FINAL AS-ADMINISTERED ADMINISTRATIVE JPMS

FOR THE PERRY INITIAL EXAMINATION - MARCH 2002

Facility: <u>Perry</u> **Examination Level:** RO		**Date of Examination:** 3/4/2002 **Operating Test Number:** 2002-01

Administrative
Topic/Subject
Description
		Describe method of evaluation:
		  1. ONE Administrative JPM, OR
		  2. TWO Administrative Questions

A.1	Shift Turnover	2.1.3 (3.0) – Knowledge of Shift Turnover Requirements JPM: Complete a Shift Relief/Turnover checklist as the oncoming operator
	Jet Pump Operability	2.1.7 (3.7) – Ability to Evaluate Plant Performance and Make Operational Judgements Based on Operating Characteristics / Reactor Behavior / Instrument Interpretation JPM: Determine Jet Pump operability
A.2	Tagging	2.2.13 (3.6) – Knowledge of Tagging and Clearance Procedures JPM: Establish equipment isolation boundaries
A.3	Radiation Control Requirements	2.3.1 (2.6) – Knowledge of 10CFR20 and Related Facility Radiation Control Requirements JPM: Comply with Administrative Dose Control Levels for assigned job task
A.4	Personnel Accountability	2.4.39 (3.3) - Knowledge of RO's Responsibilities in Emergency Plan Implementation JPM: Perform Site Accountability actions from outside the Control Room.

SAFETY SIGNIFICANCE OF RO ADMIN JPMs & QUESTIONS

A.1.a

2.1.3 (3.0) Complete a Shift Relief/Turnover Checklist as the oncoming operator.

This JPM is safety significant because failure to recognize equipment out of service (RCIC) not identified on the shift relief/turnover checklist, in conjunction with HPCS already being out of service, would result in reduced ability to assure adequate core cooling.

A.1.b

2.1.7 (3.7) Determine Jet Pump operability

This JPM is safety significant because failure to recognize and inform the SRO that the Acceptance Criteria for the Jet Pump Operability Surveillance was not met could result in continued operation with a failed jet pump, which directly challenges the ability of the station to assure adequate core cooling in the event of a major Loss of Coolant Accident.

A.2

2.2.13 (3.6) Establish equipment isolation boundaries

This JPM is safety significant because failure to properly establish equipment isolation boundaries threatens personal safety.

A.3

2.3.1 (2.6) Comply with Administrative Dose Control Levels for assigned job task

This JPM is safety significant because failure to determine that the initial Perry Administrative Dose Control Level will be exceeded could result in unnecessary additional radiation exposure for the individual and violation of the intent of the ALARA principle.

A.4

2.4.39 (3.3) Perform Site Accountability actions from outside the Control Room

This JPM is safety significant because personnel accountability is an important element of Emergency Plan operations for personnel safety.

Facility:	Perry	**Task No:**	299-933-03-01

Task Title:	Complete a Reactor Operator Relief/Turnover Checklist as the On-Coming Reactor Operator	**JPM No:**	2002 NRC A1a RO

K/A Reference: 2.1.3

Examinee:		**NRC Examiner:**

Facility Evaluator:	N/A	**Date:**

Method of testing

Simulated Performance		**Actual Performance** In Simulator
Classroom	**Simulator**	Plant

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The plant is operating at 100% power. You are the on-coming Day Shift Reactor Operator. You have completed Section A of the Reactor Operator Relief/Turnover Checklist with the exception of the Control Room Horseshoe Panel Walkdown.

Task Standard: Candidate identifies RCIC is not in Stby Readiness due to both suction valves being closed (E51-F031 and E51-F010).

Required Materials: PAP-0126, Attachment 3 (attached marked up copy) Simulator IC Setup Sheet (attached)

General References: PAP-0126, Shift Staffing and Shift Relief, Rev. 2, PIC 2

Initiating Cue: Complete the Reactor Operator Relief/Turnover Checklist by performing the Control Room Horseshoe Panel Walkdown for panels H13-P877, P601, and P680 in accordance with PAP-0126.

Time Critical Task: NO

Validation Time: 30 minutes

(Denote Critical Steps with an asterisk)

The sequence of steps is unimportant.

* **Performance Step:** **P601**		Walkdown Control Room Horseshoe observing items such as active annunciators, status lights, train alignments, control board tags, and various parameters.
Standard:		Candidate identifies RCIC is <u>not</u> in Stby Readiness due to E51-F031 and E51-F010 being closed.
Comment:		**Note: Annotation of the completion of the Control Room Walkdown on the RO Relief/Turnover Checklist is <u>not</u> a critical step.**
		Note: Failure to identify that RCIC is <u>not</u> listed as being out of service on the RO Relief/Turnover Checklist is <u>not</u> a critical step.
Performance Step: **P680**		Walkdown Control Room Horseshoe observing items such as active annunciators, status lights, train alignments, control board tags, and various parameters.
Standard:		Candidate identifies Pressure Regulator B is the in-service Pressure Regulator. Determines in-service Pressure Regulator was incorrectly annotated on the Reactor Operator Relief/Turnover Checklist.
Comment:		

Terminating Cue:

The evaluation for this JPM is complete when the candidate completes the Control Room Horseshoe Panel walkdown for panels P877, P601, and P680.

Job Performance Measure No.   <u>2002 NRC A1a RO</u>

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: <u>N/A</u>

Number of Attempts:

Time to complete:

<u>Question Documentation:</u>

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: _____   _____

INITIAL
CONDITIONS: The plant is operating at 100% power. You are the on-coming Day Shift
Reactor Operator. You have completed Section A of the Reactor Operator
Relief/Turnover Checklist with the exception of the Control Room
Horseshoe Panel Walkdown.

INITIATING CUE: Complete the Reactor Operator Relief/Turnover Checklist by performing
the Control Room Horseshoe Panel Walkdown for panels H13-P877, P601,
and P680 in accordance with PAP-0126.

RO RELIEF/TURNOVER CHECKLIST

Section A:

Date: 03-XX-02   **Mode: 1   100%   3758 MWth**

Shift: ☒ Day   ☐ Afternoon   ☐ Night

☐	NI-RRA:
☐	NI-CC:
☐	BOP:
☐	OUT:
☐	RW:
☐	ET:

Perform the following (off-going RO):
☒ Test Annunciators   ☒ Update Annunciator tracking Log

Discuss the following:

Equipment Out-Of-Service/Maintenance in progress: **BOLD = NEW**   ◆ = ALCO   ♣ = ODCM

C51 All OPRM's ◆			
E22A HPCS Pump ◆			
G36 Demin A			
P52 Unit 1 IA Compressor			
C85 1B Press Regulator			
P61 A feed Pump			
P61 A boiler fan flow switch			
P54 A007 Tank # 7 (MLO)			

Test/Evolutions (C – Completed / I/P – In Progress / P – Planned / D – Discuss / H – Hold / A – Aborted)

This Shift	Previous Shift
P - I&C troubleshooting 1C85N0001B Pressure Regulator	C – SVI-E51-T2001 RCIC Pump and Valve Operability
P - G36 A F/D Backwash and precoat	C – Unloaded 2 Aux Boiler fuel oil trucks
P – Prepare for FIN Work on N23 H Filter (Days)	C – P61-0013 clearance removal feed pump A
	C – Restored Perry – East Lake Line
	C – P52 U1 IA Compressor in Secured status to support
	Demister change.
	Ongoing
	D - Monitoring Rectifiers for leakage (camera is in place)

Review/perform the following:

☒ Plant Narrative Log   ☒ ECCS Status Board   ☒ Active LCO Status

☒ DLCO Tracking Sheets   ☒ Daily & Standing Instructions   ☒ Active Annunciators

☒ Control Rod Positions   ☐ Control Room Walkdown   ☒ Tech Spec Rounds
   And Core Symmetry   (Horseshoe and Back Panels)

Review/Discuss the following:

Controlling IOI's: 3 / 15.

☒ RPV Level/Press (Within limits based on current operating conditions)

☒ DW Press (≤0.5 psig)   ☒ CNTMT Press (≤0.5 psig)   ☒ SP Lvl (Within limits based on current operating conditions)

☒ DW Temp (60° - 145° F)   ☒ CNTMT Temp (60° - 95° F)   ☒ SP Temp (60° - 95° F)

Cooling Tower Status: ☒ Normal   ☐ Bypass   ☐ Central Deicing   ☐ Shutdown
Blowdown in Manual: Full Open

General information

RFBP C Motor Thrust Bearing Monitor at 180 / Shift at 185°	
RFBP B Stator Temp High / Contact RSE at 245° S/D 250°	
1P45-F068A packing leak (RHR A pump room sump)	Contact SE if any Turbine Differential Expansion Alarms
M35 Plenum drains aligned to Rad waste due to tritium	
N23 C and H can not backwash due to valve problems	
3.6.1.3 (3.6.5.3) Valve(s) ◆	**Compensating Action ◆**

Section B:

☒   Control Room PER's and Tech Spec Rounds

Off-going RO: _____   On-coming RO: _____

2

Panel	Sec	Loc	Description of Annunciator from Panel	Reason for Activation of Annunciator	Ref Doc	Activation Date	Expected De-Activation Date	Owner
1H13-P680	1A	A-02	RWCU F/D OUT COND HI/FAILED	Monitor Failed WO 02-357 Status Work Complete	RT 75905	2/11/02	4/30/02	FIN
1H13-P680	7A	E-11	INST AIR COMP TRBL	Local Panel Power Turned Off Due to A/C in Secured Status For Demister Change	WO 02-148	2/28/02	5/30/02	FIN
1H13-P601	16A	D-04	HPCS OUT OF SERVICE	Pump Breaker Maintenance	WO 02-419	3/04/02	3/18/02	EMM

Facility:	Perry	**Task No:**	202-517-02-01
Task Title:	Determine Jet Pump Operability	**JPM No:**	2002 NRC A1b RO
K/A Reference:	2.1.7		
Examinee:		**NRC Examiner:**	
Facility Evaluator:	N/A	**Date:**	

Method of testing

Simulated Performance	N/A	**Actual Performance**	In Simulator

Classroom   **Simulator**   Plant

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The plant is operating at 72% power. SVI-B33-T1160, Jet Pump Operability Surveillance, was in progress when the Reactor Operator performing the surveillance had to leave the site unexpectedly 5 minutes ago. Sections 5.1.1 and 5.1.2 of SVI-B33-T1160 were completed prior to his departure. ICS is <u>not</u> available to support performance of SVI-B33-T1160.

Task Standard: Candidate identifies the Technical Specification Acceptance Criteria for SVI-B33-T1160 has <u>not</u> been met (2 out of 3 Criteria are <u>not</u> met), the Tech Spec / Relocated Requirements Criteria block on the Data Package Cover Sheet is annotated as 'unacceptable', and the Unit Supervisor is informed of the SVI failure.

Required Materials: SVI-B33-T1160, Rev 4, PIC 2 (attached marked up copy)
PDB-A0009, Rev 13
PAP-1105, Rev 9, PIC 9
Simulator IC Setup Sheet (attached)
Calculator

General References: SVI-B33-T1160, Rev 4, PIC 2
PDB-A0009, Rev 13
PAP-1105, Rev 9, PIC 9

Initiating Cue: The Unit Supervisor directs you, as the Reactor Operator, to complete the Jet Pump Operability Surveillance by performing Section 5.1.3.1, Jet Pump Differential Pressure and Flow, evaluate the Technical Specification acceptance criteria of SVI-B33-T1160, and complete the Data Package Cover Sheet.

Time Critical Task: NO

Validation Time: 30 minutes

(Denote Critical Steps with an asterisk)

Note: It is not necessary to satisfy both Section 5.1.3.1 and Section 5.1.3.2. The preferred method is contained in Section 5.1.3.1. The unnecessary section has been marked N/A.

* Performance Step: Jet Pump Differential Pressure .
5.1.3.1.a

                     Determine each normalized jet pump diffuser to lower plenum differential pressure for each operating recirculation loop, and indicate the method used.

Standard: Completes Attachment 3, Normalized Jet Pump dP's Data Sheet.

Comment:

The following steps are contained in SVI-B33-T1160 Attachment 3, Normalized Jet Pump dPs Data Sheet.

* Performance Step: 1   Record each Jet Pump diffuser to lower plenum dP (%).

Standard: Jet Pump diffuser to lower plenum dP's accurately recorded.

Comment: See attached marked-up copy of Attachment 3 for expected approximate values.

* **Performance Step: 2**   Sum all Jet Pump dPs for each loop, and record as Loop Total dP.

    Standard: Jet Pump dP's accurately summed.

    Comment: See attached marked-up copy of Attachment 3 for expected approximate values.

* **Performance Step: 3**   Divide each Loop Total dP by 10 and record as Loop Average dP.

    Standard: Jet Pump Loop Average dP's accurately calculated.

    Comment: See attached marked-up copy of Attachment 3 for expected approximate values.

* **Performance Step: 4**   Divide each Jet Pump dP by its Loop Average dP, and record as Normalized Jet Pump dP.

    Standard: Normalized Jet Pump dP's accurately calculated.

    Comment: See attached marked-up copy of Attachment 3 for expected approximate normalized values.

    Performance Step: 5   All calculations independently verified.

    Standard: Independent verification of all calculations is requested.

    Comment: **Cue: Independent verification of all calculations has been completed satisfactorily.**

* **Performance Step: 6**   Confirm that each normalized jet pump diffuser to lower plenum
                             differential pressure as determined in Step 4 of this attachment is
                             within the corresponding Normalized dP Range of <PDB-A0009>
                             for the Recirculation Loop configuration indicated in Step 4.3

    Standard: Determines that each normalized jet pump diffuser to lower plenum
                             differential pressure as determined in Step 4 of this attachment is <u>not</u>
                             within the corresponding Normalized dP Range.

    Comment: See attached marked-up copy of Attachment 3 for expected
                             approximate values of each normalized jet pump diffuser to lower
                             plenum differential pressure.

**The following steps are contained in SVI-B33-T1160 Section 5.1.3, Jet Pump
Differential Pressure, and in Section 5.3, Acceptance Criteria.**

* **Performance Step:**   Indicate whether the relationship determined in Step 5.1.3.1.a is
  5.1.3.1.b   within the appropriate "established pattern."

    Standard: Determines that relationship determined in Step 5.1.3.1.a is <u>not</u>
                             within the appropriate "established pattern" by referring to step 6 of
                             Attachment 3.

    Comment:

* Performance Step:
5.3.1

Acceptance Criteria

The jet pumps, in each operating recirculation loop, have been demonstrated OPERABLE by one of the following two methods:

a.   At least two of the following three criteria have been satisfied:

    1)   Recirculation loop drive flow versus flow control valve position differs by $\leq 10\%$ from established patterns. (YES in Step 5.1.1.2)

    2)   Recirculation loop drive flow versus total core flow differs by $\leq 10\%$ from established patterns. (YES in Step 5.1.2.2)

    3)   Either each jet pump diffuser to lower plenum differential pressure differs by $\leq 20\%$ from established patterns, or each jet pump flow differs by $\leq 10\%$ from established patterns. (YES in either Step 5.1.3.1.b or Step 5.1.3.2.b)

Standard:

Determines that two of the three criteria of step "a" have not been satisfied.

Determines that Recirculation loop drive flow versus total core flow differs by $\geq 10\%$ from established patterns.

Determines that that jet pump diffuser to lower plenum differential pressure differs by $\geq 20\%$ from established patterns.

Informs the Unit Supervisor that significant abnormalities exist which could indicate a Jet Pump failure.

Comment:

Cue: If requested, we are not baselining new established patterns.

The following step is contained in the Data Package Cover Sheet for SVI-B33-T1160.

* **Performance Step: Data Package Cover Sheet**

Completes the Data Package Cover Sheet in accordance with the guidelines in PAP-1105.

Standard:

Annotates the Tech Spec / Relocated Requirements Criteria as 'Unacceptable' on the Data Package Cover Sheet and informs the Unit Supervisor.

Comment:

See attached marked-up copy of the Data package Cover Sheet attached to the front of SVI-B33-T1160.

Note: The incorrect annotation of all remaining blocks on the Data package Cover Sheet is not a critical step.

Terminating Cue:

The evaluation for this JPM is complete when the candidate determines the Jet Pump Operability Surveillance acceptance criteria have not been satisfied, completes the Data Package Cover Sheet, and informs the Unit Supervisor that significant abnormalities exist which could indicate a Jet Pump failure.

Job Performance Measure No.   2002 NRC A1b RO

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: _____   _____

INITIAL
CONDITIONS: The plant is operating at 72% power. SVI-B33-T1160, Jet Pump
Operability Surveillance, was in progress when the Reactor Operator
performing the surveillance had to leave the site unexpectedly. Sections
5.1.1 and 5.1.2 of SVI-B33-T1160 were completed prior to his departure.

ICS is not available to support performance of SVI-B33-T1160.

INITIATING CUE: The Unit Supervisor directs you, as the Reactor Operator, to complete the
Jet Pump Operability Surveillance by performing Section 5.1.3.1, Jet Pump
Differential Pressure and Flow, evaluate the Technical Specification
acceptance criteria of SVI-B33-T1160, and complete the Data Package
Cover Sheet.

DATA PACKAGE COVER SHEET

ASSET LABEL	SVI-B33-T1160
FILE NO.	
WORK ORDER NO.	

PNPP No. 6687 Rev. 9/27/01   PAP-1105

TEST PERFORMANCE

AUTHORIZATION TO START PREREQUISITES: ___N/A___   ___N/A___

AUTHORIZATION TO START TEST: __S.O. George Smith notified__   __3-8-02 / 0800__
Reactor Operator   Date and Time

INSTRUCTION COMPLETION ☐ FULL   ☐ PARTIAL*   *See comments for extent of testing
(see 1.a on reverse)

TECH. SPEC./RELOCATED   ☐ ACCEPTABLE   ☐ UNACCEPTABLE   ☐ NA   When both As Left and As Found
REQUIREMENTS CRITERIA (see 1.b on reverse)   data are taken, acceptance will be based on As Left data only.

AS FOUND DATA   ☐ NA   ☐ ACCEPTABLE   ☐ OUTSIDE LAIZ   ☐ OUTSIDE AV   When As Found data is outside
(see 1.c on reverse)   allowable value generate a CR (see 3 on reverse)

OTHER DATA CRITERIA   ☐ ACCEPTABLE   ☐ UNACCEPTABLE   ☐ NA   When both As Left and As Found
(see 1.d on reverse)   data are taken, acceptance will be based on As Left data only

TASK COMPLETION   ☐ RESCHEDULE   ☐ NO RESCHEDULE   **Task fully completed or all failed/not
(see 1.e on reverse)   CREDIT**   CREDIT   completed items tracked per LCO Tracking, Work Orders, etc.

TCN's IN EFFECT: __TC02__

Comments: __1) ERIS not available__

LEAD PERFORMER'S SIGN OFF _____
(see 2 on reverse)   Print Name   Signature   Date and Time

OPERATIONS UNIT SUPERVISOR _____
                                                                                                                            Date and Time

SHIFT MANAGER _____
            (Required if Tech. Spec. or ODCM Acceptance criteria is not met, Otherwise Mark N/A)   Date and Time

TEST RESULTS REVIEW

Comments: _____

Responsible Section Reviewer _____
                                          Approval Signature   Date

The Cleveland Electric Illuminating Company

PERRY OPERATIONS MANUAL

Surveillance Instruction

TITLE: JET PUMP OPERABILITY

REVISION: 4   EFFECTIVE DATE: 7-14-96

PREPARED: Harold A. Stiles   8-16-95
                                          /   Date

EFFECTIVE PIC's

PIC No.	Type of Change	Effective Date
1	Non-Intent Final	7-17-96
2	Non-Intent Final	1-13-97

FOR TRAINING USE ONLY

Working Copy Verified 3-8-02 DPJ
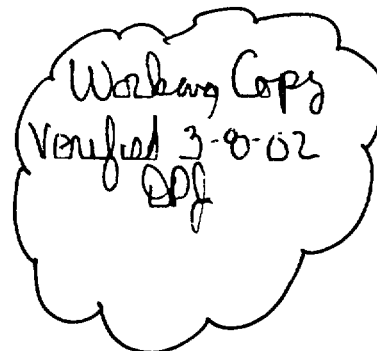
SCOPE OF REVISION:

Rev. 4 - 1.   TC's from previous revision that were evaluated for
               incorporation - None.
          2.   Revised in entirety -- no revision bars needed.
          3.   Incorporated Improved Technical Specifications.

Change History

PIC Number: 2   Affected Pages: i, iii, 4

Summary of Change:
1.   Added prerequisite to verify no other maintenance or testing is in
     progress that would affect B33 flow indication on the ERIS computer.

PIC Number: 1   Affected Pages: i, iii, 4, 5, 6, 7, 8, 11, 12, 13,
                                           14, 15

Summary of Change:
1.   Corrects reference Step numbers in Section 5.3.1.3.
2.   Corrects Section Title in 5.1.3.2.
3.   Place initial lines at the end of each step.

Jet Pump Operability

1.0 DESCRIPTION

1.1 Scope: This instruction demonstrates the operability of each jet pump
               in each operating recirculation loop by confirming the
               existence of two of the following three conditions for each
               operating recirculation loop:

   1)   Recirculation loop drive flow versus flow control valve
        position differs by $\leq$ 10% from established patterns,
   2)   Recirculation loop drive flow versus total core flow
        differs by $\leq$ 10% from established patterns,
   3)   Each jet pump diffuser to lower plenum differential
        pressure differs by $\leq$ 20% from established patterns, or
        each jet pump flow differs by $\leq$ 10% from established
        patterns.

               This instruction satisfies the requirements of Technical
               Specification SURVEILLANCE REQUIREMENT SR 3.4.3.1.

1.2 Frequency: 24 hours

   NOTE 1:   Not required to be performed until 4 hours after associated
             recirculation loop is in operation.

   NOTE 2:   Not required to be performed until 24 hours after > 25% RTP.

1.3 Technical Specification Applicable MODES:

   1 and 2

2.0 PRECAUTIONS AND LIMITATIONS

   1.   Step numbers marked with a dollar sign ($) immediately to the left
        are required by Technical Specifications. Such items, if found to
        exceed their Acceptance Criteria, may be NRC reportable and shall be
        brought to the immediate attention of the Unit Supervisor.

   2.   Those steps of this instruction with an initial line are to be
        initialed as data are entered or as each step is completed.

   3.   Sections 5.1.1, 5.1.2, and 5.1.3 may be performed in any order.
        Steps within a section are to performed in the order specified
        unless otherwise indicated.

   4.   Avoid performing this test at less than 10% FCV position, as
        position indication is not consistent there.

5. Baselining new "established patterns" is conducted in accordance
    with <SVI-F41-T3008>, "Reactor Recirculation System Flow Data
    Verification" during the initial weeks of operation under
    circumstances such as:

    a. Following refueling activities (fuel assembly replacement or
        shuffle, as well as any modifications to fuel support orifice
        size or core plate bypass flow) that can affect the
        relationship between core flow, jet pump flow and recirculation
        loop flow, or
    b. Initial entry into extended single loop recirculation operation

    During this time, the Shift Technical Advisor, Responsible System
    Engineer, or a Reactor Engineer normally provides an "engineering
    judgment of the daily surveillance results" to detect significant
    abnormalities which could indicate a jet pump failure. This
    engineering judgment may be based upon the nature of the refueling
    activities and may consider the self-consistency of the daily
    surveillance results, but jet pump noise is the most positive
    indication that the jet pump is operating. Until new "established
    patterns" can be baselined, copies of the <SVI-F41-T3008> data
    should be retained in the Control Room for ready reference.

6. In order to permit sufficient opportunity for the baselining of new
    established patterns, the period of time covering the "initial weeks
    of operation following refueling activities" normally extends to
    include five weeks after reaching rated power and flow.

7. When using the "established patterns" in the Plant Data Book Curves,
    ensure the two loop curves are used during two loop operations and
    the single loop curves are used during single loop operations;
    likewise, for slow or fast speed operation.

8. During single loop operations, only the jet pumps associated with
    the operating recirculation loop need to be demonstrated operable.
    However, data may be collected from the idle loop for use in
    demonstrating the OPERABILITY of the operating loop.

9. The following ERIS screens may be used during the performance of
    this surveillance instruction, as appropriate for the configuration
    of the recirculation system:

    a. 152, Normalized Jet Pump Flows
    b. 156, Normalized Jet Pump dPs
    c. 172, Dual Loop RCIRC Fast Performance
    d. 173, Dual Loop RCIRC Slow Performance

3.0 **MANPOWER AND EQUIPMENT**

3.1 **Manpower/Location/Communication**

1. Control Room operator or other qualified member of the unit technical staff to record data from instruments that are located on UNIT CONTROL CONSOLE 1H13-P680 and/or JET PUMP MONITORING PANEL 1H13-P619.

2. Shift Technical Advisor, Responsible System Engineer, or Reactor Engineer, if needed, to provide engineering judgment of daily surveillance results.

3. The Independent Verifier may be any of the above individuals.

3.2 **Required Measuring and Test Equipment (M&TE)**

None

3.3 **Additional Tools and Equipment**

1. <PDB-A0009>, Expected Jet Pump Normalized dP and Flow Ranges, if needed.

2. <PDB-A0010>, Recirc Loop Drive Flow vs. FCV Position, if needed.

3. <PDB-A0012>, Recirc Drive Flow vs. Total Core Flow, if needed.

4. <SVI-F41-T3008>, Reactor Recirculation System Flow Data Verification, if needed.

5. ERIS (C95) computer provides data, if used.

(INTENTIONALLY BLANK)

4.0 PREREQUISITES   Initials

1.   Mark the Unit Supervisor's "Authorization to Start
     Prerequisites" signature N/A on the Data Package Cover
     Sheet (DPCS) and initial.

2.   Confirm that the plant is operating in MODE 1 or 2, with
     THERMAL POWER > 25% RTP.

3.   Confirm that the recirculation flow is steady; and
     indicate the configuration of the recirculation loops:

     [ ]   a.   Loop A (only) in operation, with recirculation
                flow control in loop manual.
     [ ]   b.   Loop B (only) in operation, with recirculation
                flow control in loop manual.
     [X]   c.   Both recirculation loops in fast speed operation,
                with recirculation loop jet pump flow mismatch
                within the limits of SR 3.4.1.1.
     [ ]   d.   Both recirculation loops in slow speed operation,
                with recirculation loop jet pump flow mismatch
                within the limits of SR 3.4.1.1.

4.   When using ERIS screens, verify no other maintenance or
     testing is in progress which would affect recirculation
     flow indication.

5.0 SURVEILLANCE INSTRUCTION

5.1 Surveillance Test

1.   Notify the Supervising Operator before starting and write
     "S.O. (operator's name) notified" in the "Authorization to
     Start Test" signature on the DPCS. Record the time and
     date and initial the line.

5.1.1   Recirculation Loop Drive Flow vs. FCV Position

          1.   Determine the relationship between each operating
               recirculation loop drive flow and the corresponding
               flow control valve position, and indicate the method
               used.

               --   If using ERIS, attach a copy of the screen that
                    is appropriate for the recirculation loop
                    configuration indicated in Step 4.3 (e.g., 172
                    for dual loop - fast speed, or 173 for dual
                    loop - slow speed); otherwise, complete
                    Attachment 1, Manual Recirculation Loop Drive
                    Flow vs. FCV Position.

                    [ ] ERIS screen   [X] Attachment 1

SECTION 5.1.1   Initials

2. Indicate, for each <u>operating</u> loop, whether the
    relationship determined in Step 5.1.1.1 is within
    the appropriate "established pattern."

    -- If using ERIS, observe cursor is within limits
        for the DRIVE FLOW A VS. FCV A and/or for the
        DRIVE FLOW B VS. FCV B; otherwise, refer to
        Step 3 on Attachment 1.

    a. Loop A: [X] YES [ ] NO [ ] N/A
    b. Loop B: [X] YES [ ] NO [ ] N/A

5.1.2   Recirculation Loop Drive Flow vs. Total Core Flow

1. Determine the relationship between recirculation loop
    drive flow and total core flow, and indicate the
    method used.

    -- If using ERIS, attach a copy of the screen that
        is appropriate for the recirculation loop
        configuration indicated in Step 4.3 (e.g., 172
        for dual loop - fast speed, or 173 for dual
        loop - slow speed); otherwise, complete
        Attachment 2, Manual Recirculation Loop Drive
        Flow vs. Total Core Flow.

    [ ] ERIS screen   [X] Attachment 2

2. Indicate whether the relationship determined in
    Step 5.1.2.1 is within the appropriate "established
    pattern."

    -- If using ERIS, observe cursor is within limits
        for the DRIVE FLOW VS. CORE FLOW; otherwise,
        refer to Step 3 on Attachment 2.

    [ ] YES   [X] NO

5.1.3   Jet Pump Differential Pressure and Flow

NOTE 1: It is not necessary to satisfy both
         Section 5.1.3.1 and Section 5.1.3.2. The
         preferred method is contained in
         Section 5.1.3.1. The unnecessary section may
         be marked N/A.

NOTE 2: For single loop operation, the spaces in this
         section may be marked N/A for the idle loop.

SECTION 5.1.3   Initials

1. Jet Pump Differential Pressure

    a. Determine each normalized jet pump diffuser to
        lower plenum differential pressure for each
        operating recirculation loop, and indicate the
        method used.

        -- If using ERIS, attach a copy of the screen
            that is appropriate for the recirculation
            loop configuration indicated in Step 4.3
            (e.g., 156 for dual loop operation);
            otherwise, complete Attachment 3, Normalized
            Jet Pump dP's Data Sheet.

        [ ] ERIS screen   [ ] Attachment 3   _____|

    b. Indicate whether the relationship determined in
        Step 5.1.3.1.a is within the appropriate
        "established pattern."

        -- If using ERIS, observe NORMAL indication
            for the JET PUMP DPS; otherwise, refer to
            Step 6 on Attachment 3.

        [ ] YES   [ ] NO   [ ] N/A   _____|

2. Jet Pump Differential Flow

    a. Determine each normalized jet pump flow for each
        operating recirculation loop, and indicate the
        method used.

        -- If using ERIS, attach a copy of the screen
            that is appropriate for the recirculation
            loop configuration indicated in Step 4.3
            (e.g., 152 for dual loop operation);
            otherwise, complete Attachment 4, Normalized
            Jet Pump Flows Data Sheet.

        [ ] ERIS screen   [ ] Attachment 4   NA ___|

    b. Indicate whether the relationship determined in
        Step 5.1.3.2.a is within the appropriate
        "established pattern."

        -- If using ERIS, observe NORMAL indication
            for the JET PUMP FLOWS; otherwise, refer to
            Step 7 on Attachment 4.

        [ ] YES   [ ] NO   [ ] N/A   NA ___|

Initials

5.2 Plant/System Restoration

None

5.3 Acceptance Criteria

NOTE 1:   Satisfactory completion of this surveillance shall be
          based only on Technical Specification items (marked
          with a $ sign).

NOTE 2:   While baselining new "established patterns," copies
          of <SVI-F41-T3008> data should be retained in the
          Control Room so that the Shift Technical Advisor, the
          Responsible System Engineer, or a Reactor Engineer
          may consider the self-consistency of the data in
          making the "engineering judgment" on the existence of
          significant abnormalities which could indicate a jet
          pump failure. Jet pump noise is the most positive
          indication that the jet pump is operating.

$ 1.   The jet pumps, in each operating recirculation loop, have
          been demonstrated OPERABLE by one of the following two
          methods:

     a.   At least two of the following three criteria have
          been satisfied:

          1)   Recirculation loop drive flow versus flow
               control valve position differs by ≤ 10% from
               established patterns.   (YES in Step 5.1.1.2)

          2)   Recirculation loop drive flow versus total core
               flow differs by ≤ 10% from established patterns.
               (YES in Step 5.1.2.2)

          3)   Either each jet pump diffuser to lower plenum
               differential pressure differs by ≤ 20% from
               established patterns, or each jet pump flow
               differs by ≤ 10% from established patterns.
               (YES in either Step 5.1.3.1.b or Step 5.1.3.2.b) |

          [ ] YES   [ ] NO, U.S. notified   [ ] N/A

          --   If Step 5.3.1.a is marked NO, consider the
               applicability of Step 5.3.1.b; otherwise mark
               the signature line in Step 5.3.1.b N/A.   _____|

Initials

b. While baselining the new "established patterns," the
Shift Technical Advisor (STA), or the Responsible
System Engineer (RSE), or a Reactor Engineer (RE) has
reviewed the surveillance results and has determined,
based upon engineering judgment, that no significant
abnormality exists that could indicate a jet pump
failure.

_____NA_____ / _NA__ __NA__ |
STA, RSE, or RE Signature   Date

2. All other items checked in this surveillance performed
satisfactorily.

    [ ] YES   [ ] NO, applicable Supervisor notified   _____

3. Check the appropriate block on the Data Package Cover
Sheet to indicate acceptable or unacceptable test results. _____

Comments: _____

_____

Performed By: David P. Jansen _____ / PPJ / 3-8-02

               John D. Pierson _____ / JDP / 3-8-02

               _____ / _____ / _____
               Name (Print)   Initials   Date

5.4 Records

The following documents are generated by this instruction:

Quality Assurance Records

Data Package Cover Sheet
SVI-B33-T1160, pages 4 through 8, and:
  Attachment 1, Manual Recirculation Loop Drive Flow vs. FCV Position,
    if used
  Attachment 2, Manual Recirculation Loop Drive Flow vs. Total Core Flow,
    if used
  Attachment 3, Normalized Jet Pump dP's Data Sheet, if used
  Attachment 4, Normalized Jet Pump Flows Data Sheet, if used
ERIS screen 172 hard copy, Dual Loop RCIRC Fast Performance, if used
ERIS screen 173 hard copy, Dual Loop RCIRC Slow Performance, if used
ERIS screen 152 hard copy, Dual Loop Normalized Jet Pump Flows, if used
ERIS screen 156 hard copy, Dual Loop Normalized Jet Pump dP's, if used

Non Quality Records

None

6.0 REFERENCES

6.1 Technical Specification SURVEILLANCE REQUIREMENT SR 3.4.3.1

6.2 USAR

3.2.3.2.1, Definition of Safety Class 2
3.9.5.1.2, Reactor Internals
Figure 3.9-22, Jet Pump
3.9.5.3.7, Special Requirements for Jet Pump Holddown Beams
4.4.3.3.2, Regions of the Power-Flow Map
15F.2.1.1, Core Flow Measurement During Single Loop Operation
5.4.1.4, Safety Evaluation
6.2.1.1.3.3.1, Recirculation Line Break
6.3.3.7.2, Accident Description

6.3 Regulatory Documents

NUREG/CR-3052, Closeout of 1E Bulletin 80-07: BWR Jet Pump Assembly
Failure

6.4 Drawings

B-208-016, sh. B02, B03, B04
D-302-603
D-302-604

6.5 Vendor/Technical Manuals

GE SIL 330 with supplements

6.6 Plant Procedures/Instructions

PAP-1105, Surveillance Test Control

PAP-0507, Preparation, Review and Approval of Instructions

SVI-F41-T3008, Reactor Recirculation System Flow Data Verification

Operations Manual 18 (OM18), Plant Data Book

6.7 Commitments

The following commitments are either partially or fully satisfied by this
instruction:

L01960

7.0 <u>ATTACHMENTS</u>

7.1 Attachment 1 - Manual Recirculation Loop Drive Flow vs. FCV Position.

7.2 Attachment 2 - Manual Recirculation Loop Drive Flow vs. Total Core Flow

7.3 Attachment 3 - Normalized Jet Pump dP's Data Sheet.

7.4 Attachment 4 - Normalized Jet Pump Flows Data Sheet.

Manual Recirculation Loop Drive Flow vs. FCV Position

NOTE: For single loop operation, the spaces in this attachment may be marked N/A for the idle loop.

Step   Initials

1.   Record, for each <u>operating</u> loop, the flow control valve position from the instrument on 1H13-P680:

    a.   RCIRC LOOP A FLOW CONTROL: __35__ (%)
                                   B33-K603A

    b.   RCIRC LOOP B FLOW CONTROL: __34__ (%)
                                   B33-K603B

2.   Record, for each <u>operating</u> loop, the recirculation loop drive flow from ERIS or instruments on 1H13-P680; and indicate the source of the data and the units:

    a.   Flow A: __71__   [X] C51-R614-blue (%)
                             [ ] B33EA028   (kGPM)

    b.   Flow B: __69__   [X] C51-R614-red (%)
                               [ ] B33EA030   (kGPM)

NOTE: The limits on the established recirculation loop drive flows are determined from the:

    1)   <PDB-A0010> graphs for the recirculation loop configuration of Step 4.3,

    2)   Flow control valve positions of Step 1 of this attachment,

    3)   Units indicated in Step 2 of this attachment.

3.   Confirm, for each <u>operating</u> loop, the recirculation loop drive flow recorded in Step 2 is between the corresponding limits determined from the appropriate "Flow + 10%" and "Flow − 10%" curves in <PDB-A0010>.

    a.   Loop A: [X] YES   [ ] NO   [ ] N/A
    b.   Loop B: [X] YES   [ ] NO   [ ] N/A

Manual Recirculation Loop Drive Flow vs. Total Core Flow

Step   Initials

1. Determine the total Recirc Drive Flow by adding the individual
    Recirc Drive Flows recorded in Step 2 of Attachment 1; and
    indicate the corresponding units:

    --   If in single loop operation, use zero for the Recirc Drive
         Flow of the idle loop.
                                        [X] (%)
    Total Recirc Drive Flow: __140__   [ ] (kGPM)   PPO

                                             Independent Verifier: JDP

2. Determine the Total Core Flow from 1B33-R613 or from the
    combination of 1B33-R612A and 1B33-R612B, all on 1H13-P680;
    and indicate the source of the data:

    --   If Total Core Flow is determined from 1B33-R613, mark the
         spaces for 1B33-R612A, 1B33-R612B, and the Independent
         Verifier N/A.

    --   If, during dual loop operation, 1B33-R613 is not used, add
         the two jet pump loop flows and record the result as Total
         Core Flow in Step 2.c of this attachment.

    a.   Jet Pump Loop A Flow: __NA__ 1B33-R612A (Mlb/hr)
    b.   Jet Pump Loop B Flow: __NA__ 1B33-R612B (Mlb/hr)

    --   If, during single loop operation, 1B33-R613 is not used:

         1)   Multiply the idle jet pump loop by 0.95 and record as
              corrected idle jet pump loop flow: __NA__ (Mlb/hr)

         2)   Subtract the corrected idle jet pump loop flow from
              the operating jet pump loop flow and record the result
              as Total Core Flow in Step 2.c of this attachment.

         Otherwise, mark the corrected idle jet pump flow space
         above N/A.
                                        [ ] 1B33-R612A & B
    c.   Total Core Flow: __65__   [X] 1B33-R613 (Mlb/hr)   PPO

                                             Independent Verifier: NA

Manual Recirculation Loop Drive Flow vs. Total Core Flow (Cont.)

Step   Initials

NOTE: The limits on the established recirculation loop drive
         flow are determined from the:

         1)   <PDB-A0012> graph for the recirculation loop
              configuration of Step 4.3,

         2)   Total Core Flow of Step 2 of this attachment,

         3)   Units indicated in Step 1 of this attachment.

3.   Confirm that the flow recorded in Step 1 of this attachment is
     within the limits determined from the appropriate "Drive Flow +
     10%" and "Drive Flow - 10%" curves in <PDB-A0012>.

         [ ] YES [X] NO

Normalized Jet Pump dP's Data Sheet

Initials

1. Record each Jet Pump diffuser to lower plenum dP (%):   _____
2. Sum all Jet Pump dPs for each loop, and record as Loop Total dP: _____
3. Divide each Loop Total dP by 10 and record as Loop Average dP: _____
4. Divide each Jet Pump dP by its Loop Average dP, and record
    as Normalized Jet Pump dP:

Loop A Jet Pump	1H13-P619 Instrument	Jet Pump dP (%)	Normalized Jet Pump dP
1.	1B33-R610A	_____	_____
2.	1B33-R610E	_____	_____
3.	1B33-R610J	_____	_____
4.	1B33-R610N	_____	_____
5.	1B33-R610T	_____	_____
6.	1B33-R610C	_____	_____
7.	1B33-R610G	_____	_____
8.	1B33-R610L	_____	_____
9.	1B33-R610R	_____	_____
10.	1B33-R610V	_____	_____

"A" Loop Total dP   _____
"A" Loop Average dP   _____

Loop B Jet Pump	1H13-P619 Instrument	Jet Pump dP (%)	Normalized Jet Pump dP
11.	1B33-R610B	_____	_____
12.	1B33-R610F	_____	_____
13.	1B33-R610K	_____	_____
14.	1B33-R610P	_____	_____
15.	1B33-R610U	_____	_____
16.	1B33-R610D	_____	_____
17.	1B33-R610H	_____	_____
18.	1B33-R610M	_____	_____
19.	1B33-R610S	_____	_____
20.	1B33-R610W	_____	_____

"B" Loop Total dP   _____
"B" Loop Average dP   _____   _____|

5. All calculations independently verified: Independent Verifier: _____
6. Confirm that each normalized jet pump diffuser to lower plenum
    differential pressure as determined in Step 4 of this
    attachment is within the corresponding Normalized dP Range of
    <PDB-A0009> for the Recirculation Loop configuration indicated
    in Step 4.3

    [ ] YES [ ] NO   [ ] N/A   _____

Normalized Jet Pump Flows Data Sheet

Initials

1. Record each Jet Pump diffuser to lower plenum dP (%): NA
2. Take the square root of each Jet Pump dP, and record as Jet Pump SQRT(dP): NA
3. Sum all Jet Pump SQRT(dP)s for each loop, and record as Loop Total SQRT(dP): NA
4. Divide each Loop Total SQRT(dP) by 10 and record as Loop Average SQRT(dP): NA
5. Divide each Jet Pump SQRT(dP) by its Loop Average SQRT(dP), and record as Normalized Jet Pump Flow:

Loop A Jet Pump	1H13-P619 Instrument	Jet Pump dP (%)	Jet Pump SQRT(dP)	Normalized Jet Pump Flow
1.	1B33-R610A			
2.	1B33-R610E			
3.	1B33-R610J			
4.	1B33-R610N		NA	
5.	1B33-R610T			
6.	1B33-R610C			
7.	1B33-R610G			
8.	1B33-R610L			
9.	1B33-R610R			
10.	1B33-R610V			

"A" Loop Total SQRT(dP) NA
"A" Loop Average SQRTdP) NA

Loop B Jet Pump	1H13-P619 Instrument	Jet Pump dP (%)	Jet Pump SQRT(dP)	Normalized Jet Pump Flow
11.	1B33-R610B			
12.	1B33-R610F			
13.	1B33-R610K			
14.	1B33-R610P			
15.	1B33-R610U			
16.	1B33-R610D		NA	
17.	1B33-R610H			
18.	1B33-R610M			
19.	1B33-R610S			
20.	1B33-R610W			

"B" Loop Total SQRT(dP) NA
"B" Loop Average SQRT(dP) NA   NA

6. All calculations independently verified: Independent Verifier: NA
7. Confirm that each normalized jet pump flow as determined in Step 5 of this attachment is within the corresponding Normalized Flow Range of <PDB-A0009> for the Recirculation Loop configuration indicated in Step 4.3

  [ ] YES [ ] NO [ ] N/A   NA

Facility:	Perry	**Task No:**	299-925-03-01
Task Title:	Determine Isolation Boundaries for Equipment Tagging	**JPM No:**	2002 NRC RO A2
K/A Reference:	2.2.13		
Examinee:		**NRC Examiner:**	
Facility Evaluator:	N/A	**Date:**	

Method of testing

Simulated Performance		**Actual Performance**	**Class / Simulator**
Classroom	**Simulator**	Plant	

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions:	It is 0400 on Saturday morning. Reactor Feed Booster Pump B (1N27-C001B) experienced high vibration followed by pump seal failure. The pump has been shutdown in accordance with SOI-N27, Section 6.8. In addition, 1P12-F606B is closed and tagged, under OPS Admin Control, to isolate seal water to the RFBP.
Task Standard:	Candidate determines the following mechanical and electrical isolation boundaries are required for RFBP B: N27-F050B, F015B, and F503B handwheels; N27-F050B and F015B breaker disconnects; RFBP B breaker.
Required Materials:	P&ID 302-0081-0000-LL Electrical Drawing B-208-149 sheets 04, 08, and 44 PAP-1401, Tagging/Clearances Rev 10, PIC 1
General References:	P&ID 302-0081-0000-LL Electrical Drawing B-208-149 sheets 04, 08, and 44
Initiating Cue:	The Unit Supervisor directs you, as the Reactor Operator, to identify all of the components, including their required positions, for a Clearance that will isolate Reactor Feed Booster Pump B (N27-C0001B). Clearance paperwork is not required to be generated.
Time Critical Task:	NO
Validation Time:	20 minutes

(Denote Critical Steps with an asterisk)

Evaluator Note: 1. **The candidate may determine isolation boundaries in any order.**

2. **The candidate is not required to identify P44 motor cooling water isolation valves 1P44-F624B and 1P44-F625B.**

3. **The candidate is not required to identify 1N27-F670B, 1N27-F714B, or 1N27-F592B since they are vent or drain valves located within the isolation boundaries.**

* **Performance Step:** Close and tag 1N27-F050B, RFBP B Discharge Valve handwheel.

 Standard: Identify 1N27-F050B valve handwheel to be closed and tagged.

 Comment: Feedwater P&ID 302-0081-0000-LL.

* **Performance Step:** Close and tag 1N27-F015B, RFBP B Suction Isolation Valve handwheel.

 Standard: Identify 1N27-F015B valve handwheel to be closed and tagged.

 Comment: Feedwater P&ID 302-0081-0000-LL.

* **Performance Step:** Close and tag 1N27-F503B, RFBP B Casing Warmup Isolation Valve handwheel.

 Standard: Identify 1N27-F503B valve handwheel to be closed and tagged.

 Comment: Feedwater P&ID 302-0081-0000-LL

* **Performance Step:**   Tag control switch <u>and</u> open and tag breaker disconnect for 1N27-F050B, RFBP B Discharge Valve.

     Standard: Identify breaker disconnect (FIB06 Comp W) to be opened and tagged.

     Comment: **Note: The tagging of the control switch (S66) is optional per PAP-1401 and is <u>not</u> a critical step.**

                       Electrical Drawing B-208-149 sh. 08

* **Performance Step:**   Tag control switch <u>and</u> open and tag breaker disconnect for 1N27-F015B, RFBP B Suction Isolation Valve.

     Standard: Identify breaker disconnect (FIB06 Comp U) to be opened and tagged.

     Comment: **Note: The tagging of the control switch (S72) is optional per PAP-1401 and is <u>not</u> a critical step.**

                       Electrical Drawing B-208-149 sh 44

* **Performance Step:**   Tag RFBP B control switch <u>and</u> rack out and tag RFBP B breaker H1208.

     Standard: Identify breaker H1208 to be racked out and tagged.

     Comment: **Note: The tagging of the control switch (S3) is optional per PAP-1401 and is <u>not</u> a critical step.**

                       Electrical Drawing B-208-149 sh 04

Terminating Cue:

The evaluation for this JPM is complete when the candidate has identified the required isolation boundaries

Job Performance Measure No.   2002 NRC RO A2

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: _____   _____

INITIAL
CONDITIONS:
It is 0400 on Saturday morning. Reactor Feed Booster Pump B (1N27-C001B) experienced high vibration followed by pump seal failure. The pump has been shutdown in accordance with SOI-N27, Section 6.8. In addition, 1P12-F606B is closed and tagged, under OPS Admin Control, to isolate seal water to the RFBP.

INITIATING CUE: The Unit Supervisor directs you, as the Reactor Operator, to identify all of the components, including their required positions, for a Clearance that will isolate Reactor Feed Booster Pump B (N27-C0001B).
Clearance paperwork is not required to be generated.

Facility: <u>Perry</u>　　　　**Task No:**   <u>299-848-01-01</u>

Task Title: <u>Comply with Administrative Dose Controls Levels for Assigned Job Task</u>   **JPM No:**   <u>2002 NRC A3 RO</u>

K/A Reference: <u>2.3.1</u>

Examinee: **NRC Examiner:**

Facility Evaluator: <u>N/A</u>   **Date:**

Method of testing

Simulated Performance   <u>In-Plant</u>   **Actual Performance**

Classroom   Simulator   **Plant**

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The plant is operating at 100% power. HPCS Alternate Keepfill Startup using P21 is in progress per SOI-E22A, Section 7.8.2. Steps 1 through 5 are completed.

You have been assigned to open HPCS Pump Discharge Line Flush Connection Valve, 1E22-F031 in accordance with Step 6.

Your calculated stay time is 30 minutes. Your current year-to-date exposure is 965 mrem (TEDE).

Task Standard: Candidate determines he would exceed his Perry Administrative Dose Control Level of 1000 mrem/year (TEDE) for the assigned job task and recommends that he <u>not</u> be given the in-plant job assignment.

Required Materials: Survey Map (marked up copy)
SOI-E22A, High Pressure Core Spray System Rev 5, PIC 10
HPI-B0003, Processing of Personnel Dosimetry Rev 8, PIC 4

General References: SOI-E22A, High Pressure Core Spray System Rev 5, PIC 10
PNPP Radiation Worker Training Information Manual
HPI-B0003, Processing of Personnel Dosimetry Rev 8, PIC 4

Initiating Cue: Determine if you can perform the in-plant job assignment in accordance with Perry Administrative Dose Control Levels.

Time Critical Task: NO

Validation Time: 10 minutes

(Denote Critical Steps with an asterisk)

Note: This JPM should be performed prior to performing In-plant JPM P1 (Commence Alternate Boron Injection).

Note: This JPM can be administered in the plant, the simulator, or the classroom.

---

* **Performance Step: 1**   Determine the location of HPCS Pump Discharge Line Flush
                              Connection valve, 1E22-F031.

    Standard: Determines valve 1E22-F031 is located at Aux Building 620' D/02.

    Comment: Note: Candidate is allowed to reference SOI-E22A, VLI-E22A, or
                              any other plant reference that would state the location of the valve.

* **Performance Step: 2**   Locate the correct Survey Map in order to determine the dose rate
                              for the assigned job task.

    Standard: Locates Survey Map that includes valve 1E22-F031. (Aux Building,
                              620', HPCS Valve Room).

    Comment: **Cue: Provide candidate with marked up Survey Map after he
                              either shows or states that the Survey Maps are keep at the RCA
                              entrance.**

* **Performance Step: 3**   Determine the hypothetical dose for the assigned job task.

    Standard: Using Survey Map, determines the dose rate in the vicinity of valve
                              1E22-F031 is 100 mrem/hour.

                              Determines his hypothetical dose is 50 mrem.

    Comment: **100 mrem/hour x 0.5 hours = 50 mrem**

* **Performance Step: 4**   Determine the hypothetical yearly dose total (TEDE) if the assigned job task is performed.

    Standard: Determines his hypothetical yearly dose total (TEDE) will be 1015 mrem.

Reports that he should <u>not</u> perform the in-plant job assignment because he will exceed his current Perry Administrative Dose Control Level of 1000 mrem/year.

    Comment: **965 mrem (current) + 50 mrem (job task) = 1015 mrem.**

Terminating Cue:

The evaluation for this JPM is complete when the candidate determines he would exceed his Perry Administrative Dose Control Level of 1000 mrem/year if he was to perform the assigned job task.

Job Performance Measure No.   <u>2002 NRC A3 RO</u>

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: <u>N/A</u>

Number of Attempts:

Time to complete:

<u>Question Documentation:</u>

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: _____   _____

RADIOLOGICAL SURVEY REPORT

PNPP No. 7247 Rev. 3/18/97

SURVEY No.	0200254

INSTRUMENT	R020	MPL #	L70L0415	CAL DUE	3-30-02	RWP No.	020021	DATE	3-4-02	TIME	1045

INSTRUMENT	HP210	MPL #	L70L025I	CAL DUE	3-25-02	AREA HPCS VALVE ROOM

INSTRUMENT	NA	MPL #	NA	CAL DUE	NA	PURPOSE HPCS Outage

INSTRUMENT	NA	MPL #	NA	CAL DUE	NA

REACTOR POWER 100 %

AIR SAMPLE No. 1 P NA uCi/cc c NA uCi/cc [X] N/A

AIR SAMPLE No. 2 P NA uCi/cc c NA uCi/cc [X] N/A

CHECK BLOCK IF SURVEY OF A SPILL AREA [ ]

A62007

(Dose rates are in mrem/hr at approx. 3' above the floor unless otherwise noted.)

CONTAMINATION RESULTS IN dpm/100cm²

No.	SMEAR LOCATION	BETA-GAMMA	ALPHA
1	floor	<1000	NA
2	pipe		
3	I-beam		
4	floor		
5	drain		
6	valve F031		
7	valve F00A		
8	floor		
9	floor	<1000	NA
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22		NA	
23			
24			
25			
26			
27			
28			
29			
30			

Dose Received: 15 mRem

Duration: 10 Min

SURVEY BY (PRINTED) John Smith	SURVEY BY (SIGNATURE) John Smith	REVIEWED BY Robert Jones	DATE 3-4-02

Page ___ of ___

INITIAL
CONDITIONS: The plant is operating at 100% power. HPCS Alternate Keepfill Startup using P21 is in progress per SOI-E22A, Section 7.8.2. Steps 1 through 5 are completed.

You have been assigned to open HPCS Pump Discharge Line Flush Connection Valve, 1E22-F031 in accordance with Step 6.

Your calculated stay time is 30 minutes. Your current year-to-date exposure is 965 mrem (TEDE).

INITIATING CUE: Determine if you can perform the in-plant job assignment in accordance with Perry Administrative Dose Control Levels.

Facility: <u>Perry</u>   **Task No:**   <u>N/A</u>

Task Title: <u>Perform Site Accountability Actions from Outside Control Room</u>   **JPM No:**   <u>2002 NRC A4 RO</u>

K/A Reference: <u>2.4.39</u>

Examinee: **NRC Examiner:**

Facility Evaluator: <u>N/A</u>   **Date:**

Method of testing

Simulated Performance   <u>Plant</u>   **Actual Performance**   <u>N/A</u>

Classroom   Simulator   **Plant**

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: You are the <u>Operations Foreman</u> currently in the plant when a Site Area Emergency occurs.

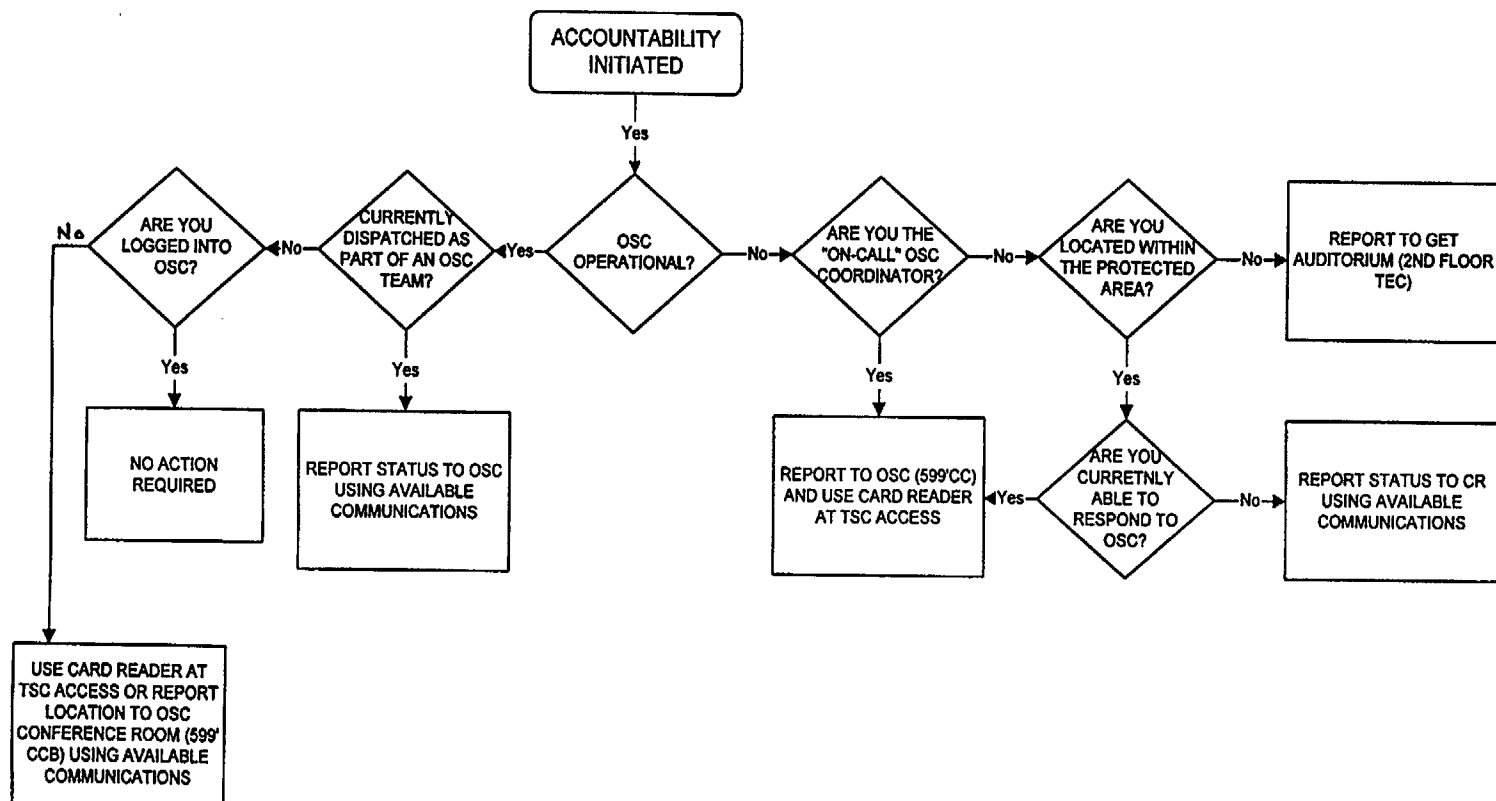The following messages are being broadcast over the Plant PA System:

"Attention all site personnel. Accountability is now in effect. Personnel performing a plant operating or emergency function, report your location to the Control Room or appropriate emergency facility. All other personnel exit the site using normal exiting procedures."

"Attention all site personnel. The OSC and TSC are being activated."

Task Standard: Candidate locates the OSC (CC 599'). Candidate then locates the Emergency Personnel Accountability card reader located in the TSC hallway (SB 605') and simulates inserting his keycard into the card reader.

Required Materials: None

General References: EPI-B5, Rev 6, PIC 6

Initiating Cue: The Shift Manager directs you to report directly to the Operations Support Center and await the arrival of the shift Plant Operators.

Time Critical Task: No

Validation Time: 5 minutes

(Denote Critical Steps with an asterisk)

* **Performance Step: 1**   Locate the Operations Support Center (CC 599') as directed.

    Standard: Locates the Operations Support Center (OSC) at CC 599'.

    Comment: **Cue: Direct the candidate to demonstrate the actions that he would be required to perform in order to complete Site Accountability before he is logged into the OSC.**

* **Performance Step: 2**   Locate the Emergency Personnel Accountability card reader in the TSC hallway (Service Building 605').

    Standard: Candidate locates the Emergency Personnel Accountability card reader in the TSC hallway (Service Building 605').

    Comment: Note: the candidate was directed to report immediately to the OSC, therefore he would not be expected to use the Unit 1 or Unit 2 Control Room Emergency Personnel card reader just inside the Control Room door.

* **Performance Step: 3**   Insert and then withdraw keycard into the designated accountability card reader.

    Standard: Inserts (simulates) and then withdraws keycard into the designated accountability card reader.

    Comment: **Cue: The red light has blinked on the accountability card reader.**

Terminating Cue:

The evaluation for this JPM is complete when the candidate locates the OSC and completes his actions to demonstrate Site Accountability.

Job Performance Measure No.   2002 NRC A4 RO

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: _____   _____

INITIAL
CONDITIONS: You are the <u>Operations Foreman</u> currently in the plant when a Site Area Emergency occurs.

The following messages are being broadcast over the Plant PA System:

"Attention all site personnel. Accountability is now in effect. Personnel performing a plant operating or emergency function, report your location to the Control Room or appropriate emergency facility. All other personnel exit the site using normal exiting procedures."

"Attention all site personnel. The OSC and TSC are being activated."

INITIATING CUE: The Shift Manager directs you to report directly to the Operations Support Center and await the arrival of the shift Plant Operators.

NF974

OSC STAFF ACCOUNTABILITY ACTIONS

```
                              ┌─────────────────┐
                              │ ACCOUNTABILITY  │
                              │   INITIATED     │
                              └────────┬────────┘
                                       │ Yes
```

```
   No    ◇ ARE YOU    ◇ CURRENTLY        ◇              ◇ ARE YOU THE   ◇ ARE YOU        ┌──────────────┐
         LOGGED INTO ◄No─ DISPATCHED AS ◄Yes─ OSC      ─No─► "ON-CALL" OSC ─No─► LOCATED WITHIN ─No─► REPORT TO GET
           OSC?          PART OF AN OSC     OPERATIONAL?    COORDINATOR?       THE PROTECTED      AUDITORIUM (2ND FLOOR
                             TEAM?                                                AREA?                    TEC)
                                                                                                  └──────────────┘
            │ Yes            │ Yes                              │ Yes            │ Yes
```

```
    ┌──────────┐      ┌──────────────┐              ┌──────────────┐      ◇ ARE YOU        ┌──────────────┐
    │ NO ACTION│      │REPORT STATUS TO OSC│        │REPORT TO OSC (599'CC)│ CURRETNLY      │REPORT STATUS TO CR│
    │ REQUIRED │      │USING AVAILABLE│             │AND USE CARD READER ◄Yes─ ABLE TO     ─No─►│USING AVAILABLE│
    └──────────┘      │COMMUNICATIONS│             │AT TSC ACCESS │        RESPOND TO      │COMMUNICATIONS│
                      └──────────────┘              └──────────────┘          OSC?          └──────────────┘
```

```
┌──────────────────┐
│ USE CARD READER AT│
│ TSC ACCESS OR REPORT│
│ LOCATION TO OSC   │
│ CONFERENCE ROOM (599'│
│ CCB) USING AVAILABLE│
│ COMMUNICATIONS    │
└──────────────────┘
```

5. Periodically update the Operations Foreman on plant status and emergency activities presently underway or required, and obtain a status of on-going and completed OSC activities.

5.2 **OSC Coordinator**

5.2.1 Activation

1. Use the OSC Activation Checklist (PNPP No. 7992, Attachment 1) to track and document completion of the activation actions outlined below.

    NOTE: Goal for OSC activation is 45 minutes: 30 minutes response time when notified, plus 15 minutes to reach operational status.

    a. If directed to use the Unit 2 Control Room an alternate OSC location, perform the following:

    1) Obtain the OSC Equipment kit stored in the Unit 1 Control Room E-Plan Locker which contains forms, procedures, etc., to aid in the initial activation of the OSC.

    2) Identify OSC personnel assembly areas to address space limitations and/or occupancy restrictions.

    3) Relocate the Plant Emergency Instruction (PEI) tool cabinet to the alternate OSC, based on ability to access the 599' CCB.

2. Determine available OSC staff present in or responding to the OSC.

    a. Direct available personnel to initiate callouts for required PMS supervisors and craft based on the event, using the PMS Callout List (maintained by PMS in the OSC). Ensure the fitness for duty status of all call-ins as determined per <NOP-LP-1002>.

    b. Verify that the on-shift Radiation Protection Supervisor or Technician-In-Charge has initiated callouts per <RPI-0124> to ensure minimum staffing levels are met.

    NOTE 1: A <u>minimum of four RP technicians</u>, in support of in-plant activities, are <u>required at an Alert.</u>

    NOTE 2: A <u>minimum of seven RP technicians</u>, in support of in-plant activities, are <u>required at a Site Area Emergency</u>.

    c. Direct the on-shift Chemistry Technician to callout a second Chemistry Technician or Supervisor per <NOP-LP-1002>, if not presently on-site, for events classified as a Site Area Emergency.

3. Identify I&C technicians qualified as Control Room/TSC Communicators and, if requested, dispatch to the TSC to assist in facility activation.

4. Identify qualified RMT Leaders and Helpers present in the OSC, and when requested, dispatch to EOF Decontamination Room as RMTs are mobilized.

   NOTE: Ensure minimum RP complement (4 at Alert/7 at Site Area Emergency) is maintained as OSC in-plant support. Callouts for additional RMT personnel, if required, will be initiated by TSC per <EPI-B3>.

5. Direct personnel reporting to the OSC Conference Room, to utilize the "accountability" card reader located in the TSC hallway.

   a. If the TSC "accountability" card reader is inoperable, obtain a listing of personnel reporting to the OSC using the Personnel Accountability Checklist form (PNPP No. 7957).

   b. When a Site Area Emergency is declared concurrent with OSC activation, direct available RP personnel to issue dosimetry to OSC staff per <HPI-B0003>.

      NOTE: OSC personnel located outside the Protected Area will report to the TEC Auditorium, Ext. 7817, once accountability is declared.

6. Utilize the OSC status boards and OSC Team Briefing/Debriefing Sheets (PNPP No. 7993, Attachment 2) to maintain accountability of OSC personnel leaving or dispatching from the OSC.

7. Contact the Shift Supervisor to obtain a briefing on plant conditions and emergency actions requiring OSC support.

8. If a potential radiological hazard exists, Radiation Protection to initiate periodic monitoring of area and airborne radiation levels in the OSC and adjacent areas. <P00092>

9. Synchronize OSC Conference Room wall clock with ICS by contacting TSC.

| | Facility: <u>Perry</u> | Date of Examination: 3/4/2002 |
| | Examination Level: SRO | Operating Test Number: 2002-01 |

	Administrative Topic/Subject Description	Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Shift Turnover	2.1.3 (3.4) – Knowledge of Shift Turnover Requirements JPM: Complete a Shift Relief/Turnover Checklist as the oncoming operator
	Feedwater Temperature Reduction Ops	2.1.7 (4.4) – Ability to Evaluate Plant Performance and Make Operational Judgements Based on Operating Characteristics / Reactor Behavior / Instrument Interpretation JPM: Prepare for Feedwater Temperature Reduction Operations
A.2	Risk Assessment	2.2.17 (3.5) – Knowledge of the Process for Managing Maintenance Activities During Power Operations JPM: Perform an On-Line Risk Determination
A.3	Radiation Control requirements	2.3.1 (3.0) – Knowledge of 10CFR20 and Related Facility Radiation Control Requirements JPM: Comply with Administrative Dose Control Levels for assigned job task
A.4	Emergency Plan	2.4.29 (4.0) – Knowledge of the Emergency Plan JPM: Classify an Emergency event, make Protective Action Recommendations, and complete paperwork for notification of Off-Site authorities

SAFETY SIGNIFICANCE OF SRO ADMIN JPMs & QUESTIONS

A.1.a

2.1.3 (3.4)   Complete a Shift Relief/Turnover Checklist as the oncoming operator.

This JPM is safety significant because failure to recognize equipment out of service (RCIC) not identified on the shift relief/turnover checklist, in conjunction with HPCS already being out of service, would result in reduced ability to assure adequate core cooling. Also, failure to identify the SB&PR regulator error on the shift relief/turnover checklist could result in an unplanned reactor shutdown.

A.1.b

2.1.7 (4.4)   Prepare for Feedwater Temperature Reduction Operations

This JPM is safety significant because failure to recognize that Final Feedwater Temperature is below the applicable feedwater temperature curve would result in reactor operation outside the assumptions of the safety analysis with respect to the Minimum Critical Power Ratio thermal limit.

A.2

2.2.17 (3.5)   Perform an On-Line Risk Determination

This JPM is safety significant because failure to properly perform the On-Line Risk Determination could result in the station entering an equipment configuration that directly increases the probability of occurrence of an accident or directly increases the consequence of an accident.

A.3

2.3.1 (3.0)   Comply with Administrative Dose Control Levels for assigned job task

This JPM is safety significant because failure to determine that the initial Perry Administrative Dose Control Level will be exceeded for an individual could result in unnecessary additional radiation exposure and violation of the intent of the ALARA principle.

A.4

2.4.29 (4.0)   Classify an Emergency Event, make Protective Action Recommendations, and complete
paperwork for notification of Off-Site authorities

This JPM is safety significant because failure to properly classify an event, failure to make the appropriate Protective Action Recommendations for an event, or failure to make the appropriate notifications would directly threaten the health and safety of the public.

Facility:	Perry	**Task No:**	299-933-03-01
Task Title:	Complete a Unit Supervisor Relief/Turnover Checklist as the On-Coming Unit Supervisor	**JPM No:**	2002 NRC A1a SRO
K/A Reference:	2.1.3		
Examinee:		**NRC Examiner:**	
Facility Evaluator:	N/A	**Date:**	

Method of testing

Simulated Performance		**Actual Performance**	In Simulator
Classroom	**Simulator**	Plant	

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions:	The plant is operating at 100% power. You are the on-coming Day Shift Unit Supervisor. You have completed Section A of the Unit Supervisor Relief/Turnover Checklist with the exception of the Control Room Horseshoe Panel Walkdown.
Task Standard:	Candidate identifies RCIC is not in Stby Readiness due to both suction valves being closed (E51-F031 and E51-F010) and determines the plant must be in MODE 3 within 13 hours (due to HPCS and RCIC being inoperable) unless either HPCS or RCIC is restored to OPERABLE.
Required Materials:	PAP-0126, Attachment 3 (attached marked up copy) Technical Specifications Simulator IC Setup Sheet (attached)
General References:	PAP-0126, Shift Staffing and Shift Relief, Rev. 2, PIC 2
Initiating Cue:	Complete the Unit Supervisor Relief/Turnover Checklist by performing the Control Room Horseshoe Panel Walkdown for panels H13-P877, P601, and P680 in accordance with PAP-0126.
Time Critical Task:	NO
Validation Time:	30 minutes

(Denote Critical Steps with an asterisk)

* **Performance Step:** **P601**	Walkdown Control Room Horseshoe observing items such as active annunciators, status lights, train alignments, control board tags, and various parameters.
Standard:	Candidate identifies RCIC is <u>not</u> in Stby Readiness due to E51-F031 and E51-F010 being closed.
Comment:	**Note: Annotation of the completion of the Control Room Panel Walkdown on the US Relief/Turnover Checklist is <u>not</u> a critical step.** **Note: Failure to identify that RCIC is <u>not</u> listed as being out of service on the US Relief/Turnover Checklist is <u>not</u> a critical step.**
Performance Step: **P680**	Walkdown Control Room Horseshoe observing items such as active annunciators, status lights, train alignments, control board tags, and various parameters.
Standard:	Candidate identifies Pressure Regulator B is the in-service Pressure Regulator. Determines in-service Pressure Regulator was incorrectly annotated on the Unit Supervisor Relief/Turnover Checklist.
Comment:	

Note: At the completion of the Control Room Horseshoe panel walkdown, direct the candidate to determine the operational implication of RCIC <u>not</u> being in Stby Readiness in conjunction with any other equipment currently out of service.

Performance Step:	Determine the operational implication of RCIC <u>not</u> being in Stby Readiness in conjunction with any other equipment currently out of service (i.e., HPCS).
Standard:	Candidate identifies that RCIC is inoperable due to <u>not</u> being in Stby Readiness (LCO 3.5.3). In conjunction with HPCS being inoperable, the plant will be required to be in MODE 3 within 13 hours (LCO 3.5.3, Conditions A and B).
Comment:	**Note: Per LCO 3.5.3, 13 hours is based on a 1 hour Completion Time for Required Action A.1 and a 12 hour Completion Time for Required Action B.1.**

Terminating Cue:

The evaluation for this JPM is complete when the candidate completes the Control Room Horseshoe Panel walkdown for panels P877, P601, and P680 and determines the operational implication of HPCS and RCIC being inoperable.

Job Performance Measure No.   2002 NRC A1a SRO

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: _____   _____

INITIAL
CONDITIONS: The plant is operating at 100% power. You are the on-coming Day Shift
                Unit Supervisor. You have completed Section A of the Unit Supervisor
                Relief/Turnover Checklist with the exception of the Control Room
                Horseshoe Panel Walkdown.

INITIATING CUE: Complete the Unit Supervisor Relief/Turnover Checklist by performing the
                Control Room Horseshoe Panel Walkdown for panels H13-P877, P601,
                and P680 in accordance with PAP-0126.

PNPP No. 8293 Rev. 4/23/01   PAP-0126

Section A:

Date: <u>03-XX-02</u>   Mode: ___1_____

Shift: ☐ NIGHT ☒ DAY ☐ AFT   Thermal Power: <u>100% (3758 Mwth limit)</u>
                                     Level Band: <u>192 to 200" by SPDS</u>

Discuss the following:

Equipment Out-Of-Service/Maintenance in progress (include open manholes):

ALCO's	G36 Demin A		
C51 - ALL OPRM'S	P52 Unit 1 IA Compressor		
E22A HPCS Pump	**C85 1B Press Regulator**		
	P61 A feed Pump		
	P61 A boiler fan flow switch		
	P54 A007 Tank # 7 (MLO)		
ODCM			
			POD Activities
			Upper Air Lock LLRT
ONI's			PTI-GENP0024

Test/Evolutions (completed/in progress/planned):

C – SVI-E51-T2001 RCIC Pump and Valve Operability	
C – Unloaded 2 Aux Boiler fuel oil trucks	
C – P61-0013 clearance removal feed pump A	
C – Restored Perry – East Lake Line	
C – P52 U1 IA Compressor in Secured status to support Demister change.	
P - I&C troubleshooting 1C85N0001B Pressure Regulator	
P - G36 A F/D Backwash and precoat	
P - Prepare for FIN Work on N23 H Filter (Days)	

PNPP No. 8293 Rev. 4/23/01   PAP-0126

Equipment Under Administrative Controls:

Stem leakoff alarm/bypass pts 24, 25		
LH-1-A and LH-1-B ABT's, keep aligned to breaker 8C-2 OAT on 8C-1.		
N64-F0064B- (Dryer B loop Seal)		
N64C0001A-Glyc. CW pump abn. noise		
P61-F0823		
G42-F0175- F/D drain leaking		

Tech Spec 3.6.1.3 / 3.6.5.3 inop valves   Penetration Controls

Review/perform the following:

☒ Plant Narrative Log   ☒ ECCS Status Board   ☐ Control Room Panel Walkdown
☒ Active LCO Status   ☒ Daily & Standing Instructions   ☒ Active Annunciators

Section B:

Review the following:

☒ RO Checklist   ☒ DLCO Tracking Sheets   ☒ Potential LCO Status
☒ Surv. Tracking Schedule   ☒ Condition Change Checklist   ☒ Ops Admin Tag Logbook Status
☒ Review Control Room NOMS

Additional Turnover Items/Remarks:

Monitoring Rectifiers for leakage (camera is in place)	
Minimum ESW flow allowed to RHR-B Hx – 6700 gpm (DI)	

On-coming US: List the names of any US or RO who are working overtime this shift (excluding turnover time.)

Off-going US: _____

On-coming US: _____

Facility:	Perry	**Task No:** 344-506-04-02
Task Title:	Prepare for Feedwater Temperature Reduction Operations	**JPM No:** 2002 NRC A1b SRO
K/A Reference:	2.1.7	

Examinee:		**NRC Examiner:**
Facility Evaluator: N/A		**Date:**

Method of testing

Simulated Performance	N/A	**Actual Performance**	In Simulator
Classroom	**Simulator**	Plant	

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions:	The plant is operating at 80% power. ONI-N36, Loss of Feedwater Heating, has been entered due to the loss of Feedwater Heaters 5A and 6A. All immediate actions of ONI-N36 have been completed. It will take 48 hours to affect repairs and return the feedwater heaters to service.
Task Standard:	Candidate identifies the new Pressure Setpoint and Allowable Values are ≤ 190 and 196 psig respectively and initiates the process for preparing an Provisional Setpoint Change Request.
Required Materials:	FTI-B10, Rev 5, PIC 1 PDB-A0011, Rev 2 Simulator IC Setup Sheet (attached)
General References:	FTI-B10, Rev 5, PIC 1 PDB-A0011, Rev 2
Initiating Cue:	The Shift Manager directs you, as the Unit Supervisor, to perform FTI-B10, Preparation for Final Feedwater Temperature Reduction Operation.
Time Critical Task:	NO
Validation Time:	10 minutes

(Denote Critical Steps with an asterisk)

* Performance Step: Determine Feedwater temperature relative to full power operation.
5.1.1

          a.   For an unplanned event, obtain the operating feedwater
              temperature. For less than full power conditions,
              extrapolate to the equivalent full power feedwater
              temperature using <PDB-A0011>.

Standard: Obtains the operating feedwater temperature and determines the
                           extrapolated equivalent full power feedwater temperature to be
                           approximately 390 °F using PDB-A0011.

Comment: **Note: Average FDW temperature (per NSSS Heat Balance
                           Screen) is approximately 370 °F.**

* Performance Step: Determine the Pressure Setpoint and Allowable Value corresponding
5.1.2   to the feedwater temperature using Attachment 1.

Standard: Determines the new Pressure Setpoint is ≤ 190 and new Allowable
                           Value is ≤ 196 psig increasing based on a Feedwater temperature
                           range of 425.5 to 375.5 °F per Attachment 1.

Comment:

* Performance Step: Process Provisional Setpoint Change Requests per <PAP-1403> to
5.1.3   change the pressure setpoints for trip units 1C71-N0652A, B, C, and
                           D to the values determined in step 5.1.2.

Standard: Recognizes <u>requirement</u> to initiate Provisional Setpoint Change
                           Requests.

Comment: **Cue: The Shift Manager will direct the responsible Engineer to
                           process the Provisional Setpoint Change Requests.**

                           Note: FTI-B010 describes a Provisional Setpoint Change Request.
                           However, it is actually called an Exempt Instruction Setpoint Change
                           Request per PAP-1403.

                           **Note: Step 5.1.4 is <u>not</u> required to be completed until Step 5.1.3
                           is completed.**

Terminating Cue:

The evaluation for this JPM is complete when the candidate determines the new Pressure Setpoint and Allowable Values and recognizes the requirement to initiate Provisional Setpoint Change Requests.

Job Performance Measure No.   2002 NRC A1b SRO

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: _____   _____

INITIAL   The plant is operating at 80% power. ONI-N36, Loss of Feedwater
CONDITIONS: Heating, has been entered due to loss of Feedwater Heaters 5A and 6A. All
                    immediate actions of ONI-N36 have been completed. It will take 48 hours
                    to affect repairs and return the feedwater heaters to service.

INITIATING CUE: The Shift Manager directs you, as the Unit Supervisor, to perform
                    FTI-B10, Preparation for Final Feedwater Temperature Reduction
                    Operation.

Facility: <u>Perry</u>   **Task No:**   <u>342-650-03-02</u>

Task Title: <u>Perform On-Line Risk Assessment</u>   **JPM No:**   <u>2002 NRC A2 SRO</u>

K/A Reference: <u>2.2.17</u>

Examinee: **NRC Examiner:**

Facility Evaluator: <u>N/A</u>   **Date:**

Method of testing

Simulated Performance   **Actual Performance**   <u>Class / Simulator</u>

Classroom   Simulator   Plant

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The plant is in MODE 1. The HPCS System is to be placed in secured status for preventative maintenance during the next hour. ESW Pump A just tripped on motor overcurrent while operating to support a liquid radwaste discharge. All other plant equipment is operable. The PSA Engineer is <u>not</u> available. A Plant Narrative Log entry has <u>not</u> been made for ESW Pump A.

Task Standard: Candidate identifies the new Risk Category as '2' (color is orange and the CDF is 3.42E-04) for the hypothetical situation of the HPCS and ESW A Systems being inoperable at the same time and recommends that HPCS should <u>not</u> be removed from service for preventative maintenance.

Required Materials: Safety Monitor Desk Guide
A Computer station loaded with the Safety Monitor Program

General References: PAP 1924, Rev. 2, PIC 2
Safety Monitor Desk Guide

Initiating Cue: Using the Safety Monitor in the 'Hypothetical Mode', determine the Risk Category for the case of the HPCS System and ESW Pump A being inoperable at the same time, <u>including</u> your recommendation for removing the HPCS System from service.

The Safety Monitor Program is currently in the 'Real Mode' with a simulated plant configuration.

Time Critical Task: NO

Validation Time: 15 minutes

*** IMPORTANT INFORMATION ***

Admin JPM Setup Instructions

1. Open the Safety Monitor 3.0a Program.
2. Select 'Real Mode'.
3. On the 'Real Time Operation' screen, verify the following parameters are set:
   a. Click on the 'View / Change Plant Configuration' tab.
      1) Click on the 'Environ / Testing' tab.
         a) Verify the 'Environment / Test factor' indicates 'SWITCHYARD'.
      2) Click on the 'Operating Mode' tab.
         a) Verify the 'Mode' indicates '1'.
      3) Click on the 'Alignment' tab.
         a) Using 'All Systems', verify that that the equipment lineup reflects a 100% normal full power lineup.
4. On the 'Real Time Operation' screen, confirm the CDF value is 3.55E-6 and the color is green.

The Safety Monitor initial setup is now complete.

Admin JPM Completion Instructions

After the completion of the JPM by a license candidate, the following steps must be performed to clear the previous CDF calculation and then setup the Safety Monitor for the next license candidate.

1. Select 'Real Mode'.
2. Select 'Hypothetical Mode'.
3. Select 'Real Mode Configuration'.
4. Select 'Real Mode'.
5. Confirm the CDF value is 3.55E-6 and the color is green.

The Safety Monitor setup is now completed for the next license candidate.

(Denote Critical Steps with an asterisk)

* **Performance Step: 1**   Place the Safety Monitor in the Hypothetical Mode and determine
                             the Risk Category for the hypothetical case of the HPCS System and
                             ESW Pump A being inoperable at the same time.

  Standard: Determines the plant would be in Risk Category '2' (color is orange
                             and the CDF value is 3.42E-04) in accordance with the definition of
                             Risk Category <u>and</u> recommends that the HPCS System <u>not</u> be
                             removed from service for preventative maintenance due the
                             increased risk.

                             This is the general sequence of steps for the Safety Monitor
                             Program:

                             1. Select 'Hypothetical Mode'.
                             2. Select either 'Real mode configuration' or 'Current hypothetical
                                configuration'.

                                Note: Either configuration contains the same identical
                                conditions.

                             3. Select 'View / Change Plant Configuration'.
                             4. Select 'Component Status'.
                             5. Select 'E22 High Pressure Core Spray System'.
                             6. Select '1E22C0001 Pump, High Pressure Core Spray'.

                                Note: Inoperability Information – the type of inoperability is not
                                critical.

                             7. Select 'P45 Emergency Service Water System'.
                             8. Select '1P45C0001A Emergency Service Water Pump A'.
                             9. Select 'Calculate'.

  Comment: **Note: The Instructor must follow the 'Admin JPM
                             Completion Instructions' on the previous page in
                             order to setup the Safety Monitor for another
                             performance of this JPM.**

Terminating Cue:

When the candidate determines the new Risk Category using the Safety Monitor and makes his
recommendation regarding the removal of HPCS from service for preventative maintenance, the
evaluation for this JPM is complete.

Job Performance Measure No.   2002 NRC A2 SRO

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: N/A

Number of Attempts:

Time to complete:

Question Documentation:

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: _____   _____

INITIAL   The plant is in MODE 1. The HPCS System is to be placed in secured
CONDITIONS: status for preventative maintenance during the next hour. ESW Pump A
                 just tripped on motor overcurrent while operating to support a liquid
                 radwaste discharge. All other plant equipment is operable. The PSA
                 Engineer is not available. A Plant Narrative Log entry has not been made
                 for ESW Pump A.

INITIATING CUE: Using the Safety Monitor in the 'Hypothetical Mode', determine the Risk
                 Category for the case of the HPCS System and ESW Pump A being
                 inoperable at the same time, including your recommendation for removing
                 the HPCS System from service.

                 The Safety Monitor Program is currently in the 'Real Mode' with a
                 simulated plant configuration.

Safety Monitor Desk Guide

Item 6-1

November 12, 2001

Prepared By:

__signature on file_____

M. S. Rupp   PSA Element

Approved By:

__signature on file_____

Brian Stetson   Nuclear Unit Supr.

Safety Monitor Desk Guide

<u>Scope</u>

This desk guide covers those functions associated with the Real Mode and the Hypothetical Mode of Safety Monitor 3.0a and the Manual and Auto modes of ROMAL 2.04. These modes support online risk assessment of plant operations. Other modes will be added, as required, at a later date.

<u>General</u>

The Program Administrator will control the software in accordance with NOP-SS-1001, "FENOC Administrative Program for Computer Related Activities". User access levels will be set up to limit access to various program modes. The Administrator will have read/write access to all modes.

The Real Mode will be read/write accessible from the dedicated Safety Monitor PC in the Control Room, using the logon ID. The Control Room PC will contain the official version of the Safety Monitor plant history. All other Logon IDs will have read only access to Real Mode. STAs will have read/write access to Hypothetical Mode, while Work Management will have read/write access to the Schedule Mode (later).

Real Mode and Hypothetical Mode functions will be described below.

<u>Functions</u>

1) Booting/Re-Booting Safety Monitor and ROMAL in Control Room using Logon ID

a) When the boot process has completed, de-activate automatic virus checking by clicking on the icon in the lower right corner of the screen, and click on the disable button.

b) Double click on the icon found on the Desktop to start Safety Monitor 3.0a. (The executable is located in C:\SM30a\SM30.EXE) Click **OK** to continue. Enter USER ID and PASSWORD (upper case) then click "OK". When the self-check is finished, then main screen will appear.

c) Click on **View** on top in the window bar, and then select **Real Mode**. Next click on **Zoom** and select **1 day** or **7 day**.

d) Next click on **Options**, select **Import Formats**, and make sure the following are set:

- Comma delimited
- 1 header line
- YYYYMMDD HHMM date format

- Selected fields are in the following order:
  Activity
  Component
  Event Type
  Functionally unavailable
  Begin date
  End date
  Comment

Click **OK** to continue. Next, click on **Options**, select **Auto Data Import** then select **Set Import Data File.** Verify **S:\V_DRIVE\SMDATA\REALDATA.TXT** is the file named. Click **NO** if the file name is correct, or **YES** if it is not and change it to be correct.

e) Next click on **Options** and then **Auto Data Import**. Then, select **Enable Auto Import.**

f) Double click on the icon found on the Desktop to start ROMAL 2.04. The executable file is located in **C:\SM30\ROMAL204.MDB**. Click on **MANUAL UPDATE.** (You may be prompted for a password for NOMS_READ.) This function transfers Narrative Log information since the Safety Monitor "last configuration" date. This may take several minutes.

g) When **MANUAL UPDATE** is complete, click on **AUTO**. ROMAL is now in auto mode.

h) Minimize ROMAL and maximize Safety Monitor. Safety Monitor is now in REAL mode with an automatic link to the Narrative Log.

Potential problems with SM

- If you see a message box about not being able to open the Import Log File, click on **OK**. This may occur a number of times in a row, so just keep clicking **OK** until it is cleared.
- If you see a message box about not being able to open a table or query, this is a symptom of network trouble. Shut down the PC from the START button. Re-boot in accordance with 1) above.
- If the program locks up, try to shut down without turning off the power. Otherwise shut off the power. Re-boot in accordance with 1) above.

Potential problems with ROMAL

If the **Last Calculation Date** in ROMAL doesn't agree with Safety Monitor **Last Configuration Date**, or the **Wait Begins** time is not within 45 seconds of PC time (lower right corner), then close ROMAL and restart by clicking on the desktop icon. Follow steps f) and g) of 1) above.

2) Real Mode Core Damage Frequency (CDF) Monitoring

Note: The Real Mode CDF is based on the unavailability of systems, trains or components that are modeled by the PSA program. Using Safety Monitor in the **Real Time** mode is dependent on the proper control room log (NOMS) entries. The entries must be made in a specific format for Safety Monitor to recognize them. Additionally, Safety Monitor is set-up to calculate the CDF on a 3-minute cycle. Program ROMAL transfers the narrative log information to Safety Monitor about 45 seconds after a Safety Monitor calculation. The **Manual Transfer** mode of ROMAL will transfer NOMS data occurring after the Safety Monitor "last configuration" date. The **Auto** mode of ROMAL will transfer NOMS data occurring after the date of the last ROMAL transfer to Safety Monitor. This is to ensure that the same NOMS data is not re-transferred each time there is no Safety Monitor calculation and therefore no change in the "last configuration" date. If there is no new data for ROMAL to transfer, a dummy record is transferred to keep Safety Monitor happy.

a) NOMS narrative log entries must contain the following key words to work with Safety Monitor:

Entry Types:

1) Asset #   Unavailable
   Enter the reason, choose from:
         Routine Maintenance, Component Failure, or Functional Test

2) Asset #   Available

b) Applications

1) Asset # Format: NANNANNNN(A)   The (A) alpha at the end as applicable.
            Example: 1G33F0004

2) For electrical unavailability below the bus level, please identify the affected component and log in NOMS.

         Example: If EF-1-B was unavailable, ECC Pump A (1P42C0001A) would be unavailable. The pump Asset # would have to be logged on NOMS for the Safety Monitor to access the CDF impact.

3) Notify the PSA Engineer for the unavailability of:

         Containment venting functions
         Service air or instrument air system unavailability
         R22 or C22 system components

3) Manually Determining the CDF in Hypothetical (what if?) Mode

The first thing to do is set the Safety Monitor in **Hypothetical Mode**. Click on **View** and then select **Hypothetical Mode**. Select **No initial configuration** and click **OK**. The top of your screen should have a blue bar which indicates the software version, calculational mode and user, in this case:

"Safety Monitor 3.0a (Hypothetical Operation) Plant PERR: Unit 1: User XXX"

You may also start with the current real mode configuration. To do this, switch back to **Real Mode**, then **Hypothetical Mode** to re-answer the question of initial configuration.

Click **View/Change Plant Configuration**, then select **Component Status**. The following screen should appear:

Either enter the component asset number directly in the FIND box if known, or select it from the drop down list. Highlight the Component and press the **Remove from Service** button. Specify the same operability for each component by clicking on **Yes**.

The current time should be OK and comments are optional. Click on **OK**. The selected component will be listed in the **Proposed component status changes**. If it is PSA related then it will be in RED, otherwise it will be in GREEN. This entry can be deleted by highlighting and clicking on **Delete transaction** and clicking on **OK**.

Multiple components can be selected for removal. Also, components that have been previously removed from service, as seen in the **previous configuration** list, can be returned to service by highlighting and clicking on **Return to service**.

When you are finished modifying component status, click on **Close**. You will see a summary of changes thus far completed. You may also change plant alignments or put into effect environ/test factors.

To change plant alignment click on **Alignment** and the following screen appears:

This shows the master list of components and their current status. Click on the **Status** drop down list for each component to toggle the status value. Or, to reduce the size of the component list, select an alignment system first. Once you are finished changing alignments, click the **Add selected alignment(s)** or **Add all alignments** and click on **Close**. If you do not Add before closing, ALL changes are lost! You can also undo what

you have done by going back and highlighting a **Proposed alignment change** and clicking on **Delete transaction** before clicking on one of the Add alignment buttons.

To put into effect environ/test factors, click on **Environ/test** and the following screen appears:
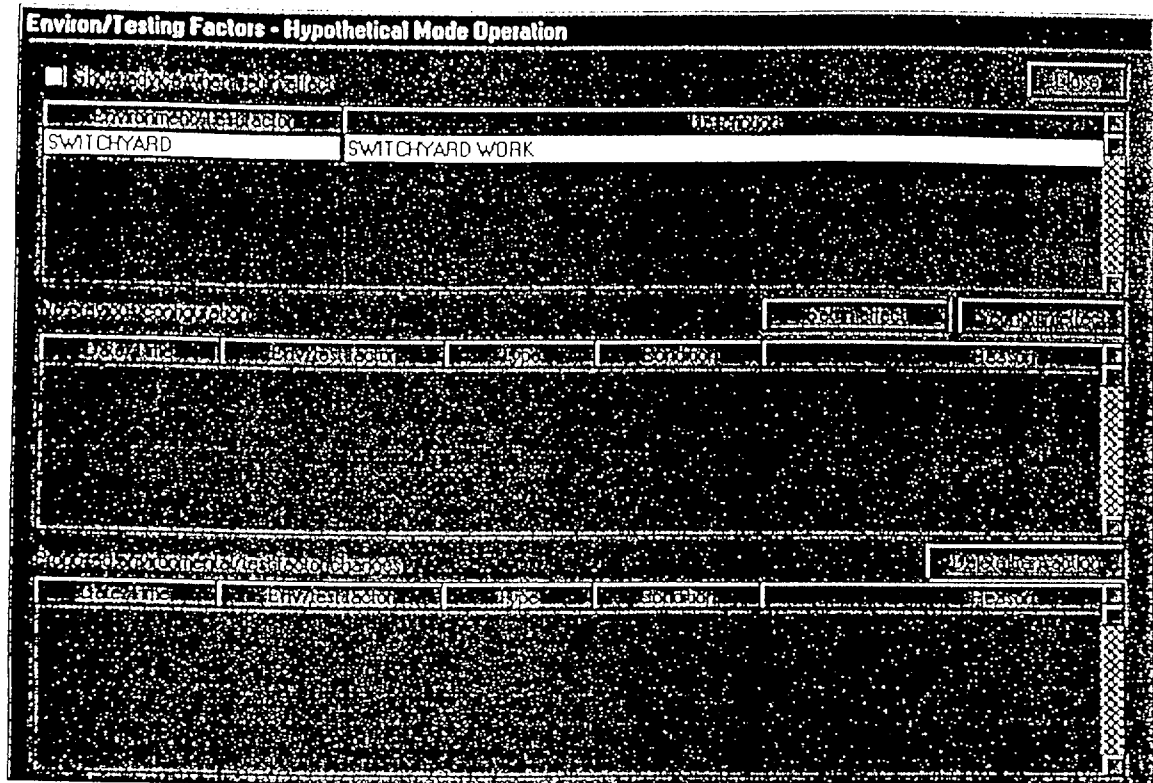
In a similar fashion as removing components from service, you select an **Environ/test factor** by highlighting and clicking on **Set in effect**. Or, highlight previous factors and click on **Set not in effect**. Or the selected transactions can be removed by highlighting and pressing **Delete transaction**. Click on **Close** to finish.

Now, click on **Calculate** to determine the resulting hypothetical CDF. If you click on **Close** before **Calculate** you LOSE ALL changes. Message boxes will pop up indicating fault tree updates, loading data and fault tree solutions. The home screen will pop up with the CDF graph and thermometer.

Double click the left mouse button on the thermometer for current detailed status information. Double click the right mouse button on any position on the graph for historical detailed status information.

4) Manually Determining the CDF in Real Mode

Switch to **Real Mode** and repeat the instructions in 3) above. Note that this will update the **Last Configuration** time such that when ROMAL transfers NOMS data, only those entries after this date will be included.

5) Update/Change Real Mode Plant History

Whenever it has been determined that the Safety Monitor historical plant data is incomplete, an option exists to update it. From the main screen click on **View/Change Operating History** and select the time range and click on **OK**. The following screen will appear:

Highlight an entry and click on **Delete** to remove it or double click on an entry to change the time. Click on **New** to add a component, alignment or environ/test factor. Click on **Refresh** to see the current status of the requested changes.

Click on **Calculate** to update the history and recalculate CDF, and as before, if you click on **Close** first you will LOSE ALL changes.

Deleting entries at the end of the list will effectively change the **Last configuration** date. This is useful when it is desired to re-establish historical data from NOMS via the Manual Update mode of ROMAL.

Facility: Perry   **Task No:** 299-848-01-01

Task Title: Comply with Administrative   **JPM No:** 2002 NRC A3 SRO
Dose Controls Levels for
Assigned Job Task

K/A Reference: 2.3.1

Examinee: **NRC Examiner:**

Facility N/A   **Date:**
Evaluator:

Method of testing

Simulated In-Plant   **Actual**
Performance   **Performance**

Classroom   Simulator   **Plant**

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues.
When you complete the task successfully, the objective for this Job Performance Measure will be
satisfied.

Initial Conditions: The plant is operating at 100% power. HPCS Alternate Keepfill Startup using P21 is in progress per SOI-E22A, Section 7.8.2. Steps 1 through 5 are completed.

A Perry Plant Operator is required to open HPCS Pump Discharge Line Flush Connection Valve, 1E22-F031 in accordance with Step 6.

The calculated stay time is 30 minutes.

The following Perry Plant Operators, with their current year-to-date exposure history (TEDE), are available:

Bob   930 mrem (TEDE)
Dan   965 mrem (TEDE)

Task Standard: Candidate assigns Perry Plant Operator 'Bob' since he will not exceed his Perry Administrative Dose Control Level of 1000 mrem/year (TEDE) for the job task.

Candidate determines Perry Plant Operator 'Dan' will exceed his Perry Administrative Dose Control Level of 1000 mrem/year (TEDE) for the job task and therefore does not assign him to the job task.

Required Materials: Survey Map (marked up copy)
SOI-E22A, High Pressure Core Spray System Rev 5, PIC 10
HPI-B0003, Processing of Personnel Dosimetry Rev 8, PIC 4

General References: SOI-E22A, High Pressure Core Spray System Rev 5, PIC 10
PNPP Radiation Worker Training Information Manual
HPI-B0003, Processing of Personnel Dosimetry Rev 8, PIC 4

Initiating Cue: Determine which Perry Plant Operator is to be assigned to perform the job task in accordance with Perry Administrative Dose Control Levels.

Time Critical Task: NO

Validation Time: 10 minutes

(Denote Critical Steps with an asterisk)

Note: This JPM should be performed prior to performing In-plant JPM P1 (Commence Alternate Boron Injection).

Note: This JPM can be administered in the plant, the simulator, or the classroom.

* **Performance Step: 1**   Determine the location of HPCS Pump Discharge Line Flush Connection valve, 1E22-F031.

   Standard: Determines valve 1E22-F031 is located at Aux Building 620' D/02.

   Comment: Note: Candidate is allowed to reference SOI-E22A, VLI-E22A, or any other plant reference that would state the location of the valve.

* **Performance Step: 2**   Locate the correct Survey Map in order to determine the dose rate for the job task.

   Standard: Locates Survey Map that includes valve 1E22-F031. (Aux Building, 620', HPCS Valve Room).

   Comment: **Cue: Provide candidate with marked up Survey Map after he either shows or states that the Survey Maps are keep at the RCA entrance.**

* **Performance Step: 3**   Determine the hypothetical dose for the job task.

   Standard: Using Survey Map, determines the dose rate in the vicinity of valve 1E22-F031 is 100 mrem/hour.

      Determines the hypothetical dose is 50 mrem.

   Comment: **100 mrem/hour x 0.5 hours = 50 mrem**

* Performance Step: 4   Determine the hypothetical yearly dose total (TEDE) for each Perry Plant Operator if the job task is performed.

Standard: Determines the hypothetical yearly dose total (TEDE) for Perry Plant Operator 'Bob' will be 980 mrem.

'Bob' <u>will not exceed</u> his current Perry Administrative Dose Control Level of 1000 mrem/year.

Determines the hypothetical yearly dose total (TEDE) for Perry Plant Operator 'Dan' will be 1015 mrem.

'Dan' <u>will exceed</u> his current Perry Administrative Dose Control Level of 1000 mrem/year.

Determines "Bob" will be assigned the job task.

Comment: **'Bob' – 930 mrem (current) + 50 mrem (job) = 980 mrem total.**

'Dan' - 965 mrem (current) + 50 mrem (job) = 1015 mrem total.

Terminating Cue:

The evaluation for this JPM is complete when the candidate determines he would assign the job task to Perry Plant Operator 'Bob' because he will not exceed his Perry Administrative Dose Control Level of 1000 mrem/year (TEDE).

Job Performance Measure No.   <u>2002 NRC A3 SRO</u>

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: <u>N/A</u>

Number of Attempts:

Time to complete:

<u>Question Documentation:</u>

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: _____   _____

RADIOLOGICAL SURVEY REPORT
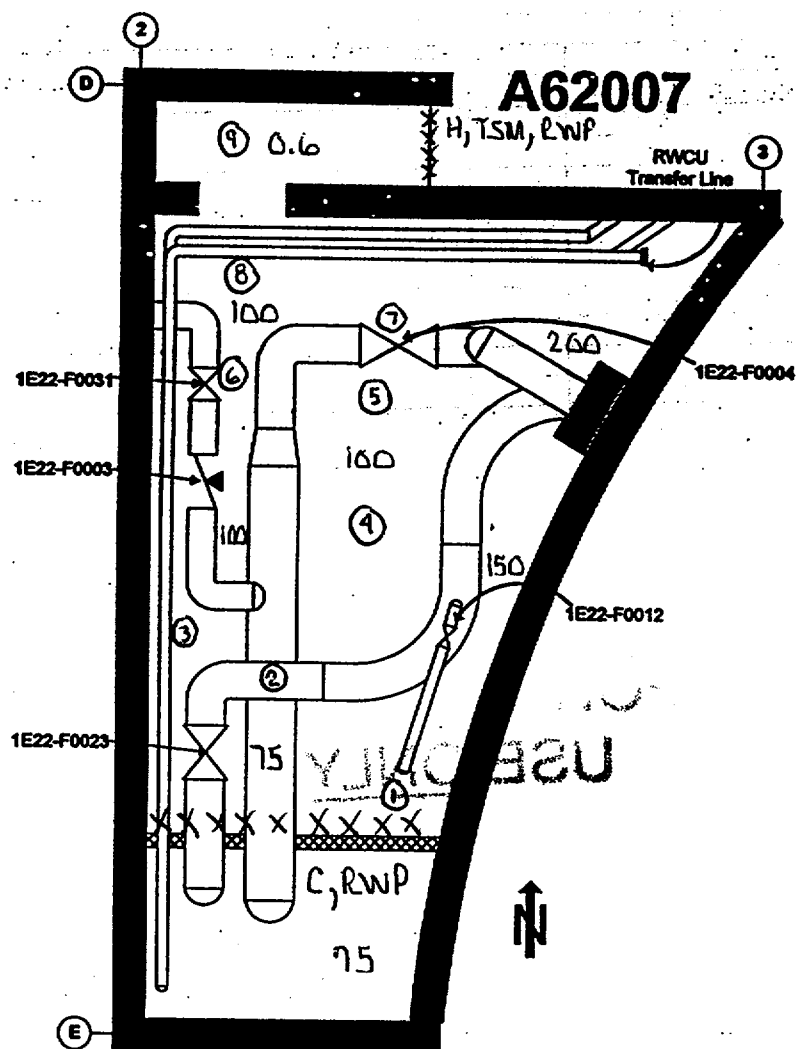
PNPP No. 7247 Rev. 3/18/97

HPI-2

SURVEY No.	0200254

INSTRUMENT R020	MPL # L70L0415	CAL DUE 3-30-02	RWP No. 020021	DATE 3-4-02	TIME 1045
INSTRUMENT HP210	MPL # L70L025I	CAL DUE 3-25-02	AREA HPCS VALVE ROOM		
INSTRUMENT NA	MPL # NA	CAL DUE NA	PURPOSE HPCS Outage		
INSTRUMENT NA	MPL # NA	CAL DUE NA			

REACTOR POWER 100 %

AIR SAMPLE No. 1 P NA uCi/cc c NA uCi/cc [X] N/A

AIR SAMPLE No. 2 P NA uCi/cc c NA uCi/cc [X] N/A

[ ] CHECK BLOCK IF SURVEY OF A SPILL AREA

A62007

H, TSM, RWP

RWCU Transfer Line

9 0.6

8 100

7

6 1E22-F0031

5 200

1E22-F0004

1E22-F0003

100

4 100

100

150

3 1E22-F0012

2

1E22-F0023 75

XXXX XXXX

C, RWP

75

(Dose rates are in mrem/hr at approx. 3' above the floor unless otherwise noted.)

CONTAMINATION RESULTS
IN dpm/100cm²

No.	SMEAR LOCATION	BETA-GAMMA	ALPHA
1	floor	<1000	NA
2	pipe		
3	I-beam		
4	floor		
5	drain		
6	valve F031		
7	Valve F004		
8	floor	↓	↓
9	floor	<1000	NA
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22		NA	
23			
24			
25			
26			
27			
28			
29			
30			

Dose Received: 15 mRem

Duration: 10 Min

SURVEY BY (PRINTED) John Smith	SURVEY BY (SIGNATURE) John Smith	REVIEWED BY Robert Jones	DATE 3-4-02

Page ____ of ____

INITIAL
CONDITIONS: The plant is operating at 100% power. HPCS Alternate Keepfill Startup using P21 is in progress per SOI-E22A, Section 7.8.2. Steps 1 through 5 are completed.

A Perry Plant Operator is required to open HPCS Pump Discharge Line Flush Connection Valve, 1E22-F031 in accordance with Step 6.

The calculated stay time is 30 minutes.

The following Perry Plant Operators, with their current year-to-date exposure history (TEDE), are available:

Bob   930 mrem (TEDE)
Dan   965 mrem (TEDE)

INITIATING CUE: Determine which Perry Plant Operator is to be assigned to perform the job task in accordance with Perry Administrative Dose Control Levels.

Facility: Perry   **Task No:**   344-531-05-02

Task Title: Perform Event Classification **JPM No:**   2002 NRC A4 SRO
       and Protective Action
       Recommendations

K/A Reference: 2.4.29

Examinee: **NRC Examiner:**

Facility   N/A   **Date:**
Evaluator:

Method of testing

Simulated   **Actual**   Simulator
Performance   **Performance**

Classroom   **Simulator**   Plant

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

ANSWER KEY

INITIAL NOTIFICATION

1. This is the Perry Nuclear Power Plant:
  ☒ **Control Room**   ☐ **Technical Support Center (TSC)**   ☐ **Emergency Operations Facility (EOF)**
  ☐ **Backup EOF**

  (*Communicator:* **State your NAME and ERO POSITION TITLE.**)

2. This is a(n):   ☐ **Actual Emergency**   ☒ **Drill**

For step 3 below: Use only step 'a' when classifying or reclassifying an event. Use both steps 'a' & 'b' when simultaneously classifying and terminating from an Unusual Event or Alert. Use step 'c' when classifying after a transitory event. Use step 'd' when revising a protective action recommendation.

3. a. A (n) ☐ **UNUSUAL EVENT** ☐ **ALERT** ☐ **SITE AREA EMERGENCY** ☒ **GENERAL EMERGENCY has**
    been declared at <u>XX:XX</u> hours on <u>03 / XX / 02</u> based on EAL(s): AG1 – <u>Loss of Barriers.</u>

    b. The emergency situation has been terminated at _____ **hours on** ___/__/____ .
                                         (Time)   (Date)

    c. A transitory event has occurred which would have required the declaration of a(n):
      ☐ **ALERT**   ☐ **SITE AREA EMERGENCY**   ☐ **GENERAL EMERGENCY**
      but was mitigated prior to classification. Current event status is at a(n):
      ☐ **UNUSUAL EVENT**   ☐ **ALERT**   ☐ **SITE AREA EMERGENCY**
      declared at _____ **hours on** __/_____ **based on EAL(s):** _____ .
                (Time)   (Date)

    d. General Emergency protective actions are being changed at _____ **hours on** __/____ .
                                                 (Time)   (Date)

4. Brief non-technical description of event: A Loss of Coolant Accident (LOCA) has occurred. **A Loss of Coolant Accident (LOCA) has occurred. RPV water level cannot be maintained above the Top of Active Fuel (TAF).**

_____

5. ☐   **a.** NO unplanned radioactive release has occurred.
  ☒   **b.** An unplanned radioactive release is in progress.

6. Utility recommended protective actions:
  ☐ **a. None.**
  ☒ **b. Evacuation of people in Subareas: 1 2 3 4 5 6 7 Lake Erie (circle)**

7. I repeat, this is a(n):   ☐ **Actual Emergency**   ☒ **Drill**

COMMENTS:

Notification is due at: <u>XX:XX</u>   hours on   <u>03/XX/2002;</u>_____
                            (Time)   (Date)   EMERGENCY COORDINATOR APPROVAL (signature)

ANSWER KEY

COMMUNICATOR INSTRUCTIONS:

A. Ensure Items 1-7 (page 1) are completed, and Emergency Coordinator has approved release of information.

B. Pickup the "5-Way" Ringdown. As parties answer, perform a roll call to verify that the State and county agencies listed below are on-line; record time contacted below. If party does NOT answer, initiate a separate call per EPI-B1.

	TIME CONTACTED	5-WAY USED? YES	NO		TIME CONTACTED	5-WAY USED? YES	NO
ASHTABULA COUNTY	_____	☐	☐	LAKE COUNTY	_____	☐	☐
GEAUGA COUNTY	_____	☐	☐	STATE OF OHIO	_____	☐	☐

Read the following: **"Please obtain an Initial Notification form to copy this transmission. Communication on the "5-Way" Circuit is being recorded."** (Pause 5-10 seconds to allow agencies to obtain form before continuing.) Read the following: **"The current date and time is: date ___ / ___ / ___ , ___ time."**

C. Transmit data on page 1. When completed, record the name of contact below; request a call back if the 5-Way was NOT used.

NOTE: The following step can be done in parallel with step C. above if additional communicators are available.

D. Once State and county agencies have been contacted, initiate call on NRC ENS Circuit. Read the following: **"The following is a communication from the Perry Nuclear Power Plant. Communication on the ENS Circuit is being recorded."**

E. Transmit data on page 1. When completed, record the name of contact below; request a call back if the ENS was NOT used.

    TIME NRC CONTACTED: _____

If the "5-Way" Ringdown or ENS Circuit was **NOT** used, a verification call back is required.

ORGANIZATION	PERSON CONTACTED	JOB TITLE	TIME OF CALLBACK (If Applicable)
Ashtabula County			☐ N/A
Geauga County			☐ N/A
Lake County			☐ N/A
State of Ohio			☐ N/A
Nuclear Regulatory Commission			☐ N/A

COMMON OFFSITE ACRONYMS:

SD	Sheriff's Department	EOC	Emergency Operations Center
HP	Highway Patrol	EMA	Emergency Management Agency
OSHP	Ohio State Highway Patrol	OEMA	Ohio Emergency Management Agency

Communicator(s) Name: (1) _____ (2) _____

[TSC & EOF ONLY] Forward a copy of completed form to the Information Liaison and Regulatory Affairs Coordinator.

Initial Conditions: You are the on-duty Shift Manager. An event has occurred requiring Emergency Classification.

The following conditions exist:

- The reactor is shutdown following a LOCA in the Drywell.
- RPV Emergency Depressurization was performed in accordance with PEI-B13 when RPV water level decreased to –42.5 inches without injection available.
- The Severe Accident Guidelines have been entered and Primary Containment Flooding has been initiated due to RPV level remaining lower than –25 inches.

Various Plant Radiation Monitors are alarming and the following readings have been noted:

- TB/HB Vent Gas Monitor, 1D17-K856, indicates 1.2E+4 cpm and slowly rising.
- Plant Vent Gas Monitor, 1D19-N300, indicates 3.5E0 µCi/cc and stable.

Estimated time to complete Emergency Dose calculations is 20 minutes.

Field Survey results are expected in approximately 30 minutes.

The current wind speed is 1.1 MPH coming from 292 degrees.

Task Standard: Within 15 minutes, candidate classifies the event as a General Emergency in accordance with EPI-A1, Emergency Action Levels. Within the next 15 minutes, PNPP 7794, Initial Notification Form, is correctly prepared in accordance with EPI-B1, Emergency Notification System, including the correct PAR based on wind direction.

Required Materials: EPI-A1, Rev 6, PIC 6   EPI-B1, Rev 10, PIC 5
EPI-A2, Rev 7, PIC 4   EPI-B8, Rev 8, PIC 4
Initial Notification Form (PNP 7794)

General References: EPI-A1, Rev 6, PIC 6   EPI-B1, Rev 10, PIC 5
EPI-A2, Rev 7, PIC 4   EPI-B8, Rev 8, PIC 4

Initiating Cue: As the Shift Manager, classify the event in accordance with EPI-A1, Emergency Action Levels, and complete the PNPP Form No. 7794, Initial Notification, in accordance with EPI-B1, Emergency Notification System.

Time Critical Task: YES   30 minutes

Validation Time: 12 minutes

(Denote Critical Steps with an asterisk)

* **Performance Step: 1**   Consults EP1-A1 in order to classify the event.

    Standard: Classify as **General Emergency** within 15 minutes. EAL Category is **AG1.**

    Comment: **NOTE: This step is time critical and must be completed within 15 minutes.**

        • **Event classification is expected to be completed within 15 minutes in accordance with EP1-A1 such that initial notifications can be completed within the next 15 minutes.**

* Performance Step: 2   Obtains Form PNPP No. 7794, Initial Notification, and consults EPI-B1 in order to fill out the Initial Notification Form.

Standard: PNPP No. 7794, Initial Notification, is properly filled out **within 15 minutes** of classifying the event.

For a General Emergency, ensure that at a minimum the default PAR, as outlined in section 5.1.1.2 of EPI-A2, is included.

Based on wind direction, recommendation should be made to evacuate sub-areas 1, 2, 3.

Comment: **Note:** **This step is time critical and must be completed within 15 minutes from the completion of step 1.**

- **See attached copy of completed Form PNPP No. 7794, Initial Notification, in order to verify proper completion of the Initial Notification Form.**

- **The candidate must properly complete blocks 1 - 8 of PNPP Form No. 7794.**

Note: The candidate should identify where he can obtain PNPP Form No. 7794. When candidate identifies the need for PNPP Form No. 7794, hand the candidate a blank form

Note: The candidate is not required to complete any other E-Plan forms such as PNPP Form No. 9100, Pager Messages.

Note: The Evaluator will role-play as the Control Room Communicator by accepting the completed PNPP Form No. 7794 when the candidate is ready for the Control Room Communicator to make the initial notifications to the counties, state, and NRC.

Terminating Cue:

The evaluation for this JPM is complete when the event is classified as a General Emergency in accordance with AG1 and PNPP Form No. 7794, Initial Notification is properly filled out (including a Protective Action Recommendation).

Job Performance Measure No.   <u>2002 NRC A4 SRO</u>

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator: <u>N/A</u>

Number of Attempts:

Time to complete:

<u>Question Documentation:</u>

Question:

Response:

Result: SAT OR UNSAT

Examiner's Signature and Date: _____   _____

INITIAL
CONDITIONS:

You are the on-duty Shift Manager. An event has occurred requiring Emergency Classification.

The following conditions exist:

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Estimated time to complete Emergency Dose calculations is 20 minutes.

Field Survey results are expected in approximately 30 minutes.

The current wind speed is 1.1 MPH coming from 292 degrees.

INITIATING CUE:

As the Shift Manager, classify the event in accordance with EPI-A1, Emergency Action Levels, and complete the PNPP Form No. 7794, Initial Notification, in accordance with EPI-B1, Emergency Notification System.

INITIAL NOTIFICATION

1. This is the Perry Nuclear Power Plant:
☐ Control Room   ☐ Technical Support Center (TSC)   ☐ Emergency Operations Facility (EOF)
☐ Backup EOF

(*Communicator:* State your NAME and ERO POSITION TITLE.)

2. This is a(n):   ☐ Actual Emergency   ☐ Drill

For step 3 below: Use only step 'a' when classifying or reclassifying an event. Use both steps 'a' & 'b' when simultaneously classifying and terminating from an Unusual Event or Alert. Use step 'c' when classifying after a transitory event. Use step 'd' when revising a protective action recommendation.

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   been declared at _____ **hours on** ____/____/_____   **based on EAL(s):** _____
   ___.

   b. The emergency situation has been terminated at _____ **hours on** ___/__/____.
                                                         (Time)   (Date)

   c. A transitory event has occurred which would have required the declaration of a(n):
      ☐ **ALERT**   ☐ **SITE AREA EMERGENCY**   ☐ **GENERAL EMERGENCY**
      but was mitigated prior to classification. Current event status is at a(n):
      ☐ **UNUSUAL EVENT**   ☐ **ALERT**   ☐ **SITE AREA EMERGENCY**
      declared at _____ **hours on** ___/__/____ **based on EAL(s):** _____.
                     (Time)   (Date)

   d. General Emergency protective actions are being changed at _____ **hours on** ___/__/____.
                                                                  (Time)   (Date)

4. Brief non-technical description of event: _____
_____
_____
_____

5. ☐   **a.** NO unplanned radioactive release has occurred.
   ☐   **b.** An unplanned radioactive release is in progress.

6. Utility recommended protective actions:
   ☐ **a. None.**
   ☐ **b. Evacuation of people in Subareas: 1   2   3   4   5   6   7   Lake Erie (circle)**

7. I repeat, this is a(n):   ☐ Actual Emergency   ☐ Drill

COMMENTS:

Notification is due at: _____ **hours on** ___/__/____ ; _____
                          (Time)   (Date)   EMERGENCY COORDINATOR APPROVAL (signature)

COMMUNICATOR INSTRUCTIONS:

A. Ensure Items 1-7 (page 1) are completed, and Emergency Coordinator has approved release of information.

B. Pickup the "5-Way" Ringdown. As parties answer, perform a roll call to verify that the State and county agencies listed below are on-line; record time contacted below. If party does NOT answer, initiate a separate call per EPI-B1.

	TIME CONTACTED	5-WAY USED? YES NO		TIME CONTACTED	5-WAY USED? YES NO
ASHTABULA COUNTY	_____	☐ ☐	LAKE COUNTY	_____	☐ ☐
GEAUGA COUNTY	_____	☐ ☐	STATE OF OHIO	_____	☐ ☐

Read the following: **"Please obtain an Initial Notification form to copy this transmission. Communication on the "5-Way" Circuit is being recorded."** (Pause 5-10 seconds to allow agencies to obtain form before continuing.) Read the following: **"The current date and time is: date ___ / ___ / ___ , _____ time."**

C. Transmit data on page 1. When completed, record the name of contact below; request a call back if the 5-Way was NOT used.

NOTE: The following step can be done in parallel with step C. above if additional communicators are available.

D. Once State and county agencies have been contacted, initiate call on NRC ENS Circuit. Read the following: **"The following is a communication from the Perry Nuclear Power Plant. Communication on the ENS Circuit is being recorded."**

E. Transmit data on page 1. When completed, record the name of contact below; request a call back if the ENS was NOT used.

TIME NRC CONTACTED:_____

If the "5-Way" Ringdown or ENS Circuit was **NOT** used, a verification call back is required.

ORGANIZATION	PERSON CONTACTED	JOB TITLE	TIME OF CALLBACK (If Applicable)
Ashtabula County			☐ N/A
Geauga County			☐ N/A
Lake County			☐ N/A
State of Ohio			☐ N/A
Nuclear Regulatory Commission			☐ N/A

COMMON OFFSITE ACRONYMS:

SD	Sheriff's Department		EOC	Emergency Operations Center
HP	Highway Patrol		EMA	Emergency Management Agency
OSHP	Ohio State Highway Patrol		OEMA	Ohio Emergency Management Agency

Communicator(s) Name: (1) _____ (2) _____

[TSC & EOF ONLY] Forward a copy of completed form to the Information Liaison and Regulatory Affairs Coordinator.