

**BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE**

OPERATOR: \_\_\_\_\_

RO \_\_\_\_\_ SRO \_\_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: 548

TASK NUMBER: Radiation Control

TASK TITLE: Locked High Radiation Entry

K/A NUMBER: 2.3.12 K/A RATING: RO 3.2 SRO: 3.7

TASK STANDARD: Determine dress out requirements and estimate dose to verify within RWP and quarterly limits.

LOCATION OF PERFORMANCE: Class Room

REFERENCES/PROCEDURES NEEDED: Handout JPM 548 RWP and Survey Map, SPP 5.1

VALIDATION TIME: 15 minutes

MAX. TIME ALLOWED: \_\_\_\_ (Completed for Time Critical JPMs only)

PERFORMANCE TIME: \_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_ NO \_\_\_

RESULTS: SATISFACTORY \_\_\_\_\_ UNSATISFACTORY \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

**BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE**

\*\*\*\*\*

**Class Room**

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**INITIAL CONDITIONS:** You are a Browns Ferry employee who has obtained an accumulative yearly dose of 750 mrem.

The job will require you to vent the RWCU Regenerative Hx and to manually close the 3-FCV-69-2 valve and place a mechanical restraining device on the valve. The RWCU Regenerative Hx will be vented from the scaffold at the south end of the Hx's (a scaffold has been erected to be used for venting - cannot leave scaffold while venting is in progress), and will require 30 minutes for venting. Then proceed to 3-FCV-69-2 valve to manually close and install the mechanical restraining device, it should require 10 minutes to close the valve and another 15 minutes to install the mechanical restraining device. Assume the 30cm reading will be the whole body dose received at each location. Assume a total travel dose of 15 mrem will be received.

**INITIATING CUES:** Given the survey map and RWP, determine the following:

- Dress-out requirements for entry to perform your assigned task
- Whether you can complete the assigned task in the area without exceeding your TVA administrative dose limit
- Whether you can complete the assigned task in the area without exceeding the RWP dose entry limits both rate and total dose, i.e. will you receive an MG alarm.

**START TIME** \_\_\_\_\_

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Performance Step: Critical X Not Critical \_\_

Determines Dress Out requirements

Standard:

Shoe covers - one pair, Coveralls - one pair, Face Shield, Gloves – rubber - two pair, cloth inserts, Booties – plastic - 2 pair, Rain suit, and Hood

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical X Not Critical \_\_

Calculates RWCU HX venting dose.

Standard:

30 minutes in a 250 mrem/hr area = 125 mrem

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

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Performance Step: Critical X Not Critical \_\_

Calculates 69-2 valve work dose

Standard:

25 minutes in a 100 mrem/hr area = 42 mrem

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

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Performance Step: Critical X Not Critical \_\_

Calculates total dose recieved

Standard:

15 mrem travel + 125 mrem venting + 42 mrem 69-2 = 182 mrem

SAT\_\_ UNSAT\_\_ N/A\_\_ COMMENTS: \_\_\_\_\_

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Performance Step: Critical X Not Critical \_\_

Calculates total dose for quarter

Standard:

750 mrem + 182 mrem = 932 mrem

SAT\_\_ UNSAT\_\_ N/A\_\_ COMMENTS: \_\_\_\_\_

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Performance Step: Critical \_ Not Critical X

Verifies RWP MG Setpoints

Standard:

MG setpoints: for Dose Rate alarm of 500 mrem/hr will **not** be exceeded and Dose alarm of 200 mrem will **not** be exceeded.

SAT\_\_ UNSAT\_\_ N/A\_\_ COMMENTS: \_\_\_\_\_

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Performance Step:

Critical\_ Not Critical\_ X

Verifies dose limits for quarter and RWP

Standard:

Verifies will have a total dose of less than 950 mrem which is below the TVA limit

SAT\_\_ UNSAT\_\_ N/A\_\_ COMMENTS: \_\_\_\_\_

\_\_\_\_\_

END OF TASK

**STOP TIME** \_\_\_\_\_

**RADIOLOGICAL WORK PERMIT**  
**BRIEFING REQUIRED EVERY ENTRY****GENERAL DESCRIPTION**

Status: Active	Start Date: 01-Jan-This year	End Date: 01-Jan-Next year
Type: SPECIFIC	MAP ID:	Outage: Y
Task: ROUTINE PLANT MAINTENANCE		Name:
HP	CONTINUOUS	PSE: N
ALARA Review Number: 0A-0010	Authorization Type: INDIVIDUAL	Primary Work Doc:
Person-mrem Estimate: 1904	Person-Hrs Estimate: 1082	Dose Rate Alarm: 500
Dose Alarm: 200		
DAC-Hrs Tracked: N		
Work Area Description: RWCU HX Room Unit 3		

**DESCRIPTION OF WORK TO BE PERFORMED**

Unit 3 Maintenance on RWCU (69) Systems	(LHRA VARIOUS DRESS) 200 / 500
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**ANTI-CONTAMINATION CLOTHING REQUIREMENTS**

1	LAB COAT	1,2	BOOTIES, CLOTH, ONE PAIR
1,2	GLOVES, RUBBER, ONE PAIR	1,2,3	CLOTH INSERTS
1,2,3	SHOE COVERS, ONE PAIR	1,2,3	MODESTY CLOTHING
1,2,3	NO PERSONAL OUTER CLOTHING	1,2,3	SURGEON'S CAP
2,3	COVERALLS, ONE PAIR	3	BOOTIES, PLASTIC, TWO PAIR
3	FACE SHIELD	3	RAIN SUIT
3	GLOVES, RUBBER, TWO PAIR	3,4	HOOD

**DOSIMETRY REQUIREMENTS**

ELECTRONIC DOSIMETER	TLD
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**BRIEFING REQUIREMENTS**

PRE-JOB BRIEFING	
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**WORK STEPS**

1	MANAGEMENT / WO WALKDOWN
2	3-CI-412
3	OPS VALVE LINEUP - 3-OI-69 & HX VENTING
4	07-712928-000
5	06-722560-000
6	06-727133-000
7	06-722556-000
8	06-722559-000
9	06-718308-002
10	06-722558-000

**RADIOLOGICAL WORK PERMIT**  
**BRIEFING REQUIRED EVERY ENTRY**

**WORKER INSTRUCTIONS**

1 DRESSOUT CODE APPLICATIONS 1) FLOOR LEVEL INSP, LOW TO MODERATE CONTAMINATION. 2) MINOR MAINTENANCE, NO PRIMARY SYSTEM BREACH. 3) PRIMARY SYSTEM BREACH, HEAT EXCHANGER VENTING. 4) ANY WORK ABOVE FLOOR LEVEL REQUIRES SAFETY BELT W/ LIFELINE. 5) REQUIRED TO WEAR HEADGEAR OTHER THAN PERSONAL HARDHAT.
2 MONITOR YOUR ED (DAD) FREQUENTLY, EXIT THE AREA PRIOR TO REACHING THE DOSE ALARM SET POINT OR UPON RECEIVING ANY UNEXPECTED ALARMS.
3 DO NOT EXCEED 200 mrem PER ENTRY OR DOSE MARGIN (RAD-REMAINING ALLOWABLE DOSE).
4 REMOTE MONITORING , PEA , OR SIMILAR DEVICE REQUIRED.
5 ED (DAD) TO BE BAGGED (WRAPPED) AND WORN OUTSIDE OF C-ZONE CLOTHING.
6 REVIEW PLANNED WORK OR INSPECTIONS WITH RAD PROTECTION PRIOR TO ENTRY.
7 UTILIZE TIME, DISTANCE, AND SHIELDING ALARA PRINCIPLES.
8 REVIEW APPROPRIATE SURVEY DATA PRIOR TO ENTRY. NOTE AND AVOID POSTED HOT SPOTS. LOCATE AND UTILIZE LOW DOSE WAITING AREAS.
9 RADWORKER SHALL ADHERE TO ANY SPECIAL INSTRUCTIONS (APR, ETC) ON WHICH HE/SHE HAS BEEN BRIEFED BY RAD PROTECTION.
10 NOTIFY RADCON PRIOR TO ANY SYSTEM BREACH.
11 RAD PROTECTION COVERAGE MAY BE PROVIDED FROM OUTSIDE THE C-ZONE.
12 SECURE ALL HOSES, ELECTRICAL CORDS, WELDING LEADS AND OTHER SERVICES ENTERING THE C-ZONE AT THE C-ZONE BOUNDRY AND NOTIFY RAD PROTECTION.
13 NOTIFY RAD PROTECTION OF ANY UNUSUAL RADIOLOGICAL CONDITIONS (FOR EXAMPLE: WATER, LEAKS, RADIATION MONITOR ALARMS).
14 RAD PROTECTION PERMISSION REQUIRED PRIOR TO WELDING, GRINDING, BUFFING OR OTHER SURFACE DISTURBING ACTIVITIES.

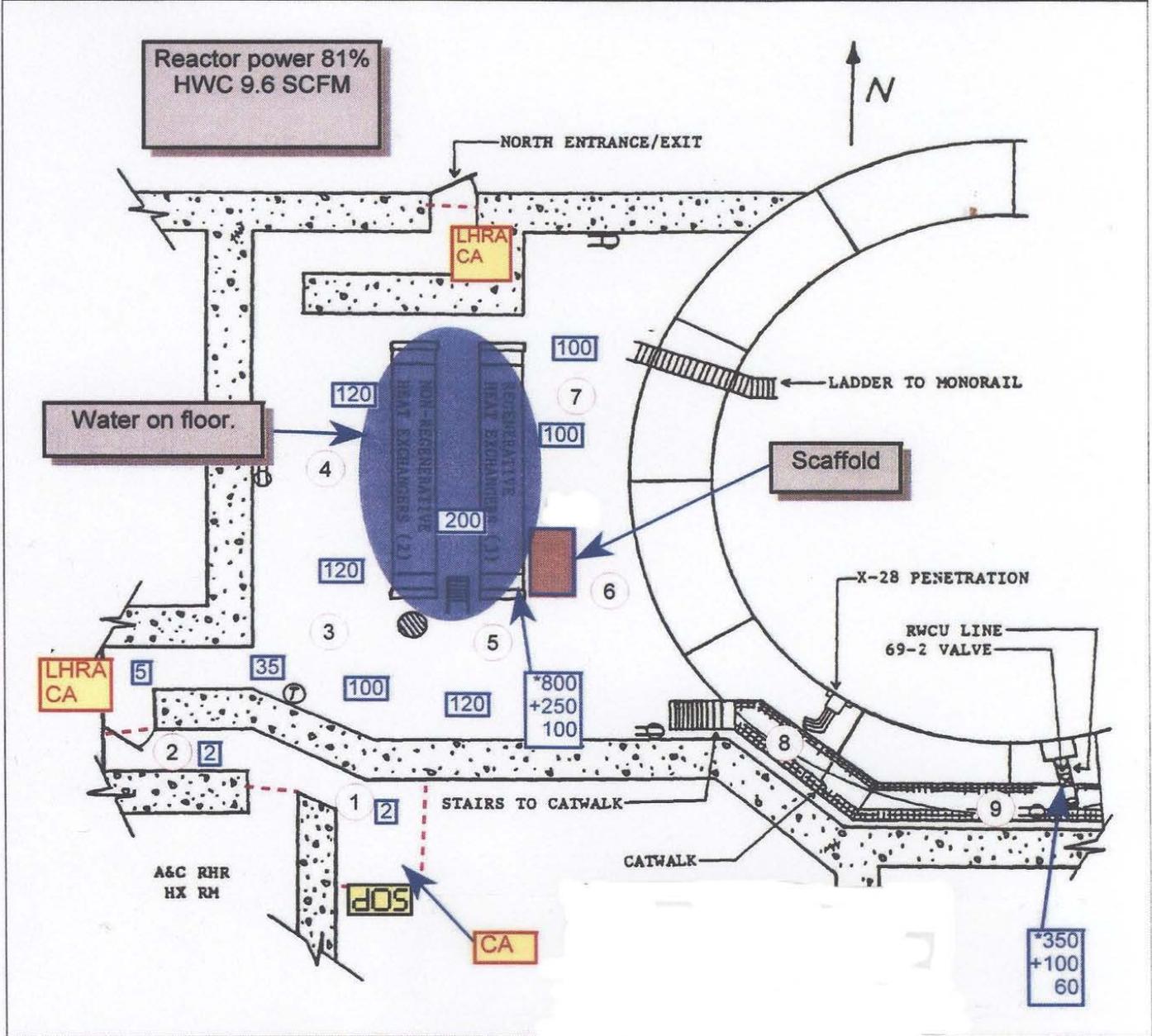
**APPROVAL**

Prepared by: TJFRANK  
Approved by: MJHAZEL  
Final Approval: JWSMITH3

End of RWP

# Browns Ferry Radiological Survey

M0044.tif - M0044 Unit 3 RXB 593' RWCU Heat Exchanger Room Survey # 021407-2 Date/Time: Today



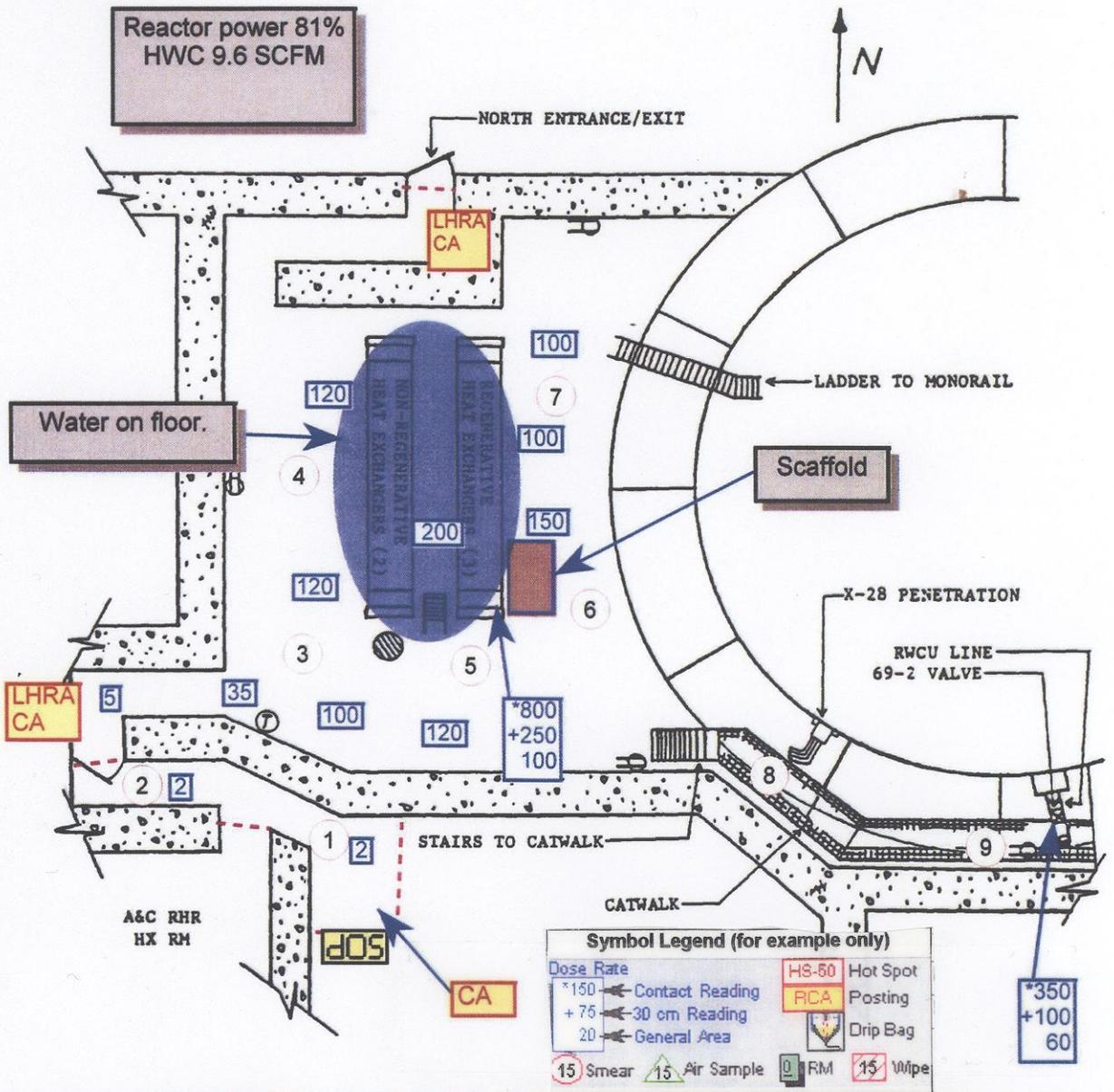
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Survey printed on: Today

# Browns Ferry Radiological Survey

M0044.tif - M0044 Unit 3 RXB 593' RWCU Heat Exchanger Room Survey # 021407-2

Date/Time: 2/14/2007 03:01



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**BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE**

OPERATOR: \_\_\_\_\_

RO \_\_\_\_ SRO \_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: 551

TASK NUMBER: Conduct of Operations

TASK TITLE: Work Hour Limitations

K/A NUMBER: 2.1.5 K/A RATING: RO 2.9 SRO: 3.9

TASK STANDARD: Determine Work Hour limitation will be exceeded and complete first part of attachment 1 of SPP 1.5.

LOCATION OF PERFORMANCE: Class Room

REFERENCES/PROCEDURES NEEDED: SPP 1.5

VALIDATION TIME: 15 minutes

MAX. TIME ALLOWED: \_\_\_\_ (Completed for Time Critical JPMs only)

PERFORMANCE TIME: \_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_ NO \_\_\_

RESULTS: SATISFACTORY \_\_\_\_ UNSATISFACTORY \_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

<p><b>BROWNS FERRY NUCLEAR PLANT</b>  <b>JOB PERFORMANCE MEASURE</b></p>
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**Class Room**

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**INITIAL CONDITIONS:** You are a Reactor Operator on Unit 2. Unit 1 is operating at 100%, Unit 3 is coming out of a Refuel Outage and startup is planned for tomorrow. Unit 2 has just pulled critical after a forced outage. Below is your work schedule. You were off on Saturday 6/12.

**INITIATING CUES:** Review the work schedule to verify your working hours are within the guidelines of SPP 1.5 Fatigue Management and Work Hour Limits.

Sun	Mon	Tues	Wed	Thu	Fri	Sat
6/13	6/14	6/15	6/16	6/17	6/18	6/19
07-19	07-19	19-07	19-07	19-07	Off	07-19

Sun	Mon	Tues	Wed	Thu	Fri	Sat
6/20	6/21	6/22	6/23	6/24	6/25	6/26
07-19	07-19	Off	19-07	19-07	19-07	Off

**START TIME** \_\_\_\_\_

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Performance Step: Critical X Not Critical   

**3.2 Requirements**

**3.2.1 The 10 CFR 26 Overtime Limits**

A. The following limits apply to covered individuals regardless of unit status:

1. No more than 16 work hours in any 24-hour period
2. No more than 26 work hours in any 48-hour period
3. No more than 72 work hours in any 7-day period
4. At least a 10-hour break between successive work periods, or an 8-hour break when a break of less than 10 hours is necessary to accommodate a crew's scheduled transition between work schedules or shifts.
5. A 34-hour break in any 9-calendar day period (this limit may be incorporated into the following table of limits)

Standard:

Evaluates Schedule and determines he will need a need 10 CFR 26 Overtime Limits Waiver.

SAT    UNSAT    N/A    COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

CUE: Request Candidate complete page 1, up the point of identifying the work activity, of the 10 CFR 26 Overtime Limits Waiver

\*\*\*\*\*

Performance Step: Critical X Not Critical    

Cognizant Supervisor: \_\_\_\_\_

Date/Time Waiver Initiated: \_\_\_\_\_/\_\_\_\_\_

Identify the individual who will exceed a 10 CFR 26 Overtime Limit:

Name: \_\_\_\_\_

Department: \_\_\_\_\_

Date/Time Waiver to Start: \_\_\_\_\_/\_\_\_\_\_

Date/Time Waiver to End: \_\_\_\_\_/\_\_\_\_\_

Waiver Duration (hours beyond limits): \_\_\_\_\_

Identify all the limit(s) that will be exceeded by placing a check mark by the limit(s):

- > 16 work hours in any 24-hour period
- > 26 work hours in any 48-hour period
- > 72 work hours in any 7-day period
- < 10-hour (consecutive hours) break between successive work periods
- < 34-hour (consecutive hours) break in any 9-day period
- Minimum Days Off (MMD) required
- Online  Outage

Required numbers of days off: \_\_\_\_\_

Shift schedule applied to individual: \_\_\_\_\_-hour shift

Identify the work activity for which the waiver will be issued:

Standard:

Critical block required to be checked is < 34 hour break in any 9 day period

SAT\_\_\_ UNSAT\_\_\_ N/A \_\_\_ COMMENTS: \_\_\_\_\_

\_\_\_\_\_

END OF TASK

**STOP TIME** \_\_\_\_\_



**BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE**

OPERATOR: \_\_\_\_\_

SRO \_\_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: 551 SRO

TASK NUMBER: Conduct of Operations

TASK TITLE: Work Hour Limitations

K/A NUMBER: 2.1.5 K/A RATING: SRO: 3.9

TASK STANDARD: Determine Work Hour limitation will be exceeded and complete first part of attachment 1 of SPP 1.5.

LOCATION OF PERFORMANCE: Class Room

REFERENCES/PROCEDURES NEEDED: SPP 1.5

VALIDATION TIME: 20 minutes

MAX. TIME ALLOWED: \_\_\_\_\_ (Completed for Time Critical JPMs only)

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_ NO \_\_\_

RESULTS: SATISFACTORY \_\_\_\_\_ UNSATISFACTORY \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE

\*\*\*\*\*

**Class Room**

\*\*\*\*\*

**INITIAL CONDITIONS:** You are the Unit 2 Unit Supervisor, Unit 1 is operating at 100%, Unit 3 is coming out of a Refuel Outage and startup is planned for tomorrow. Unit 2 has just pulled critical after a forced outage. Attached is the work schedule for 3 reactor operators for the Unit 2 startup. The attached list of operators are part of the Control Room crew.

**INITIATING CUES:** Review the work schedules of the Reactor Operators to verify that they are within the guidelines of SPP 1.5 Fatigue Management and Work Hour Limits.

Reactor Operator #1

Sun	Mon	Tues	Wed	Thu	Fri	Sat
6/13	6/14	6/15	6/16	6/17	6/18	6/19
07-19	07-19	19-07	19-07	19-07	Off	07-19

Sun	Mon	Tues	Wed	Thu	Fri	Sat
6/20	6/21	6/22	6/23	6/24	6/25	6/26
07-19	07-19	Off	19-07	19-07	19-07	Off

Reactor Operator #2

Sun	Mon	Tues	Wed	Thu	Fri	Sat
6/13	6/14	6/15	6/16	6/17	6/18	6/19
07-19	07-19	07-19	07-19	07-19	07-19	Off

Sun	Mon	Tues	Wed	Thu	Fri	Sat
6/20	6/21	6/22	6/23	6/24	6/25	6/26
19-07	19-07	19-07	19-07	19-07	Off	Off

Reactor Operator #3

Sun	Mon	Tues	Wed	Thu	Fri	Sat
6/13	6/14	6/15	6/16	6/17	6/18	6/19
07-19	07-19	07-21	07-19	Off	Off	19-09

Sun	Mon	Tues	Wed	Thu	Fri	Sat
6/20	6/21	6/22	6/23	6/24	6/25	6/26
18-07	19-07	Off	19-07	19-07	Off	Off

**These three operators were off on 6/12**

**START TIME** \_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical X Not Critical    

**3.2 Requirements**

**3.2.1 The 10 CFR 26 Overtime Limits**

A. The following limits apply to covered individuals regardless of unit status:

1. No more than 16 work hours in any 24-hour period
2. No more than 26 work hours in any 48-hour period
3. No more than 72 work hours in any 7-day period
4. At least a 10-hour break between successive work periods, or an 8-hour break when a break of less than 10 hours is necessary to accommodate a crew's scheduled transition between work schedules or shifts.
5. A 34-hour break in any 9-calendar day period (this limit may be incorporated into the following table of limits)

Standard:

Evaluates Schedule and determines that operators #1 and #3 will need a need 10 CFR 26 Overtime Limits Waiver and that operator #2 is with in the guidelines of SPP 1.5.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

CUE: Request Candidate complete page 1 of the 10 CFR 26 Overtime Limits Waiver as required.

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Performance Step: Critical X Not Critical    

Cognizant Supervisor: \_\_\_\_\_

Date/Time Waiver Initiated: \_\_\_\_\_/\_\_\_\_\_

Identify the individual who will exceed a 10 CFR 26 Overtime Limit:

Name: \_\_\_\_\_

Department: \_\_\_\_\_

Date/Time Waiver to Start: \_\_\_\_\_/\_\_\_\_\_

Date/Time Waiver to End: \_\_\_\_\_/\_\_\_\_\_

Waiver Duration (hours beyond limits): \_\_\_\_\_

Identify all the limit(s) that will be exceeded by placing a check mark by the limit(s):

- > 16 work hours in any 24-hour period
- > 26 work hours in any 48-hour period
- > 72 work hours in any 7-day period
- < 10-hour (consecutive hours) break between successive work periods
- < 34-hour (consecutive hours) break in any 9-day period
- Minimum Days Off (MMD) required
- Online  Outage

Required numbers of days off: \_\_\_\_\_

Standard:

Critical block for Reactor Operator #1 is < 34 hour break in any 9 day period

Critical block for Reactor Operator #3 is > 26 hours in any 48.

SAT     UNSAT     N/A     COMMENTS: \_\_\_\_\_

\_\_\_\_\_



ANSWER KEY for OPERATOR #1

Cognizant Supervisor: NAME

Date/Time Waiver Initiated:      /                     

Identify the individual who will exceed a 10 CFR 26 Overtime Limit:

Name: REACTOR OPERATOR #1

Department: OPS

Date/Time Waiver to Start:                      /                     

Date/Time Waiver to End:                      /                     

Waiver Duration (hours beyond limits):                     

Identify all the limit(s) that will be exceeded by placing a check mark by the limit(s):

- > 16 work hours in any 24-hour period
- > 26 work hours in any 48-hour period
- > 72 work hours in any 7-day period
- < 10-hour (consecutive hours) break between successive work periods
- < 34-hour (consecutive hours) break in any 9-day period
- Minimum Days Off (MMD) required
- Online  Outage

Required numbers of days off:     

Shift schedule applied to individual: 12-hour shift

Identify the work activity for which the waiver will be issued:

Description: Plant Startup Unit 2

Circumstances that cause need for exceeding limits: Forced Outage

Waiver is required to address conditions that are adverse to safety?

Yes  No

If no, waiver is not valid

Submitted by:	NAME	SIGNATURE	
	Print Name	Signature	Date Time

ANSWER KEY for OPERATOR #3

Cognizant Supervisor: NAME

Date/Time Waiver Initiated:      /                     

Identify the individual who will exceed a 10 CFR 26 Overtime Limit:

Name: REACTOR OPERATOR #3

Department: OPS

Date/Time Waiver to Start:                      /                     

Date/Time Waiver to End:                      /                     

Waiver Duration (hours beyond limits):      1 Hour                     

Identify all the limit(s) that will be exceeded by placing a check mark by the limit(s):

- > 16 work hours in any 24-hour period
- > 26 work hours in any 48-hour period
- > 72 work hours in any 7-day period
- < 10-hour (consecutive hours) break between successive work periods
- < 34-hour (consecutive hours) break in any 9-day period
- Minimum Days Off (MMD) required
- Online  Outage

Required numbers of days off:     

Shift schedule applied to individual:    12-hour shift

Identify the work activity for which the waiver will be issued:

Description: Plant Startup Unit 2

Circumstances that cause need for exceeding limits: Forced Outage

Waiver is required to address conditions that are adverse to safety?

Yes  No

If no, waiver is not valid

Submitted by:	NAME	SIGNATURE	
	Print Name	Signature	Date Time





APPENDIX A  
Page 1 of 1  
**GENERAL EMERGENCY INITIAL NOTIFICATION FORM**

1.  This is a Drill       This is an Actual Event - Repeat - This is an Actual Event

2. This is Shift Manager, Browns Ferry has declared a **GENERAL EMERGENCY** affecting:  Unit 1     Unit 2     Unit 3     Common

3. EAL Designator(s): 2.3-G.2

4. Brief Description of the Event: High drywell radiation levels with RCS barrier NOT intact  
Inside primary containment

---

5. Radiological Conditions: (Check one under both Airborne and Liquid column.)

<p><b>Airborne Releases Offsite</b></p> <input type="checkbox"/> Minor releases within federally approved limits <sup>1</sup> <input checked="" type="checkbox"/> Releases above federally approved limits <sup>1</sup> <input type="checkbox"/> Release information not known ( <sup>1</sup> Tech Specs)	<p><b>Liquid Releases Offsite</b></p> <input checked="" type="checkbox"/> Minor releases within federally approved limits <sup>1</sup> <input type="checkbox"/> Releases above federally approved limits <sup>1</sup> <input type="checkbox"/> Release information not known ( <sup>1</sup> Tech Specs)
--	--

6. Event Declared:      Time: Current    Central Time    Date: Today

7. The Meteorological Conditions are: (Use 91 meter data from the Met Tower)

Wind Direction is FROM: 216 degrees      Wind Speed: 20 m.p.h

8. Provide Protective Action Recommendation: Check either 1 or 2 or 3.

	R E C	WIND FROM DEGREES		R E C	
<input type="checkbox"/> <b>Recommendation 1</b> • EVACUATE LISTED SECTORS (2 mile Radius & 10 miles downwind) • Shelter remainder of 10 mile EPZ. • Consider issuance of POTASSIUM IODINE in accordance with the State Plan.	1	(Mark wind direction from Step 7)		2	<input checked="" type="checkbox"/> <b>Recommendation 2</b> • EVACUATE LISTED SECTORS (2 mile radius & 5 mile downwind) • SHELTER remainder of 10 mile EPZ. • Consider issuance of POTASSIUM IODIDE in accordance with the State Plan.
A-2, B-2, F-2, G-2, E-5, -10, F-5, -10, G-5, -10		4 - 40			A-2, B-2, F-2, G-2, E-5, F-5, G-5
A-2, B-2, F-2, G-2, F-5, -10, G-5, -10, H-10		41 - 73			A-2, B-2, F-2, G-2, F-5, G-5
A-2, B-2, F-2, G-2, G-5, -10, H-10, I-10		74 - 92			A-2, B-2, F-2, G-2, G-5
A-2, B-2, F-2, G-2, A-5, G-5, H-10, I-10, J-10, K-10		93 - 137			A-2, B-2, F-2, G-2, A-5, G-5
A-2, B-2, F-2, G-2, A-5, -10, I-10, J-10, K-10		138 - 203			A-2, B-2, F-2, G-2, A-5
A-2, B-2, F-2, G-2, A-5, -10, B-5, -10		204 - 282	<input checked="" type="checkbox"/>		A-2, B-2, F-2, G-2, A-5, B-5
A-2, B-2, F-2, G-2, B-5, -10, C-10, D-10, E-5, -10		283 - 326			A-2, B-2, F-2, G-2, B-5, E-5
A-2, B-2, F-2, G-2, C-10, D-10, E-5, -10, F-5, -10		327 - 3			A-2, B-2, F-2, G-2, E-5, F-5

**Recommendation 3**

- SHELTER all sectors
- CONSIDER issuance of Potassium Iodide in accordance with the State Plan.

9. Please repeat the information you have received to ensure accuracy.

Action: When completed, fax this appendix as prescribed by procedure.

**Answer Key**

APPENDIX A  
Page 1 of 1  
**GENERAL EMERGENCY INITIAL NOTIFICATION FORM**

1.  This is a Drill       This is an Actual Event - Repeat - This is an Actual Event

2. This is Shift Manager, Browns Ferry has declared a **GENERAL EMERGENCY**  
affecting:    Unit 1    Unit 2    Unit 3    Common

3. EAL Designator(s): 2.3-G.1

4. Brief Description of the Event: High drywell radiation levels with RCS barrier NOT intact  
Inside primary containment

---

5. Radiological Conditions:      (Check one under both Airborne and Liquid column.)

<u>Airborne Releases Offsite</u>	<u>Liquid Releases Offsite</u>
<input type="checkbox"/> Minor releases within federally approved limits <sup>1</sup>	<input checked="" type="checkbox"/> Minor releases within federally approved limits <sup>1</sup>
<input checked="" type="checkbox"/> Releases above federally approved limits <sup>1</sup>	<input type="checkbox"/> Releases above federally approved limits <sup>1</sup>
<input type="checkbox"/> Release information not known	<input type="checkbox"/> Release information not known

(<sup>1</sup>Tech Specs)      ( <sup>1</sup>Tech Specs)

6. Event Declared:      Time: Current    Central Time    Date: Today

7. The Meteorological Conditions are:    (Use 91 meter data from the Met Tower)

Wind Direction is FROM: 144 degrees      Wind Speed: 20 m.p.h

8. Provide Protective Action Recommendation:    Check either 1 or 2 or 3.

<input type="checkbox"/> <b>Recommendation 1</b> <ul style="list-style-type: none"> <li>• EVACUATE LISTED SECTORS (2 mile Radius &amp; 10 miles downwind)</li> <li>• Shelter remainder of 10 mile EPZ.</li> <li>• Consider issuance of POTASSIUM IODINE in accordance with the State Plan.</li> </ul>	R E C  1	WIND FROM DEGREES  (Mark wind direction from Step 7)	R E C  2	<input type="checkbox"/> <b>Recommendation 2</b> <ul style="list-style-type: none"> <li>• EVACUATE LISTED SECTORS (2 mile radius &amp; 5 mile downwind)</li> <li>• SHELTER remainder of 10 mile EPZ.</li> <li>• Consider issuance of POTASSIUM IODIDE in accordance with the State Plan.</li> </ul>
A-2, B-2, F-2, G-2, E-5, -10, F-5, -10, G-5, -10		4 - 40		A-2, B-2, F-2, G-2, E-5, F-5, G-5
A-2, B-2, F-2, G-2, F-5, -10, G-5, -10, H-10		41- 73		A-2, B-2, F-2, G-2, F-5, G-5
A-2, B-2, F-2, G-2, G-5, -10, H-10, I-10		74 - 92		A-2, B-2, F-2, G-2, G-5
A-2, B-2, F-2, G-2, A-5, G-5, H-10, I-10, J-10, K-10		93 - 137		A-2, B-2, F-2, G-2, A-5, G-5
A-2, B-2, F-2, G-2, A-5, -10, I-10, J-10, K-10		138 - 203		A-2, B-2, F-2, G-2, A-5
A-2, B-2, F-2, G-2, A-5, -10, B-5, -10		204 - 282		A-2, B-2, F-2, G-2, A-5, B-5
A-2, B-2, F-2, G-2, B-5, -10, C-10, D-10, E-5, -10		283 - 326		A-2, B-2, F-2, G-2, B-5, E-5
A-2, B-2, F-2, G-2, C-10, D-10, E-5, -10, F-5, -10		327 - 3		A-2, B-2, F-2, G-2, E-5, F-5

**Recommendation 3**

- SHELTER all sectors
- CONSIDER issuance of Potassium Iodide in accordance with the State Plan.

9. Please repeat the information you have received to ensure accuracy.

Action: When completed, fax this appendix as prescribed by procedure.

**Applicant Handout**

**BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE**

OPERATOR: \_\_\_\_\_

SRO \_\_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: 552tc

TASK NUMBER: S-000-EM-25

TASK TITLE: Classify the Event per EPIP-1 (2.3 G.2)

K/A NUMBER: 2.4.44 K/A RATING: SRO: 4.4

TASK STANDARD: Correct Initial Notification issued and correct Protective Action Recommendation issued.

LOCATION OF PERFORMANCE: Class Room

REFERENCES/PROCEDURES NEEDED: EPIP-1 and 5, Completed Notification Handout

VALIDATION TIME: 15 minutes

MAX. TIME ALLOWED: 15 minutes (Completed for Time Critical JPMs only)

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_ NO \_\_\_

RESULTS: SATISFACTORY \_\_\_\_\_ UNSATISFACTORY \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

**BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE**

\*\*\*\*\*

**Class Room**

\*\*\*\*\*

**INITIAL CONDITIONS:** You are a Senior Reactor Operator on Unit 2. Unit 2 scrammed a short time ago on an MSIV isolation due to a complete loss of condenser vacuum. MSIV Line A failed to isolate and all attempts to isolate from the control room have failed. Current conditions are Drywell Pressure 10 psig and rising, Drywell Temperature 245°F and rising, All Control inserted on the scram, Reactor Level is at -100 inches and rising slowly, Reactor Pressure is currently at 900 psig and rising and being controlled on SRVs. Numerous High Radiation Alarms are in for all Turbine areas, and Drywell radiation levels are greater than 3000 R/hr on both radiation monitors and rising. Stack Noble Gas (WRGERMS) indicates  $9.5 \times 10^9$   $\mu\text{Ci}/\text{sec}$ . Chemistry has just completed a Dose projection at 5 miles and it indicates 500 mREM TEDE and 1500 mREM Thyroid CDE. Current wind speed is 20 mph from 216°

**INITIATING CUES:** The Shift Manager requests you to review General Emergency Initial Notification Form prior to notification of the State.

**JPM is Time Critical**

APPENDIX A  
 Page 1 of 1  
 GENERAL EMERGENCY INITIAL NOTIFICATION FORM

1.  This is a Drill  This is an Actual Event - Repeat - This is an Actual Event

2. This is \_\_\_\_\_, Browns Ferry has declared a **GENERAL EMERGENCY**  
 affecting:  Unit 1  Unit 2  Unit 3  Common

3. EAL Designator(s): \_\_\_\_\_

4. Brief Description of the Event: \_\_\_\_\_  
 \_\_\_\_\_

5. Radiological Conditions: (Check one under both Airborne and Liquid column.)  
Airborne Releases Offsite Liquid Releases Offsite  
 Minor releases within federally approved limits<sup>1</sup>  Minor releases within federally approved limits<sup>1</sup>  
 Releases above federally approved limits<sup>1</sup>  Releases above federally approved limits<sup>1</sup>  
 Release information not known  Release information not known  
 (<sup>1</sup>Tech Specs) (<sup>1</sup>Tech Specs)

6. Event Declared: Time: \_\_\_\_\_ Central Time Date: \_\_\_\_\_

7. The Meteorological Conditions are: (Use 91 meter data from the Met Tower)  
 Wind Direction is FROM: \_\_\_\_\_ degrees Wind Speed: \_\_\_\_\_ m.p.h

8. Provide Protective Action Recommendation: Check either 1 or 2 or 3.

<input type="checkbox"/> Recommendation 1	R E C	WIND FROM DEGREES	R E C	<input type="checkbox"/> Recommendation 2
<ul style="list-style-type: none"> <li>EVACUATE LISTED SECTORS (2 mile Radius &amp; 10 miles downwind)</li> <li>Shelter remainder of 10 mile EPZ.</li> <li>Consider issuance of POTASSIUM IODINE in accordance with the State Plan.</li> </ul>	1	(Mark wind direction from Step 7)	2	<ul style="list-style-type: none"> <li>EVACUATE LISTED SECTORS (2 mile radius &amp; 5 mile downwind)</li> <li>SHELTER remainder of 10 mile EPZ.</li> <li>Consider issuance of POTASSIUM IODIDE in accordance with the State Plan.</li> </ul>
A-2, B-2, F-2, G-2, E-5, -10, F-5, -10, G-5, -10		4 - 40		A-2, B-2, F-2, G-2, E-5, F-5, G-5
A-2, B-2, F-2, G-2, F-5, -10, G-5, -10, H-10		41 - 73		A-2, B-2, F-2, G-2, F-5, G-5
A-2, B-2, F-2, G-2, G-5, -10, H-10, I-10		74 - 92		A-2, B-2, F-2, G-2, G-5
A-2, B-2, F-2, G-2, A-5, G-5, H-10, I-10, J-10, K-10		93 - 137		A-2, B-2, F-2, G-2, A-5, G-5
A-2, B-2, F-2, G-2, A-5, -10, I-10, J-10, K-10		138 - 203		A-2, B-2, F-2, G-2, A-5
A-2, B-2, F-2, G-2, A-5, -10, B-5, -10		204 - 282		A-2, B-2, F-2, G-2, A-5, B-5
A-2, B-2, F-2, G-2, B-5, -10, C-10, D-10, E-5, -10		283 - 326		A-2, B-2, F-2, G-2, B-5, E-5
A-2, B-2, F-2, G-2, C-10, D-10, E-5, -10, F-5, -10		327 - 3		A-2, B-2, F-2, G-2, E-5, F-5

Recommendation 3

- SHELTER all sectors
- CONSIDER issuance of Potassium Iodide in accordance with the State Plan.

9. Please repeat the information you have received to ensure accuracy.

**Action: When completed, fax this appendix as prescribed by procedure.**

APPENDIX G  
 Protective Action Recommendation Flowchart  
**PROTECTIVE ACTION RECOMMENDATIONS**

Note 1: If conditions are unknown utilizing the flowchart, then answer NO.  
 Note 2: A short term release is defined as "a release that does not exceed a 15 minute duration".

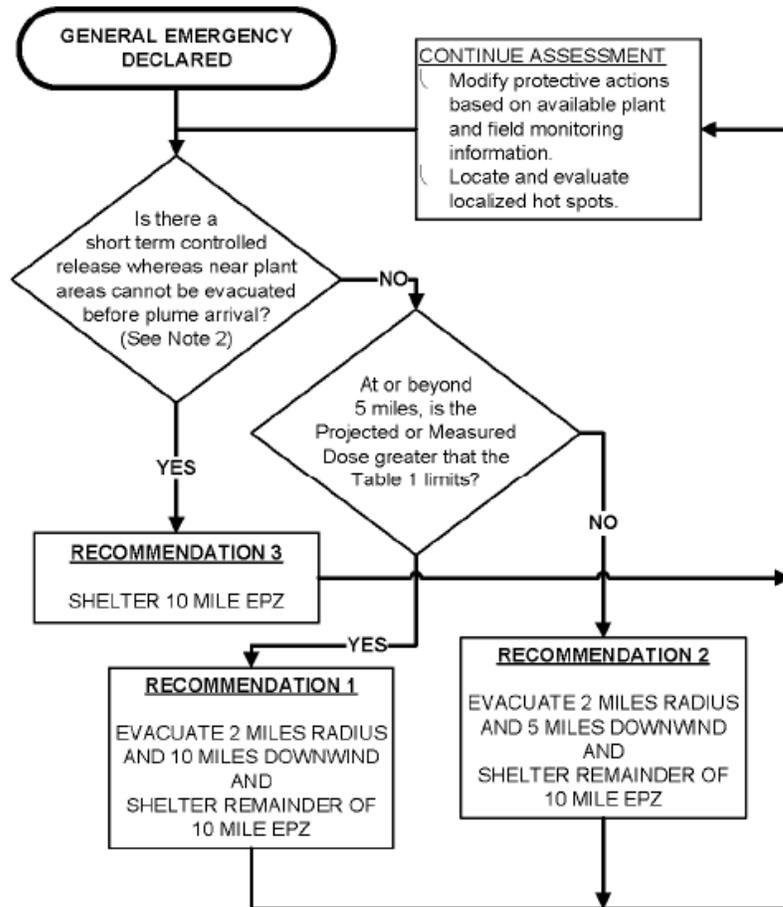


TABLE 1 Protective Action Guides	
TYPE	LIMIT
Measured	3.9E-6 micro Ci/cc of Iodine 131 or 1 REM/hr External Dose
Projected	1 REM TEDE or 5 REM Thyroid CDE

**START TIME** \_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical X Not Critical \_\_\_

Candidate reviews General Emergency Initial Notification Form

Standard:

Candidate determines that: Step #3 is incorrect; correct designator is 2.3-G.2  
2.3-G.1 is not met, 2.3-S1, 2.3-S.2 and 4.1-S are met but exceeded by the GE classification 2.3-G.2

SAT\_\_\_ UNSAT\_\_\_ N/A \_\_\_ COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical X Not Critical \_\_\_

Candidate reviews General Emergency Initial Notification Form

Standard:

Candidate determines that: Step #7 Wind Direction is incorrect; should be 216°

SAT\_\_\_ UNSAT\_\_\_ N/A \_\_\_ COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical X Not Critical \_\_\_

Candidate reviews General Emergency Initial Notification Form

Standard:

Candidate determines that: Step #8 Protective Action Recommendation is incorrect;  
Recommendation 2 should be checked with the block next to 204 – 282 under column REC 2  
checked. The answer to short term release is NO and the answer to table 1 limits is NO, for a  
protective action recommendation of 2.

SAT\_\_\_ UNSAT\_\_\_ N/A \_\_\_ COMMENTS: \_\_\_\_\_

\_\_\_\_\_

END OF TASK

**STOP TIME** \_\_\_\_\_

**BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE**

OPERATOR: \_\_\_\_\_

SRO \_\_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: 553 SRO

TASK NUMBER: Conduct of Operations

TASK TITLE: NRC Event Notification

K/A NUMBER: 2.1.18 K/A RATING: SRO: 3.8

TASK STANDARD: Determine NRC Event Notification requirements

LOCATION OF PERFORMANCE: Class Room

REFERENCES/PROCEDURES NEEDED: SPP 3.5

VALIDATION TIME: 10 minutes

MAX. TIME ALLOWED: \_\_\_\_\_ (Completed for Time Critical JPMs only)

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_ NO \_\_\_

RESULTS: SATISFACTORY \_\_\_\_\_ UNSATISFACTORY \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE

\*\*\*\*\*

**Class Room**

\*\*\*\*\*

**INITIAL CONDITIONS:** Unit 1 was conducting a shutdown in preparation for entering a refueling outage. The shutdown schedule called for power to be reduced to 20% and then a manual reactor scram was to be inserted.

Thirty minutes ago while lowering Reactor Recirculation Pump speed, a problem with the VFD on Reactor Recirculation Pump B developed. The Reactor Operator tripped Reactor Recirculation Pump B and inserted a manual reactor scram. Reactor Power was 35% at the time of the scram. All equipment operated as designed following the scram and plant conditions are now stable.

**INITIATING CUES:** As the Shift Manager evaluate this event for NRC Notification. Document any required notifications to the NRC Operations Center within the required time frame.

**START TIME**\_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical X Not Critical\_\_

Evaluates SPP-3.5

Appendix A: 3.1.C 3

Standard:

Determines a 4-Hr Non-Emergency 10CFR50.72(b)(2)(iv)(B) notification is required.

SAT\_\_ UNSAT\_\_ N/A \_\_COMMENTS:\_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical X Not Critical\_\_

Complete SPP-3.5-1 - NRC Event Notification Worksheet

Standard:

Under Event Classification a check in box for 50.72 Non-Emergency

SAT\_\_ UNSAT\_\_ N/A \_\_COMMENTS:\_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical  Not Critical

Complete SPP-3.5-1 - NRC Event Notification Worksheet

Standard:

Under 4-Hr Non-Emergency 10CFR50.72(b)(2) a check in box (iv)(B) RPS Actuation (scram) ARPS.

SAT  UNSAT  N/A  COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical  Not Critical

Complete SPP-3.5-1 - NRC Event Notification Worksheet

Standard:

Under 8-Hr Non-Emergency 10CFR50.72(b)(3) a check in box (iv)(A) Specified System Actuation AESF are the Critical Portions of the Form.

SAT  UNSAT  N/A  COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

Performance Step:

Critical  Not Critical

Complete SPP-3.5-1 - NRC Event Notification Worksheet

Standard:

Power/Mode Before will be 35%/Mode 1, Power/Mode After will be Shutdown/Mode 3 and a brief description of the event.

SAT  UNSAT  N/A  COMMENTS: \_\_\_\_\_

\_\_\_\_\_

CUE: JPM complete once an entry is made in description block on first page, Additional Information page not required to be completed.

END OF TASK

STOP TIME

**SPP-3.5-1 - NRC Event Notification Worksheet**

**NRC EVENT NOTIFICATION WORKSHEET**  
 Page 1 of 2

NRC EVENT NOTIFICATION WORKSHEET				U.S. NUCLEAR REGULATORY COMMISSION OPERATIONS CENTER	
				EN # _____	
NRC OPERATION TELEPHONE NUMBER: PRIMARY - 301-818-5100 OR 800-532-3469, BACKUP - [1st] 301-951-0500 or 800-449-3694 [2nd] 301-415-0550 AND [3rd] 301-415-0553					
NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	NAME OF CALLER	CALL BACK #	
EVENT TIME & ZONE	EVENT DATE	POWER/MODE BEFORE		POWER/MODE AFTER	
<b>EVENT CLASSIFICATIONS</b>			<b>1-Hr Non-Emergency 10 CFR 50.72(b)(1)</b>		<input type="checkbox"/> (v)(A) Safe S/D Capability AINA
<input type="checkbox"/> GENERAL EMERGENCY	Gen/AECC	<input type="checkbox"/>	TS Deviation	ADEV	<input type="checkbox"/> (v)(B) RHR Capability AINB
<input type="checkbox"/> SITE AREA EMERGENCY	SIT/AECC	<b>4-Hr Non-Emergency 10 CFR 50.72(b)(2)</b>		<input type="checkbox"/> (v)(C) Control of Rad Release AINC	
<input type="checkbox"/> ALERT	ALC/AECC	<input type="checkbox"/> (i)	TS Required S/D	ASHU	<input type="checkbox"/> (v)(D) Accident Mitigation AIND
<input type="checkbox"/> UNUSUAL EVENT	UNU/AECC	<input type="checkbox"/> (iv)(A)	ECCS Discharge to RCS	ACCS	<input type="checkbox"/> (xii) Offsite Medical AMED
<input type="checkbox"/> 50.72 NON-EMERGENCY	(see next columns)	<input type="checkbox"/> (iv)(B)	RPS Actuation (scram)	ARPS	<input type="checkbox"/> (xiii) Lost Comm/Asmt/Resp ACOM
<input type="checkbox"/> PHYSICAL SECURITY (73.71)	DDDD	<input type="checkbox"/> (vi)	Offsite Notification	APRE	<b>60-Day Optional 10 CFR 50.73(a)(1)</b>
<input type="checkbox"/> MATERIAL/EXPOSURE	B???	<b>8-Hr Non-Emergency 10 CFR 50.72(b)(3)</b>		<input type="checkbox"/>	Invalid Specified System Actuation AINV
<input type="checkbox"/> FITNESS FOR DUTY	HFIT	<input type="checkbox"/> (v)(A)	Degraded Condition	ADEG	<b>Other Unspecified Requirement (Identify)</b>
<input type="checkbox"/> Other Unspecified Reqmt.	(see last column)	<input type="checkbox"/> (v)(B)	Unanalyzed Condition	AUNA	<input type="checkbox"/>
<input type="checkbox"/> INFORMATION ONLY	NINF	<input type="checkbox"/> (v)(A)	Specified System Actuation	AESF	<input type="checkbox"/>
<b>DESCRIPTION</b>					
Include: Systems affected, actuations & their initiating signals, causes, effect of event on plant, actions taken or planned, etc. (Continue on page 2)					
NOTIFICATIONS	YES	NO	WILL BE	Anything Unusual or Not Understood? <input type="checkbox"/> Yes (Explain above) <input type="checkbox"/> No	
NRC RESIDENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
STATE(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did All Systems Function As Required? <input type="checkbox"/> Yes <input type="checkbox"/> No(Explain above)	
LOCAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Other Gov Agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mode of Operation Until Corrected:	Estimated Restart Date:
Media/Press Release	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Additional INFO on page 2? <input type="checkbox"/> Yes <input type="checkbox"/> No

**Attachment 1  
 (Page 2 of 2)  
 SPP-3.5-1 - NRC Event Notification Worksheet**

**NRC EVENT NOTIFICATION WORKSHEET  
 Page 2 of 2**

RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS (specific details/explanations should be covered in event description)						
<input type="checkbox"/> Liquid Release	<input type="checkbox"/> Gaseous Release	<input type="checkbox"/> Unplanned Release	<input type="checkbox"/> Planned Release	<input type="checkbox"/> Ongoing	<input type="checkbox"/> Terminated	
<input type="checkbox"/> Monitored	<input type="checkbox"/> Unmonitored	<input type="checkbox"/> Offsite Release	<input type="checkbox"/> T.S. Exceeded	<input type="checkbox"/> RM Alarms	<input type="checkbox"/> Areas Evacuated	
<input type="checkbox"/> Personnel Exposed or Contaminated		<input type="checkbox"/> Offsite Protective Actions Recommended		*State release path in description.		
	Release Rate (Ci/sec)	% T. S. Limit	HOO Guide	Total Activity (Ci)	% T.S. Limit	HOO Guide
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid (excluding tritium & dissolved noble gases)			10 uCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						
	Plant Stack	Condenser/Air Ejector	Main Steam Line	SG Blowdown	Other	
RAD Monitor Readings:						
Alarm Setpoints:						
% T.S. Limit (if applicable)						
RCS or SG Tube Leaks: Check or Fill in Applicable Items: (specific details/explanations should be covered in event description)						
LOCATION OF THE LEAK (e.g., SG #, valve, pipe, etc.)						
LEAK RATE	UNITS: gpm/gpd	T. S. LIMITS	SUDDEN OR LONG TERM DEVELOPMENT			
LEAK START DATE	TIME	COOLANT ACTIVITY & UNITS	PRIMARY -	SECONDARY -		
LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL						
EVENT DESCRIPTION (Continued from page 1)						

**BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE**

OPERATOR: \_\_\_\_\_

RO \_\_\_\_ SRO \_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: 554

TASK NUMBER: Conduct of Operations

TASK TITLE: Core Alts

K/A NUMBER: 2.1.36 K/A RATING: RO 3.0 SRO: 4.1

TASK STANDARD: Completion of SRM Operability surveillance.

LOCATION OF PERFORMANCE: Class Room

REFERENCES/PROCEDURES NEEDED: 1-SR-3.3.1.2.4

VALIDATION TIME: 10 minutes

MAX. TIME ALLOWED: \_\_\_\_ (Completed for Time Critical JPMs only)

PERFORMANCE TIME: \_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_ NO \_\_\_

RESULTS: SATISFACTORY \_\_\_\_ UNSATISFACTORY \_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE

\*\*\*\*\*

**Class Room**

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**INITIAL CONDITIONS:** You are a Reactor Operator on Unit 1. Unit 1 is in Mode 5, core alterations have been suspended for the past 12 hours due to bridge problems. Core quadrant A fuel moves are complete for the current off load schedule. No fuel assemblies remain around SRM A but 16 fuel assemblies remain in quadrant A. Core quadrants B, C, and D are completely fueled. Bridge repairs are complete and core alterations are scheduled to commence in core quadrant B for the next 24 hours. Core Alts can commence upon completion of 1-SR-3.3.1.2.4 Source Range Monitor System Count Rate and Signal to Noise Ratio Check. All data for 1-SR-3.3.1.2.4 has been obtained.

**INITIATING CUES:** The Unit Supervisor directs you to complete the calculations and acceptance criteria steps in 1-SR-3.3.1.2.4 and notify him of the results of the acceptance criteria..

**START TIME** \_\_\_\_\_

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Performance Step:

Critical X Not Critical \_\_\_

[5.8] **COMPUTE** the signal to noise ratio as follows **AND**  
**RECORD** results below:

Reading in Step 7.0[5.7]– Reading in Step 7.0[5.5]  
Reading in Step7.0[5.5]

The signal to noise ratio is\_\_\_\_\_.

[5.9] **VERIFY** signal to noise ratio is > 3.

[5.12] **VERIFY** that SRM A has  $\geq 3$  cps, **OR VERIFY**  
that  $\leq 4$  fuel assemblies are adjacent to the SRM **AND**  
**NO** other fuel assemblies in the associated core quadrant.

Standard:

Calculates a signal to noise ratio of 24 and verifies >3. Determines that SRM has less than the required 3 cps with fuel assemblies loaded in core quadrant A.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

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Performance Step:

Critical X Not Critical    

[6.8] **COMPUTE** the signal to noise ratio as follows **AND RECORD** results below:

$$\frac{\text{Reading in Step 7.0[6.7]} - \text{Reading in Step 7.0[6.5]}}{\text{Reading in Step 7.0[6.5]}}$$

The signal to noise ratio is \_\_\_\_\_.

[6.9] **VERIFY** signal to noise ratio is  $> 3$ .

[6.12] **VERIFY** that SRM B has  $\geq 3$  cps, **OR VERIFY** that  $\leq 4$  fuel assemblies are adjacent to the SRM **AND NO** other fuel assemblies in the associated core quadrant.

Standard:

Calculates a signal to noise ratio of 9 and verifies  $>3$ . Verifies SRM B has  $\geq 3$  cps.

SAT     UNSAT     N/A     COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

\*\*\*\*\*

Performance Step:

Critical X Not Critical    

[7.8] **COMPUTE** the signal to noise ratio as follows **AND RECORD** results below:

$$\frac{\text{Reading in Step 7.0[7.7]} - \text{Reading in Step 7.0[7.5]}}{\text{Reading in Step 7.0[7.5]}}$$

The signal to noise ratio is \_\_\_\_\_.

[7.9] **VERIFY** signal to noise ratio is  $> 3$ .

[7.12] **VERIFY** that SRM C has  $\geq 3$  cps, **OR VERIFY** that  $\leq 4$  fuel assemblies are adjacent to the SRM **AND NO** other fuel assemblies in the associated core quadrant.

Standard:

Calculates a signal to noise ratio of 2.75 and determines that the ratio is less than 3 cps.  
Verifies SRM C has  $\geq 3$  cps.

SAT\_\_\_ UNSAT\_\_\_ N/A \_\_\_ COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

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Performance Step:

Critical X Not Critical \_\_\_

[8.8] **COMPUTE** the signal to noise ratio as follows **AND RECORD** results below:

$$\frac{\text{Reading in Step 7.0[8.7]} - \text{Reading in Step 7.0[8.5]}}{\text{Reading in Step 7.0[8.5]}}$$

The signal to noise ratio is \_\_\_\_\_.

[8.9] **VERIFY** signal to noise ratio is  $> 3$ .

[8.12] **VERIFY** that SRM D has  $\geq 3$  cps, **OR VERIFY** that  $\leq 4$  fuel assemblies are adjacent to the SRM **AND NO** other fuel assemblies in the associated core quadrant.

Standard:

Calculates a signal to noise ratio of 8 and verifies  $> 3$ . Verifies SRM D has  $\geq 3$  cps.

SAT \_\_\_ UNSAT \_\_\_ N/A \_\_\_ COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

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Performance Step:

Critical X Not Critical    

**NOTE**

The following section is required to be performed every 12 hours while core alterations are in progress **AND** within 12 hours prior to the beginning of core alterations. One SRM may be used to satisfy **MORE** than one of the following conditions.

[13] **COMPLETE** the following table by answering yes **OR NO** for each question for each core quadrant (Reference the previous procedure steps just completed).

Quad A	Quad B	Quad C	Quad D	
				Was count rate $\geq$ 3 cps?
				Was signal-to-noise ratio $\geq$ 3:1?
				Is the quadrant a fueled region?
				Are core alterations being performed <b>OR</b> expected within the next 12 hours?

Standard:

Quad A	Quad B	Quad C	Quad D	
NO	yes	yes	yes	$\geq$ 3 cps
yes	yes	NO	yes	$\geq$ 3:1 signal to noise
yes	yes	yes	yes	quadrant fueled
no	YES	no	no	

SAT\_\_ UNSAT\_\_ N/A\_\_ COMMENTS: \_\_\_\_\_

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Performance Step:

Critical X Not Critical \_\_\_

[14] **VERIFY** an operable SRM detector is located in each core quadrant in which core alterations are being performed (**OR** planned within 12 hours) **AND** an adjacent core quadrant. **CHECK MARK** the appropriate operable SRMs for each core Quad:

**IF** Quad A, **THEN** SRM A  and either SRM B  or SRM D  \_\_\_\_ (AC)

**IF** Quad B, **THEN** SRM B  and either SRM A  or SRM C  \_\_\_\_ (AC)

**IF** Quad C, **THEN** SRM C  and either SRM B  or SRM D  \_\_\_\_ (AC)

**IF** Quad D, **THEN** SRM D  and either SRM A  or SRM C  \_\_\_\_ (AC)

Standard:

Completes Step 14 for a minimum of Quadrant B, determines acceptance criteria not met.

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

CUE: If needed can ask Candidate if acceptance criteria is met for any core quadrant.  
NOTE: NO CORE Alterations can commence

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Performance Step: Critical X Not Critical \_\_\_

[15] **RECORD** the appropriate test information on Attachment 1, Surveillance Procedure Review Form (located in Section 8.0), **AND COMPLETE** up to Unit Supervisor Review.

[16] **NOTIFY** UO that this SR test procedure is complete.

[17] **NOTIFY** US that this SR test procedure is complete.

Standard:

Critical Step: completes Attachment 1 and marks NO for acceptance criteria satisfied.  
Notifies UO and US.

SAT\_\_\_ UNSAT\_\_\_ N/A \_\_\_ COMMENTS: \_\_\_\_\_

CUE: Acknowledge communication as Unit Operator and Unit Supervisor

END OF TASK

STOP TIME \_\_\_

**BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE**

OPERATOR: \_\_\_\_\_

SRO \_\_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: 555sro

TASK NUMBER: Equipment Control

TASK TITLE: Containment Penetration Isolation to meet 3.6.1.3

K/A NUMBER: 2.2.40 K/A RATING: SRO: 4.7

TASK STANDARD: Determine components to provide isolation for Containment penetration X-211B, due to failure of 2-FCV-74-72 to meet TS 3.6.1.3

LOCATION OF PERFORMANCE: Class Room

REFERENCES/PROCEDURES NEEDED: TS 3.6.1.3, Drawing 2-47E811-1, SPP 10.2

VALIDATION TIME: 20 minutes

MAX. TIME ALLOWED: \_\_\_\_\_ (Completed for Time Critical JPMs only)

PERFORMANCE TIME: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_ NO \_\_\_

RESULTS: SATISFACTORY \_\_\_\_\_ UNSATISFACTORY \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE

\*\*\*\*\*

**Class Room**

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**INITIAL CONDITIONS:** The plant is in MODE 1. During performance of 2-SR-3.6.1.3.5 RHR II, RHR System MOV Operability Loop II, valve 2-FCV-74-72 RHR SYS II SUPPR CHBR SPRAY VALVE blew all main line fuses during its stroke time test. The valve is currently open and attempts to manually close 2-FCV-74-72 have been unsuccessful. The valve has been declared INOPERABLE and Technical Specification 3.6.1.3 (PCIVs), Condition A has been entered.

**INITIATING CUES:** The Shift Manager directs you as a Senior Reactor Operator, to determine the component(s) that will require isolation in order to comply with Technical Specification 3.6.1.3, Condition A. The Unit Supervisor is completing the required LCOs.

**START TIME** \_\_\_\_\_

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Performance Step: Critical\_ Not Critical\_ X

Review print 2-47E811-1 to determine components that can isolate penetration X-211B due to failure of 2-FCV-74-72

Standard:

Locates and reviews print for designated CTMT Penetration and valves in flow path

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical\_ X Not Critical\_ \_\_

Identifies the following component to meet Technical Specification 3.6.1.3.

Standard:

2-FCV-74-71 needs Closed, De-activated and under Administrative Control

SAT\_\_ UNSAT\_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

\_\_\_\_\_

CUE: Not required to generate clearance. Identify component(s) that would be required to be listed on a clearance.

\*\*\*\*\*

Performance Step: Critical X Not Critical \_\_

Identifies the following component to meet Technical Specification 3.6.1.3.

Standard:

Test Valve 796B Closed and under Administrative Control

SAT \_\_ UNSAT \_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical \_\_ Not Critical X

May Identify the following components but they are **not** required to meet Technical Specification 3.6.1.3.

Standard:

2-FCV-74-73, 2-74-715B, and 2-VTV-74-711B

SAT \_\_ UNSAT \_\_ N/A \_\_ COMMENTS: \_\_\_\_\_

\_\_\_\_\_

END OF TASK

**STOP TIME** \_\_

**BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE**

OPERATOR: \_\_\_\_\_

RO \_\_\_\_ SRO \_\_\_\_ DATE: \_\_\_\_\_

JPM NUMBER: 556

TASK NUMBER: U-000-SU-06

TASK TITLE: Drywell Leakage Calculation

K/A NUMBER: 2.2.38 K/A RATING: RO 3.6 SRO: 4.5

TASK STANDARD: Calculate Drywell Floor and Equipment Sump leakage using 2-SR-2 and determine unidentified leakage is outside the acceptance criteria.

LOCATION OF PERFORMANCE: Class Room / Unit 2 Simulator

REFERENCES/PROCEDURES NEEDED: 2-SR-2

VALIDATION TIME: 10 minutes

MAX. TIME ALLOWED: \_\_\_\_ (Completed for Time Critical JPMs only)

PERFORMANCE TIME: \_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Additional comment sheets attached? YES \_\_\_ NO \_\_\_

RESULTS: SATISFACTORY \_\_\_\_ UNSATISFACTORY \_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
EXAMINER

BROWNS FERRY NUCLEAR PLANT  
JOB PERFORMANCE MEASURE

\*\*\*\*\*

**Class Room**

\*\*\*\*\*

**INITIAL CONDITIONS:** Unit 2 is operating at 100% power after a Refuel Outage last month. The unit has been on line for 10 days. It is 0800 and the DW Floor and Equipment Drain have completed pumping down. The 0800 reading for Floor Drain is 60380 and for Equipment Drain is 44988.

**INITIATING CUES:** The Unit Supervisor directs you as a Reactor Operator to complete 2-SR-2 for the Drywell Floor and Equipment Drain Sumps and report results.

**START TIME** \_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical\_ Not Critical\_ X

Completes 2-SR-2 for Drywell Unidentified Leakage for 0800 Saturday morning.

Standard:

Completes 0800 readings for Saturday

SAT\_\_ UNSAT\_\_ N/A \_\_COMMENTS:\_\_\_\_\_

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\*\*\*\*\*

Performance Step: Critical\_ X Not Critical\_

Calculates a current unidentified leakrate of 3.41 gpm

Standard:

Calculates a current unidentified leakrate of 3.41 gpm

SAT\_\_ UNSAT\_\_ N/A \_\_COMMENTS:\_\_\_\_\_

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\*\*\*\*\*

Performance Step: Critical\_ X Not Critical\_

Calculates a change in leakrate of 2.02 gpm

Standard:

Calculates a change in leakrate of 2.02 gpm

SAT\_\_ UNSAT\_\_ N/A \_\_COMMENTS:\_\_\_\_\_

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\*\*\*\*\*

Performance Step: Critical\_ Not Critical\_ X

Completes 2-SR-2 for Drywell Identified Leakage and Total Leakage for 0800 Saturday morning

Standard:

Completes 0800 readings for Saturday

SAT\_\_ UNSAT\_\_ N/A \_\_COMMENTS:\_\_\_\_\_

---

\*\*\*\*\*

Performance Step: Critical X Not Critical\_\_

Calculates a current identified leakrate of 2.32 gpm

Standard:

Calculates a current identified leakrate of 2.32 gpm

SAT\_\_ UNSAT\_\_ N/A \_\_COMMENTS:\_\_\_\_\_

---

\*\*\*\*\*

Performance Step: Critical X Not Critical    

Calculates a total leakrate of 5.73 gpm

Standard:

Calculates a total leak rate of 5.73 gpm

SAT     UNSAT     N/A     COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

Performance Step: Critical X Not Critical    

Reports that the Unidentified increase in leakage does not meet the acceptance criteria of  $\leq 2$  gpm within the previous 24 hour period.

Standard:

Reports that the Unidentified increase in leakage does not meet the acceptance criteria of  $\leq 2$  gpm within the previous 24 hour period.

SAT     UNSAT     N/A     COMMENTS: \_\_\_\_\_

\_\_\_\_\_

END OF TASK

STOP TIME

Table 1.2

## DRYWELL UNIDENTIFIED LEAKAGE

DAY SHIFT

WEEK: \_\_\_\_\_ to \_\_\_\_\_

APPLICABILITY: Modes 1, 2 & 3 Readings are required at all times.													
Surveillance Requirements: 3.4.4.1						LOCATION: Panel 2-9-4, 2-FQ-77-6							
Preferred reading times are 0800, 1200 and 1600	Col. A.1	Col. B.1	Col. C.1	Col. D.1	Col. E.1	Col. F.1	Col. G.1	Col. H.1	Col. I.1	LIMITS (AC)	Review Init		
	Current 2-FQ-77-6 Reading (gals) (Notes 1, 2)	Previous Days 2-FQ-77-6 Reading from Col. A.1 (gals) (Note 2)	Gallons Pumped Col. A.1 - Col. B.1 (Note 2)	Current Time (Note 2)	Previous Days Time from Col. D.1 (Note 2)	Elapsed Time Col. D.1 - Col. E.1 (min) (Note 2)	Current Leakrate Col. C.1 ÷ Col. F.1 (gpm) (Note 2)	Previous Days Leakrate from Col. G.1 (gpm) (Note 2)	Change in Leakrate Col. G.1 - Col. H.1 (gpm) (Note 2, 3)		UO	Unit Supvr (Note 4)	
Friday	55469	53461	2008	0800	0800	1440	1.39	1.09	+ .20	Col. G.1 ≤ 5.0 gpm  and Col. I.1 ≤ 2 gpm (Note 3)	MS		
	57716	54182	3534	1200	1200	1440	2.45	1.11	+1.34		DZ		
	59010	54884	4126	1600	1600	1440	2.87	1.10	+1.77		BC		
Saturday													
Sunday		<b>Student</b>	<b>Handout</b>		<b>Student</b>	<b>Handout</b>		<b>Student</b>	<b>Handout</b>				
Monday		<b>Student</b>	<b>Handout</b>		<b>Student</b>	<b>Handout</b>		<b>Student</b>	<b>Handout</b>				

!

- (1) Manually pump down sump per 2-OI-64 prior to reading. To record gallons, disregard the decimal position on integrator. Record only five digits including right-hand dial's hash marks as gallons of flow. Example: Record 0065432.1 as 54321.
- (2) May be N/A'd if Surveillance Requirement is being met with the performance of 2-SR-3.4.4.1 or 2-SR-3.4.4.1-a and a note stating such shall be made in the remarks section of this SR. When initial integrator reading is taken and no previous reading exists, all other entries except for Col. A.1 and D.1 should be N/A'd.
- (3) Acceptance Criteria for Col. I.1 is only applicable when in Mode 1 for > 24 hours.
- (4) Unit Supervisor shall Independently Verify Inleakage Calculations and verify Inleakage Acceptance Criteria.

Table 1.3

DRYWELL IDENTIFIED and TOTAL LEAKAGE

DAY SHIFT

WEEK: \_\_\_\_\_ to \_\_\_\_\_

APPLICABILITY: Modes 1, 2 & 3 Readings are required at all times.													
Surveillance Requirements: 3.4.4.1						LOCATION: Panel 2-9-4, 2-FQ-77-16							
Preferred reading times are 0800, 1200 and 1600	Col. A.2	Col. B.2	Col. C.2	Col. D.2	Col. E.2	Col. F.2	Col. G.2	Col. H.2	Col. I.2	LIMITS (AC)	Review Init		
	Current 2-FQ-77-16 Reading (gals) (Notes 1, 2)	Previous Days 2-FQ-77-16 Reading from Col. A.2 (gals) (Note 2)	Gallons Pumped Col. A.2 - Col. B.2 (Note 2)	Current Time (Note 2)	Previous Days Time from Col. D.2 (Note 2)	Elapsed Time Col. D.2 - Col. E.2 (min) (Note 2)	Current Leakrate Col. C.2 ÷ Col. F.2 (gpm) (Note 2)	Current Unidentified Leakrate from Col. G.1 (gpm) (Notes 2 & 3)	Total Leakrate Col. G.2 + Col. H.2 (gpm) (Note 2)		UO	Unit Supvr (Note 4)	
Friday	41647	39756	1891	0800	0800	1440	1.31	1.39	2.70	Col. I.2 < 30.0 gpm	MS		
	41957	40080	1877	1200	1200	1440	1.30	2.45	3.75		DZ		
	42266	40388	1878	1600	1600	1440	1.30	2.87	4.17		BC		
Saturday													
Sunday		<b>Student</b>	<b>Handout</b>		<b>Student</b>	<b>Handout</b>		<b>Student</b>	<b>Handout</b>				
Monday		<b>Student</b>	<b>Handout</b>		<b>Student</b>	<b>Handout</b>		<b>Student</b>	<b>Handout</b>				

!

- (1) Manually pump down sump per 2-OI-64 prior to reading. To record gallons, disregard the decimal position on integrator. Record only five digits including right-hand dial's hash marks as gallons of flow. Example: Record 0065432.1 as 54321.
- (2) May be N/A'd if Surveillance Requirement is being met with the performance of 2-SR-3.4.4.1 or 2-SR-3.4.4.1-a and a note stating such shall be made in the remarks section of this SR. When initial integrator reading is taken and no previous reading exists, all other entries except for Col. A.2 and D.2 should be N/A'd.
- (3) G.1 reading is from Drywell Unidentified Leakage Col. G.1 on previous page.
- (4) Unit Supervisor shall independently Verify Inleakage Calculations and verify Inleakage Acceptance Criteria.

Table 1.2

## DRYWELL UNIDENTIFIED LEAKAGE

DAY SHIFT

WEEK: \_\_\_\_\_ to \_\_\_\_\_

APPLICABILITY: Modes 1, 2 & 3 Readings are required at all times.													
Surveillance Requirements: 3.4.4.1						LOCATION: Panel 2-9-4, 2-FQ-77-6							
Preferred reading times are 0800, 1200 and 1600	Col. A.1	Col. B.1	Col. C.1	Col. D.1	Col. E.1	Col. F.1	Col. G.1	Col. H.1	Col. I.1	LIMITS (AC)	Review Init		
	Current 2-FQ-77-6 Reading (gals) (Notes 1, 2)	Previous Days 2-FQ-77-6 Reading from Col. A.1 (gals) (Note 2)	Gallons Pumped Col. A.1 - Col. B.1 (Note 2)	Current Time (Note 2)	Previous Days Time from Col. D.1 (Note 2)	Elapsed Time Col. D.1 - Col. E.1 (min) (Note 2)	Current Leakrate Col. C.1 ÷ Col. F.1 (gpm) (Note 2)	Previous Days Leakrate from Col. G.1 (gpm) (Note 2)	Change in Leakrate Col. G.1 - Col. H.1 (gpm) (Note 2, 3)		UO	Unit Supvr (Note 4)	
Friday	55469	53461	2008	0800	0800	1440	1.39	1.09	+ .20	Col. G.1 ≤ 5.0 gpm  and Col. I.1 ≤ 2 gpm (Note 3)	MS		
	57716	54182	3534	1200	1200	1440	2.45	1.11	+1.34		DZ		
	59010	54884	4126	1600	1600	1440	2.87	1.10	+1.77		BC		
Saturday	60380	55469	4911	0800	0800	1440	3.41	1.39	+2.02				
		<b>ANSWER</b>	<b>KEY</b>		<b>ANSWER</b>	<b>KEY</b>		<b>ANSWER</b>	<b>KEY</b>				
Sunday													
		<b>ANSWER</b>	<b>KEY</b>		<b>ANSWER</b>	<b>KEY</b>		<b>ANSWER</b>	<b>KEY</b>				
Monday													

!

- (1) Manually pump down sump per 2-OI-64 prior to reading. To record gallons, disregard the decimal position on integrator. Record only five digits including right-hand dial's hash marks as gallons of flow. Example: Record 0065432.1 as 54321.
- (2) May be N/A'd if Surveillance Requirement is being met with the performance of 2-SR-3.4.4.1 or 2-SR-3.4.4.1-a and a note stating such shall be made in the remarks section of this SR. When initial integrator reading is taken and no previous reading exists, all other entries except for Col. A.1 and D.1 should be N/A'd.
- (3) Acceptance Criteria for Col. I.1 is only applicable when in Mode 1 for > 24 hours.
- (4) Unit Supervisor shall Independently Verify Inleakage Calculations and verify Inleakage Acceptance Criteria.

Table 1.3

DRYWELL IDENTIFIED and TOTAL LEAKAGE

DAY SHIFT

WEEK: \_\_\_\_\_ to \_\_\_\_\_

APPLICABILITY: Modes 1, 2 & 3 Readings are required at all times.												
Surveillance Requirements: 3.4.4.1						LOCATION: Panel 2-9-4, 2-FQ-77-16						
Preferred reading times are 0800, 1200 and 1600	Col. A.2	Col. B.2	Col. C.2	Col. D.2	Col. E.2	Col. F.2	Col. G.2	Col. H.2	Col. I.2	LIMITS (AC)	Review Init	
	Current 2-FQ-77-16 Reading (gals) (Notes 1, 2)	Previous Days 2-FQ-77-16 Reading from Col. A.2 (gals) (Note 2)	Gallons Pumped Col. A.2 - Col. B.2 (Note 2)	Current Time (Note 2)	Previous Days Time from Col. D.2 (Note 2)	Elapsed Time Col. D.2 - Col. E.2 (min) (Note 2)	Current Leakrate Col. C.2 ÷ Col. F.2 (gpm) (Note 2)	Current Unidentified Leakrate from Col. G.1 (gpm) (Notes 2 & 3)	Total Leakrate Col. G.2 + Col. H.2 (gpm) (Note 2)		UO	Unit Supvr (Note 4)
Friday	41647	39756	1891	0800	0800	1440	1.31	1.39	2.70	Col. I.2 < 30.0 gpm	MS	
	41957	40080	1877	1200	1200	1440	1.30	2.45	3.75		DZ	
	42266	40388	1878	1600	1600	1440	1.30	2.87	4.17		BC	
Saturday	44988	41647	3341	0800	0800	1440	2.32	3.41	5.73			
		<b>ANSWER</b>	<b>KEY</b>		<b>ANSWER</b>	<b>KEY</b>		<b>ANSWER</b>	<b>KEY</b>			
Sunday												
		<b>ANSWER</b>	<b>KEY</b>		<b>ANSWER</b>	<b>KEY</b>		<b>ANSWER</b>	<b>KEY</b>			
Monday												

!

- (1) Manually pump down sump per 2-OI-64 prior to reading. To record gallons, disregard the decimal position on integrator. Record only five digits including right-hand dial's hash marks as gallons of flow. Example: Record 0065432.1 as 54321.
- (2) May be N/A'd if Surveillance Requirement is being met with the performance of 2-SR-3.4.4.1 or 2-SR-3.4.4.1-a and a note stating such shall be made in the remarks section of this SR. When initial integrator reading is taken and no previous reading exists, all other entries except for Col. A.2 and D.2 should be N/A'd.
- (3) G.1 reading is from Drywell Unidentified Leakage Col. G.1 on previous page.
- (4) Unit Supervisor shall independently Verify Inleakage Calculations and verify Inleakage Acceptance Criteria.

