-802-4101-435)

Initial Conditions:

- You are the CRLNO.
- The plant is in a planned refueling outage.
- Radiation Protection, First Responder, and Site Nurse have responded to a medical emergency in the Reactor Water Cleanup (RWCU) Pump Room A.
- The first responder reports there is a contaminated injured man who is in urgent need of an ambulance and a paramedic.
- The man is approximately 40 years old.
- The injured man has a compound fracture of the right upper leg and has lost a large amount of blood.
- Radiation Protection has informed the Control Room that actions in Step 5.2.1 of EP-225, Radiological Medical Emergencies, are necessary for a contaminated injured man.
- Point Aux Peaux access is closed.

Initiating Cue(s):

The SM directs you to request offsite assistance in accordance with EP-225, Radiological Medical Emergencies, and EP-290, Emergency Notifications, using the forms provided.

RADIOLOGICAL MEDICAL EMERGENCIES

Revision Summary

1) Re-wrote Entry Condition Step 3.1.
2) Added new General Information Step 4.2 to explain that medical treatment takes priority over decontamination efforts. This was originally stated in a CAUTION before Step 5.1.
3) Added Note before Step 5.1.3 to have Control Room personnel use pager utility for notifying First Responders.
4) Reworded Step 5.1.3.1 relating to Control Room personnel contacting Radiation Protection.
5) Reworded Step 5.1.7.5 to provide instruction on which step to go to whenever hospital treatment is necessary.
6) Re-worded Caution statement before Step 5.1.8 relating to medical staff decon involvement.
7) Added Note before Step 5.1.8 to reference 67.000.400 for decon methods.
8) Added new Steps to 5.1.9 and 5.2.2 regarding free releasing individuals from the RRA.
9) Updated titles of support hospitals in Step 5.2.1.
10) Added new Steps to 5.2.4 regarding processing secondary dosimeters.
11) Reworded Note before Step 5.2.5 to clarify location of normal ambulance pick-up location.
12) Reworded Step 5.2.7 to ensure Body Maps (Attachment 1) stay with the patient during transport to the hospital.
13) Clarified wording for contamination release levels in Steps 6.1.1.4 and 7.1.1.4.
14) Re-worded Step 7.1.1.6 regarding the collection of radioactive material.
15) Added new Step 7.1.1.7 regarding the transport of radioactive material back to Fermi.
16) Made minor editorial changes throughout procedure. No revision bars used for editorial changes.
17) Revised step 3.1, 4.3, 5.1.3, 5.1.9, 5.2.2, 5.2.4 and the Note preceding step 5.2.5 to change instances of Radiologically Restricted Area (RRA) to Radiologically Controlled Area (RCA) in accordance with NEI Efficiency Bulletin 16-26c. (ACR #16-1534)

Attachments

1 083105 Body Map

Enclosures - None

1.0 PURPOSE

To prescribe the required actions and special considerations when handling and transporting injured and radiologically contaminated or potentially contaminated personnel.

2.0 USE REFERENCES

2.1 EP-290, Emergency Notifications

2.2 67.000.400, Personnel Decontamination and Assessment

2.3 General Regulatory Reporting Requirements List (GRRR List)

3.0 ENTRY CONDITIONS

3.1 Report of injured or significantly ill personnel inside the Radiologically Controlled Area (RCA) or involving radioactive material.

4.0 GENERAL INFORMATION

4.1 Radioactive contamination is of special concern because of the potential internal dose caused by radioactive material absorbed into the bloodstream through an open wound. Specific guidelines for rendering medical care and first aid to contaminated personnel may limit or even eliminate the absorption of radionuclides.

4.2 Prompt treatment of serious or potentially serious injuries or illnesses (e.g., life-threatening conditions) takes priority over decontamination efforts, treatment of radiation exposure, or movement of the victim.

4.3 Individuals injured inside a RCA must be surveyed by Radiation Protection personnel prior to determining the individual is not contaminated.

4.4 All occupational injuries and non-occupational injuries and illnesses must be reported to the employee’s supervisor.

4.5 A Plant First Responder is a qualified first aid provider dedicated to responding to medical emergencies onsite. Plant First Responders are qualified in basic first aid and CPR as part of their training in Responding to Emergencies. However, Plant First Responders are not required to be certified through the State First Responder Program.

4.5.1 During normal working hours, the Onsite Nurse is responsible for first aid treatment and the decision for offsite medical assistance. During off hours, or when the Onsite Nurse is not present, the Plant First Responder is responsible for first aid treatment and the decision for offsite medical assistance. If neither the nurse nor Plant First Responder is available, Operations personnel qualified in first aid are responsible for the previously stated responsibilities.

4.5.2 First aid providers should ensure adequate protective clothing is worn to protect themselves from blood and other potentially infectious materials that may be present during response to a medical emergency.

4.6 In the event of mass casualties involving contaminated or potentially contaminated personnel. Monroe County Emergency Management Plan, Annex K. Appendix 1, Nuclear Accident Procedures Emergency Medical Services, states that Monroe County Emergency Medical Services Official will be responsible for mobilizing and coordinating all emergency medical services (EMS) resources to respond promptly to a nuclear facility accident including communication, transport and treatment.

Triage areas would be established by the Incident Commander in accordance with local response protocols. The Nuclear Training Center or any other suitable onsite location would be made available to the Incident Commander.

In the event of a casualty that prevents immediate removal of injured personnel from site, the Nuclear Training Center (NTC) can be used as a triage staging area, as designated by the Shift Manager. The NTC provides an area accessible to offsite medical responders without approaching the protected area of the plant. Transport of more seriously injured personnel could then occur while less seriously injured continue to receive treatment from onsite and offsite medical responders.

5.0 IMMEDIATE ACTIONS

CAUTION

**Unless there is an immediate danger to life or limb,
a person with a serious illness or injury should not be moved until medically evaluated.**

5.1 Initial Response

Who	*Step*	*Action*
Employee	5.1.1	Upon discovering an injured **and** contaminated or potentially contaminated individual:
		1. Contact the Main Control Room and report the nature of the injury, condition of the individual, and any other relevant information.
		NOTE: Personnel qualified in first aid, but not designated as medical response personnel, are not required to perform first aid, but may do so at their option.
		2. If qualified, administer first aid.
		3. Remain with the injured individual until designated medical assistance arrives.
Control Room	5.1.2	During a non-emergency situation when the Operational Support Center (OSC) is **not** functional, direct available on-shift Operations personnel to respond to the accident.
		or
OSC		When the OSC is functional, dispatch a Damage Control and Rescue Team (DCRT) to respond to the accident. This team shall include an Operator.
On-Shift Operations Personnel/Damage Control Rescue Team/Qualified First Aid Personnel		1. Gather first aid equipment, proceed to accident scene, and administer first aid to the injured individual.

NOTE: Control Room personnel should use the paging system (i.e., Pager Utility) and alpha page First Responders to direct them to the scene.

Control Room

5.1.3 Notify the following of all relevant information concerning the reported injury including expected hazards in the area:

1. **IF** the illness or injury has occurred inside the RCA or if radioactive material is involved outside the RCA, **THEN** contact Radiation Protection (typically the RP Main Control Point).

2. Secondary Alarm Station (Security)

3. Onsite Medical Facility (day shift)

4. Supervisor of the injured individual

NOTE: Radiological surveys must be performed to the extent possible. These surveys shall not aggravate the injuries or interfere with the individual's treatment.

Radiation Protection

5.1.4 Obtain radiological survey equipment, report to the accident scene, and assess the radiological conditions of the injured individual and the area.

1. Notify the Shift Manager/Emergency Director if the injured individual's dose exceeds administrative guidelines established in MRP03, “Personnel Radiation Monitoring.”

2. Be prepared to instruct on-shift Operations personnel and the first aid provider on radiological control techniques when treating and transporting the injured individual.

Shift Manager/ Emergency Director

5.1.5 Make an **Immediate Notification** if dose falls within the reportability requirements of 10CFR20.2202(a).

NOTE: Escorting an Onsite Nurse to the scene by Security is only carried out on Monday through Friday dayshift when a nurse is on site.

Nuclear Security Personnel

5.1.6 Report to the OSB Main Entrance to escort the Onsite Nurse with medical supply cart to the accident location.

On-Shift Operations Personnel/Damage Control Rescue Team/Qualified First Aid Personnel

5.1.7 Upon arriving at the accident location:

1. Follow Radiation Protection instructions concerning exposure and contamination controls.

2. Administer required first aid.

3. Prepare to transport the injured person(s) out of the radiological controlled area.

4. **IF** the injured individual is being removed from a contaminated area, **THEN** remove the injured individual's contaminated clothing, if possible.

5. Determine if hospital treatment is necessary (for example, the individual has a fracture, burn, or head injury, in shock, etc.).

   a. **IF** hospital treatment **IS** needed, **THEN** contact the Main Control Room and request offsite assistance (e.g., Frenchtown Rescue/Paramedics).

      1) GO TO Step 5.2.

   b. **IF** off-site assistance **IS NOT** needed, **THEN** Go to next Step 5.1.8.

CAUTION

If decontamination efforts involve significant injuries such as lacerations, wounds, open fractures, or body orifices, the Onsite Nurse/Medical Professional will oversee and/or perform this effort to prevent further injury.

NOTE: Personnel decontamination methods are performed in accordance with 67.000.400.

Radiation Protection/ Qualified First Aid Personnel

5.1.8 For individuals with minor injuries that are contaminated or potentially contaminated, perform decontamination methods in the Personnel Decontamination Room before treatment at the Onsite Medical Facility

Radiation Protection

5.1.9 When **time and injuries** permit, remove any remaining contaminated or potentially contaminated clothing or personal items and survey the individual for free release before removal from the RCA.

1. **IF** the individual was free released from the RCA, **THEN** turn the individual over to medical personnel and/or their supervisor.

   a. Ensure individual is logged out of the RCA, as needed.

Anyone having contact with the injured individual

b. Clean hands with soap and water. Report any contact with the injured individual's body fluids to your supervisor and onsite medical.

c. Exit this procedure.

5.2 Request for Offsite Medical Assistance

Who	*Step*	*Action*
Control Room	5.2.1	Upon request from Operations personnel (at the scene) or a qualified first aid provider for offsite medical support, contact the following in accordance with Offsite Emergency Support Required of EP-290:

1. Contracted Ambulance Service – Ambulance/Paramedic Support Request Form (EP-290004)

2. ProMedica Monroe Hospital – Hospital Support Request Form (EP-290005)

or

Beaumont Hospital - Trenton (if ProMedica Monroe cannot be used due to events occurring at Fermi 2 or ProMedica Monroe) (EP-290005)

3. Secondary Alarm Station (SAS) – Secondary Alarm Station Report (EP-290006)

Radiation Protection 5.2.2 **IF** the injured/ill individual was surveyed (whole body) and no contamination was detected (i.e. individual can be free released from the RCA), **THEN** collect individual's secondary dosimeter while patient is being handed over to ambulance/medical personnel.

1. Contact the Main Control Room and inform them the individual(s) being transported to the hospital **IS (ARE) NOT** contaminated.

Anyone having contact with the injured individual

2. Clean hands with soap and water. Report any contact with the injured individual's body fluids to your supervisor and onsite medical.

3. Exit this procedure.

5.2.3 **IF** the injured individual is contaminated, **THEN** designate the location, degree of contamination, and pertinent injury information on a Body Map (Attachment 1) when time and injuries permit.

NOTE: The Radiation Protection technician who accompanies the individual in the ambulance shall keep his/her assigned dosimetry on his/her body.

5.2.4 Upon exiting the RCA, remove the injured individual's DLR and secondary dosimetry, and replace with dosimetry from the Radiation Protection Emergency Equipment - Onsite Ambulance Kit prior to transfer offsite.

1. Process secondary dosimeter to log individual(s) out of the RCA.

2. Send DLR to Rad Health for analysis as appropriate.

NOTE: The normal ambulance pick-up location for injuries inside the RCA is the RCA boundary gate adjacent to Warehouse A loading dock area unless designated otherwise by the Shift Manager.

Nuclear Security Personnel

5.2.5 When the ambulance arrives onsite, provide an escort to the designated pick-up location.

On-Shift Operations Personnel/ Damage Control Rescue Team/ Qualified First Aid Personnel

5.2.6 Provide ambulance crew with details of injured individual's medical status.

Radiation Protection

5.2.7 Provide ambulance crew with details of injured individual's radiological status and ensure the Body Map (Attachment 1) stays with the patient during transport to the hospital.

5.2.8 During transfer of individual into ambulance, use material/equipment from the Radiation Protection Emergency Equipment - Onsite Ambulance Kit to minimize radiological hazards to offsite support agencies. The kit is located in the Alternate Fire Brigade dressout area, north end of Machine Shop, 1st Floor OSB.

1. Issue DLRs and DRDs to ambulance crew.

2. Provide ambulance crew with protective clothing, as necessary.

3. Line the ambulance interior with plastic sheeting (such as herculite), as necessary.

5.2.9 Accompany injured individual to hospital. Arrange to have another Radiation Protection technician meet the ambulance at the hospital to provide further radiological support.

5.2.10 Advise the ambulance personnel on proper radiological controls during handling and transport of injured individual.

Anyone having contact with the injured individual

5.2.11 Clean hands with soap and water. Report any contact with the injured individual's bodily fluids to your supervisor and onsite medical.

6.0 PROCEDURE

6.1 Radiation Controls at the Hospital

Who	*Step*	*Action*

NOTE: The hospital staff is responsible for setting up the Radiation Emergency Area (REA) of the hospital using the materials stored in the RP Emergency Equipment - Hospital Cabinets. Radiological postings and ropes are used to control access to the REA.

Radiation Protection

6.1.1 If staged **outside** the hospital treatment room:

1. After patient is delivered to the hospital, ensure access into the ambulance is controlled until it is surveyed and released as not contaminated.

2. Verify postings/barriers are adequate and make changes, if necessary.

3. Ensure ambulance attendants remain inside the ambulance or inside hospital REA until monitored for contamination.

4. Survey ambulance attendants and all potentially contaminated equipment/surfaces of the ambulance and decontaminate as necessary to no detectable activity above background prior to release.

5. Collect dosimetry and any protective clothing or contaminated waste from ambulance personnel prior to release.

6. Ensure buffer zone is kept free of contamination.

7. Control entrance and exit of hospital personnel and equipment into and out of the treatment room.

6.1.2 If staged i**nside** the hospital treatment room:

1. Don protective clothing and dosimetry stored in the RP Emergency Equipment - Hospital Kit.

2. Assist hospital staff in donning protective clothing and dosimetry.

3. Perform frequent surveys of hospital staff, equipment, and patient.

4. Provide guidance in contamination control practices during handling and treatment of patient.

5. If necessary, use the services of the U.S. Department of Energy's Radiation Emergency Assistance Center/Training Site (REAC/TS) to determine the magnitude of excessive exposures or provide consultation on medical response. Emergency telephone numbers for REAC/TS are listed in the RERP Emergency Telephone Directory and offsite hospital plans.

7.0 FOLLOW-UP ACTIONS

7.1 Final Radiation Protection Actions and Reportability Requirements

Who	*Step*	*Action*
Radiation Protection	7.1.1	Upon termination of the emergency:

1. Assist hospital staff in removing protective clothing and exiting the treatment room.

2. Collect dosimetry from personnel exiting REA and verify complete dose information.

3. Perform contamination surveys of all personnel, equipment, and any other surfaces potentially contaminated in the REA.

4. Decontaminate contaminated personnel, equipment, and other surfaces to no detectable activity above background before release.

5. Ensure all results of ambulance and hospital surveys and decontamination are documented.

6. Collect all protective clothing, contaminated or potentially contaminated waste, and any radioactive material that originated from Fermi from both hospital and ambulance personnel, and prepare to return to Fermi 2.

7. Before transporting any radioactive material back to Fermi 2, this material must be surveyed (characterized) to determine if radioactive shipment regulations apply. Contact the RP Shipping Supervisor/Specialist for this information.

8. Collect all Fermi equipment used during transportation and return to First Aid facility. This may include:

   a. Miller full body splint

   b. Yellow litter

   c. Orange basket stretcher

   d. Splints

   e. Any head or body restraints or straps

9. Perform inventories, as required, of Radiation Protection Emergency Equipment - Hospital Kit and Onsite Ambulance Kit in accordance with 67.000.405, "Maintenance and Inventory of Radiation Protection Emergency Kits."

10. Send copies of completed documents generated from performance of this procedure to Manager, RERP for retention.

Shift Manager/ Emergency Director

7.1.2 Ensure all reportability requirements from the General Regulatory Reporting Requirements List (GRRR List) are met.

1. Reference GRRR List Report No. I-1 for transporting contaminated individuals offsite.

2. Reference GRRR List Report No. I-6 for incidents involving radiation exposures.

8.0 RECORDS

8.1 Radiation Protection Documentation

8.1.1 All documentation related to ambulance and hospital surveys, and decontamination are required records and shall be sent to the Supervisor, Radiation Protection for retention.

8.1.2 All completed inventory forms shall be sent to the Radiation Protection Emergency Kit Coordinator for review and retention.

8.1.3 All completed Body Maps (Attachment 1) shall be sent to the Manager, RERP for retention.

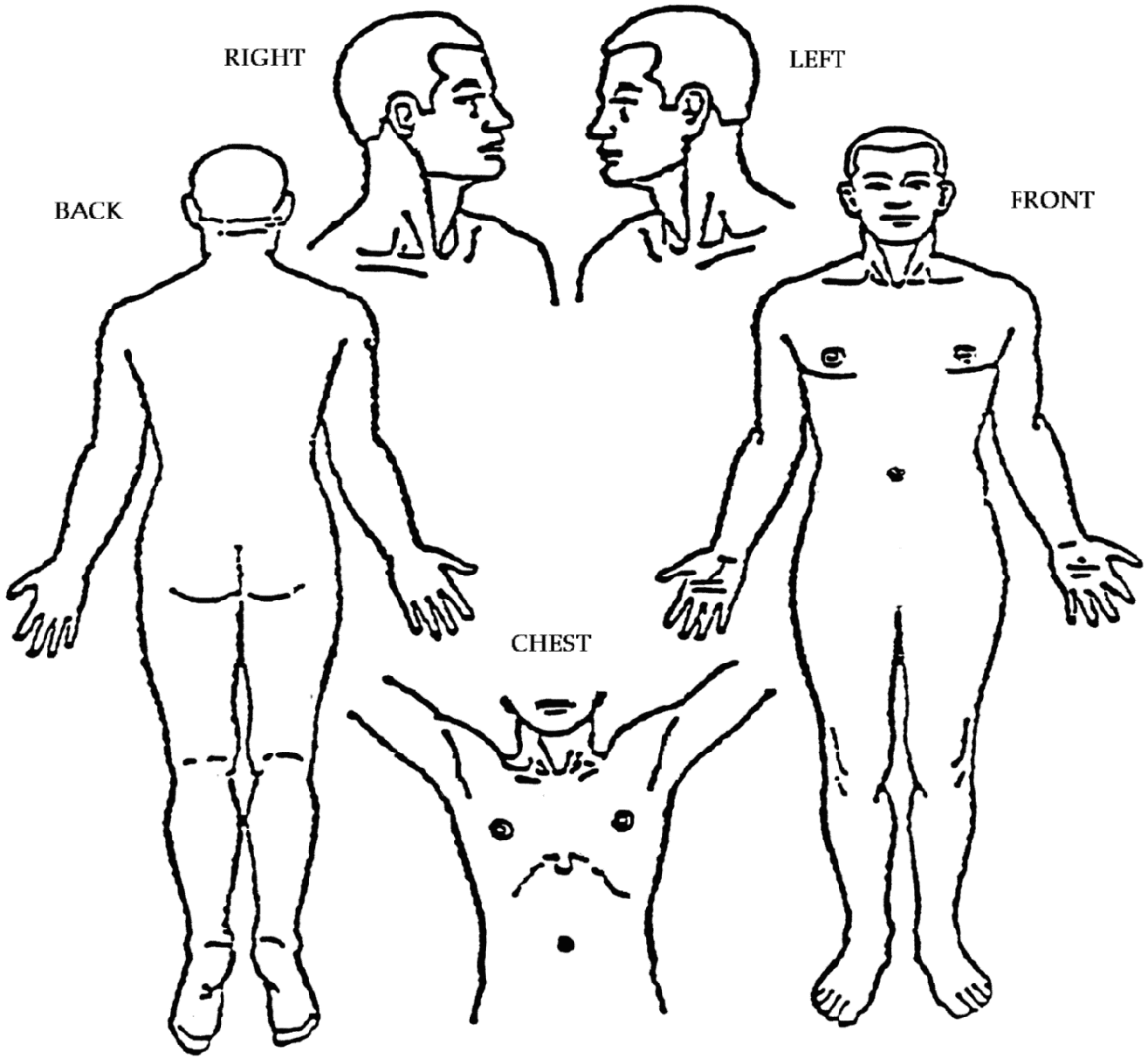
END OF TEXT

BODY MAP

CONTAMINATED AREA LOCATIONS
DEGREE OF CONTAMINATION
LOCATION OF WOUNDS

Individual's Name:_____ **Date:**_____

Dept./Organization:_____ **Survey Time:**_____



Type of Meter Used:_____ **Distance Skin-to-Probe:**_____ inches
(Indicate Model and Number)

Body Map Completed by:_____ _____ _____
Print Name Signature Date

Send completed form to Manager, RERP.

END

AMBULANCE/PARAMEDIC SUPPORT REQUEST FORM

For any medical emergency requiring ambulance support:

- Dial 734-243-7070

Date:_____ Time:_____

SCRIPT:

- This is _____ (name) calling from Fermi 2.
- There are injured personnel onsite and your assistance is required immediately.
- There are ____ (number) personnel injured.
- They are / are not (circle one) contaminated.

NOTE: Dispatch must be informed if injured person has been assessed by onsite medical professional.

- The description of the injury is as follows:

- The injured person (if known) is:
  - ☐ Male ☐ Female
  - Approximately/actually _____ years old.
  - This ☐ IS ☐ IS NOT a cardiac emergency.
- Use the Fermi Drive access gate.
- Transport the victim(s) to: ☐ ProMedica Monroe Regional Hospital (PRIMARY)
  ☐ Beaumont Hospital – Trenton (BACK-UP)
- Take the following precautions:

- My call back phone number is _____

END AMBULANCE/PARAMEDIC CALL

CALL SECONDARY ALARM STATION

☐ COMPLETE EP-290006 to facilitate the call to SAS.

OTHER ACTIONS

☐ COMPLETE EP-290005 for Hospital Support Request.

☐ REFER to EP-225, "Radiological Medical Emergencies," for completing applicable immediate and follow-up actions.

☐ FORWARD completed form to Manager, RERP.

HOSPITAL SUPPORT REQUEST FORM

NOTE: ProMedica Monroe Regional Hospital is the primary hospital. Beaumont Hospital – Trenton should only be used if conditions prevent the use of ProMedica Monroe Regional Hospital.

ProMedica Monroe Regional Hospital: **734-240-8404 (ask for Charge Nurse)**

Beaumont Hospital – Trenton: **734-671-3134, 734-671-3881, or 734-362-6764**

Date:_____ Time: _____

SCRIPT

- This is _____ (name) calling from Fermi 2.
- What is your name please? (name) _____
- There are injured personnel onsite and an ambulance service has been requested for transport.
- There are ____ (number) personnel injured.
- They are / are not (circle one) contaminated.
- **NOTE: IF** there are contaminated personnel, **THEN** state:

> **"You are requested to implement your Radiological Emergency Response Plan."**

- Their injuries include:

- There are _____(number) personnel suffering from excessive radiation exposure.
- My call back phone number is_____

END HOSPITAL CALL

OTHER ACTIONS

☐ FORWARD completed form to Manager, RERP.

SECONDARY ALARM STATION REPORT

Secondary Alarm Station: Control Room – Security Direct Line or 6-5215

1. Support organization contacted / Status of personnel and vehicles arriving:

   ☐ Fire Dept.
   - Vehicles expected: 1 (one) Engine, 1 (one) Tower Truck, 1 (one) Rescue
   - Personnel expected: 6 (six)

   ☐ Ambulance/Paramedics

   ☐ Life Threatening Medical Emergency:
   - Vehicles expected: 1 (one) Frenchtown Rescue, 1 (one) Ambulance
   - Personnel expected: 2 (two) Frenchtown, 2 (two) Ambulance

   ☐ Non-Life Threatening Medical (Ambulance Transport ONLY):
   - Vehicles expected: 1 (one) Ambulance
   - Personnel expected: 2 (two)

   ☐ Other: _____

2. Owner-controlled area access gate to be used:

   ☐ Fermi Drive (Primary)

   ☐ Point Aux Peaux (only use if Fermi Drive Gate is not accessible)

3. Expected Time of Arrival: _____

4. Location of emergency / Location for staging responders: _____

5. Contact Name: _____ Date: _____ Time: _____

6. IF transport to hospital is required, THEN complete the Hospital Support Request Form (EP-290005).

7. FORWARD completed form to Manager, RERP.