WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant *Surveillance Procedure*	**No.** SP-32B-116	**Rev.** X
	Title Gaseous Radioactive Effluents - Reports for Batch Releases	
	Date MAY 27 2004	**Page** 1 **of** 16
Reviewed By Bart Steckler	**Approved By** Tom Schmidli	

Nuclear Safety Related	☐ Yes ☑ No	**PORC Review Required**	☑ Yes ☐ No	**SRO Approval Of Temporary Changes Required**	☑ Yes ☐ No

1.0 Plant Initial Conditions

1.1 This procedure is used, in conjunction with Procedure HP-01.012, "RETSCODE Computer Program Operating Guide," to generate radioactive gaseous effluents release reports for batch releases from the Kewaunee Nuclear Power Plant (KNPP). It quantifies radioactive gaseous effluents for batch releases from the following locations:

- Waste Gas Decay Tanks (WGDT)
- Containment Building Purge, which is defined as the first 24 hours of Reactor Building Vent (RBV) System operation after reactor plant shutdown.
- Power Operated Relief Valves (PORV), during periods of primary-to-secondary leakage.

1.2 This procedure is performed under all plant conditions.

Note

For other batch releases, refer to Procedure HP-05.015, "Miscellaneous Gaseous Radwaste Releases."

2.0 Precautions

2.1 A WGDT having a total noble gas activity concentration exceeding 1.0E-02 µCi/cc, shall NOT be released until evaluations listed in "Gas Decay Tank Prerelease Evaluation," Attachment A, are completed.

2.2 Both trains of the Auxiliary Building Ventilation (ABV) System shall be in operation during the release of a WGDT exceeding 1.0E-02 µCi/cc total gas activity concentration.

2.3 A WGDT having a total noble gas activity concentration exceeding 1.0E-01 µCi/cc, shall be placed on hold for decay prior to release.

2.4 A WGDT may contain explosive levels of hydrogen, therefore:

2.4.1 Samples should NOT be taken using a RAP pump. These pumps are NOT designed for use in an explosive atmosphere. See Procedure HP-06.063, " Instrument Operating Procedure - Air Sample Pumps: RAS-1, RAP-1, RAP-1Q, and RAP-3."

2.4.2 Silver Zeolite sample cartridges should NOT be used when sampling a WGDT. A reaction may occur within the cartridge causing a rapid increase in temperature and possibly an explosion. See OEA 86-52.

2.5 IF during an outage, the RBV system is OOS for less than 48 hours, THEN no discharge permit is required to restart containment vent.

2.6 IF noble gases are identified from samples being analyzed for effluent releases, THEN the Iodine sample cartridge should be purged with air for at least 5 minutes. This is done to remove noble gases entrapped in the cartridge so they are NOT misidentified as Iodine peaks.

2.7 For non-routine batch discharges (e.g., CVCS hold up tanks) NOT included in this procedure, contact RP supervision for specific work instructions. **[PCR 8891]**

3.0 Limiting Conditions for Operation

3.1 For actions to be taken if any gaseous effluent radiation monitors are out of service refer to the ODCM, Table 3.2 or SP-45-290, "Radioactive Gaseous Effluent Monitoring Instrumentation, Compensatory Actions for Channels Out of Service."

3.2 IF site-boundary dose estimates exceed the limits stated in SP-32B-268, "Site Boundary Doses from Gaseous Effluents," THEN the Gaseous Radwaste Treatment System or the Ventilation Exhaust Treatment System, whichever is applicable, shall be used.

4.0 General Instructions

4.1 Description

4.1.1 The RETSCODE Computer Program is used to calculate the gaseous activity released to the environment and the dose rates at the site boundary. IF the RETSCODE Computer Program is unavailable, THEN manual calculations are required.

4.1.2 Gaseous effluent monitor setpoints are determined in accordance with ODCM methodology so they will alarm and automatically terminate a release prior to exceeding site boundary dose rates based on values from 10CFR20, Appendix B, Table II, Column 1. Generally, these alarm/trip setpoints are conservatively set.

4.1.3 Procedure HP-05.004, "Radiation/Contamination Survey and Airborne Radioactivity Sampling Schedules," contains the sampling requirements for the WGDTs.

4.1.4 Sample results from the R-11/12 sample point are used for containment purge batch releases. See procedure HP-05.004.

4.1.5 Sample results from the Air Ejector gas sample point and Steam Generator Blowdown point are used for PORV releases. See procedure HP-05.004 for air ejector samples and contact chemistry for blowdown results.

Note

Steam releases through the PORVs can NOT be sampled directly. Therefore, controlled plant cool downs performed by dumping steam to the atmosphere through the PORVs must be quantified indirectly.

Iodine concentrations may be reduced by a factor of 10 in the Pre-release Dose Estimate per USAR, Section 10.2.

4.2 Definitions

4.2.1 Off-site Dose Calculation Manual (ODCM) - A document that contains the current methodology and parameters used in the calculation of off-site doses and alarm/trip setpoints for radioactive gaseous and liquid effluents.

4.2.2 Gaseous Radwaste Treatment System - A system used to reduce the radioactivity of gaseous effluents by collecting off-gases from the reactor coolant system and holding them for decay prior to release to the environment, i.e., WGDTs.

4.2.3 Ventilation Exhaust Treatment System - A system used to reduce radioactive Iodine and particulate effluents through the use of charcoal absorbers and/or HEPA filters prior to release to the environment, i.e., Containment Purge Exhaust Filter.

4.2.4 Engineered Safety Feature (ESF) Systems - These are considered atmospheric cleanup systems, which include:

- Auxiliary Building Special Ventilation (ASV)
- Shield Building Ventilation System (SBV)
- Spent Fuel Pool Ventilation System (part of the Auxiliary Ventilation System)

These systems are NOT considered to be Ventilation Exhaust Treatment Systems.

4.2.5 Purge - The controlled process of discharging air or gas from a compartment to maintain temperature, pressure, humidity, concentration, or any other operating condition in such a manner that replacement air or gas is required.

4.2.6 Vent - The controlled process of discharging air or gas such that replacement air or gas is NOT provided or required.

5.0 Equipment Required

5.1 Personal computer loaded with RETSCODE software.

6.0 Procedure

Note

For non-routine batch discharges Attachment E, "Gas Decay Tank Discharge Permit," may be used to document the release. Contact RP supervision for specific work instructions. ***[CAP 12763]***

6.1 WGDT

Note

Pre-release sampling is required for WGDTs.

6.1.1 Sample the tank to be discharged per HP-05.004.

6.1.1.1 IF noble gases are identified, THEN purge the Iodine sample cartridge with air for at least 5 minutes.

Note

A WGDT having a total noble gas activity concentration exceeding 1.0E-01 µCi/cc shall be placed on hold for decay prior to release.

6.1.2 Analyze the sample per HP-05.001, "Survey and Sampling Techniques."

6.1.3 Complete Attachment A if the total noble gas specific activity concentration exceeds 1.0E-02 µCi/cc. **[PCR 12651]**

6.1.4 Enter the sample results into the RETSCODE Computer Program using HP-01.012, "RETSCODE Computer Program Operating Guide."

6.1.5 Complete Attachment B, "Pre-release Dose Estimate."

6.1.6 Review Attachment B to ensure no Technical Specification (TS) limits will be exceeded for the release:

6.1.6.1 IF TS limits are NOT exceeded, THEN continue with the release.

6.1.6.2 IF TS limits are exceeded, THEN contact RP Supervision.

6.1.7 Complete the upper portion of Attachment E, attach the sample results and Attachment B, and Attachment A, if applicable. Sign all forms where applicable.

6.1.8 Route the discharge permit to RP Supervision for signature and review.

6.1.9 Route the discharge permit to the Shift Manager for disposition of the WGDT.

6.1.10 Upon receiving the discharge permit back from operations, verify PRIOR TO DISCHARGE and END OF RELEASE data has been completed.

6.1.11 Enter post-release data into the RETSCODE program using HP-01.012.

6.1.12 Complete Attachment C, "Post-Discharge Summary Sheet," and sign the form.

6.1.13 Initial near the bottom of Attachment E upon completing all post-discharge data and the Post-Discharge Summary Sheet.

6.1.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

6.2 Containment Building Purge

Note

Pre-release sampling is required for Containment Building Purge.

6.2.1 Sample the Containment Building per HP-05.004.

6.2.2 Analyze the sample per HP-05.001.

6.2.2.1 IF noble gases are identified, THEN purge the Iodine sample cartridge with air for at least 5 minutes.

6.2.3 Enter the sample results into the RETSCODE Computer Program using HP-01.012.

6.2.4 Complete Attachment B.

6.2.5 Review Attachment B to verify no TS limits shall be exceeded for the release:

6.2.5.1 IF TS limits are NOT exceeded, THEN continue with the release.

6.2.5.2 IF TS limits are exceeded, THEN contact RP Supervision.

6.2.6 Complete the upper portion of Attachment D, attach the sample results and Attachment B. Sign all forms where applicable.

6.2.7 Route the discharge permit to RP Supervision for signature and review.

6.2.8 Route the discharge permit to the Shift Manager for disposition of the permit.

Note

Containment is sampled every hour for radioactive gases after the release is started until gaseous isotopes are no longer identified. This is done to allow for a more accurate quantification of activity being released to the environment.

6.2.9 Upon receiving the discharge permit back from Operations, verify PRIOR TO DISCHARGE and END OF RELEASE data has been completed.

6.2.10 Calculate the post-release volume by multiplying the containment fan flow by the 24 hour run time for the purge.

6.2.11 Enter post-release data into the RETSCODE program using HP-01.012.

6.2.12 Complete Attachment C and sign the form.

6.2.13 Initial near the bottom of Attachment D upon completing all post-discharge data and Attachment C.

6.2.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

6.3 PORV Release with Primary-to-Secondary Leakage

Note

Steam releases through the PORVs can NOT be sampled directly. Therefore, controlled plant cool downs performed by dumping steam to the atmosphere through the PORVs must be quantified indirectly.

6.3.1 Obtain a copy of the latest air ejector gas sample results and the latest Steam Generator (SG) blowdown sample results.

Note

Iodine concentrations may be reduced by a factor of 10 in the Pre-release Dose Estimate in accordance with USAR, Section 10.2.

6.3.2 Enter the sample results into the RETSCODE Computer Program using HP-01.012.

6.3.3 Determine the estimated PORV steam release volume:

6.3.3.1 Access file J:\AppData\rxeng\STMRLS.EXE

6.3.3.2 Enter "Y" to answer the first question.

6.3.3.3 Enter SG pressure in psig for the SG to be used for cool down.

6.3.3.4 Enter "1" for PORV release.

6.3.3.5 Steam release rate is given in cc/sec. Multiply this value by the estimated release time in seconds to get the release volume in cc's.

6.3.3.6 Exit the STMRLS program by entering "N."

6.3.4 Enter estimated release volume into the RETSCODE program.

6.3.4.1 IF the calculated activity could cause the site boundary dose limits to be exceeded, in accordance with SP-32B-268, THEN, if possible, the duration of the release should be shortened.

6.3.5 Complete Attachment B.

6.3.6 Review Attachment B to verify no TS limits will be exceeded for the release:

6.3.6.1 IF TS limits are NOT exceeded, THEN continue with the release.

6.3.6.2 IF TS limits are exceeded, THEN contact RP Supervision.

6.3.7 Complete the upper portion of Attachment F, attach the sample results and Attachment B. Sign all forms where applicable.

6.3.8 Route the discharge permit to RP Supervision for signature and review.

6.3.9 Route the discharge permit to the Shift Manager for disposition.

Note

Since a release from a PORV is NOT monitored during the release, consider taking a field sample down wind of the PORV at the site boundary to assist in verifying the activity released.

6.3.10 Upon receiving the discharge permit back from operations, verify PRIOR TO DISCHARGE and END OF RELEASE data has been completed.

6.3.11 Enter post-release data into the RETSCODE program using HP-01.012.

6.3.12 Complete Attachment C and sign the form.

6.3.13 Initial near the bottom of Attachment F upon completing all post-discharge data and Attachment C.

6.3.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

6.4 Manual Generation of Batch Release Reports

6.4.1 Obtain the applicable hard copy sample cover sheets and pre-release sheets contained in this procedure.

6.4.2 Enter the sample results onto the applicable sample cover sheet.

6.4.3 Complete any necessary attachments required by this procedure based on sample results.

6.4.4 Calculate the volume for the applicable sample as follows:

a. WGDT

1. Pre-release and post-release volumes are calculated as follows:

([Tank pressure in psig + 14.7 psia] ÷ 14.7 psia)×(1.33 E+7 cc)=Tank volume in cc's

b. Containment Building Purge

1. Based on elimination of airborne radioactivity in containment after five air changes with a fan flow rate of 33,000 cfm and containment volume of 1.32 E+6 ft^3, the pre-release volume would be 1.87 E+11 cc's.
2. Post-release volume is calculated per Step 6.2.10 of this procedure.

c. PORV

1. PORV volumes are calculated per Step 6.3.3 of this procedure.

6.4.5 Enter the volume onto Attachment B.

6.4.6 Complete the rest of the Attachment B.

6.4.7 Assign the next discharge permit number to the release paperwork.

6.4.8 Attach sample results and Attachment B to the applicable sample cover sheet. Sign all forms where applicable.

6.4.9 Route the discharge permit to RP Supervision for signature and review.

6.4.10 Route the discharge permit to the Shift Manager for disposition of the permit.

6.4.11 Upon receiving the discharge permit back from Operations, verify PRIOR TO DISCHARGE and END OF RELEASE that data has been completed.

6.4.12 Calculate post-release data and then complete Attachment C and sign the form.

6.4.13 Initial near the bottom of the applicable sample cover sheet upon completing all post-discharge data and Attachment C.

Note

The discharge data should be entered in the RETSCODE Computer Program as soon as the system is back in service.

6.4.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

7.0 Problems

7.1 Complete an Action Request (AR) Form, NMC FP-PA-ARP-1, to document and assess for any problems encountered during the performance of this procedure.

8.0 Acceptance Criteria

8.1 This procedure is considered complete and acceptable when the batch release has been completed and none of the following limits have been exceeded:

8.1.1 Dose Rate, per ODCM Specification 3.4.1

8.1.2 Dose - Noble Gases, per ODCM Specification 3.4.2

8.1.3 Dose - Iodine-131, Iodine-133, and radionuclides in particulate form, per ODCM Specification 3.4.3

9.0 References

9.1 HP-01.012, RETSCODE Computer Program Operating Guide

9.2 HP-05.015, Miscellaneous Gaseous Radwaste Releases

9.3 HP-06.063, Instrument Operating Procedure - Air Sample Pumps: RAS-1, RAP-1, RAP-1Q, and RAP-3.

9.4 OEA No. 86-52, Off-Gas Hydrogen Explosion While Sampling

9.5 PCR8891, Guidance for non-routine batch discharges

9.6 ODCM, Offsite Dose Calculation Manual

9.7 SP-32B-268, Site Boundary Doses from Gaseous Effluents

9.8 SP-45-290, Radioactive Gaseous Effluent Monitoring Instrumentation, Compensatory Actions for Channels 0ut of Service

9.9 10CFR20, Appendix B, Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of Radionuclides for Occupational Exposure

9.10 HP-05.004, Radiation/Contamination Survey and Airborne Radioactivity Sampling Schedules

9.11 USAR, Section 10.2

9.12 HP-05.001, Survey and Sampling Techniques

9.13 NMC FP-PA-ARP-01, Action Request Process

9.14 COMTRAK 89-078 (LER 89-003), Committed to the USNRC to provide operators with valve settings during WGDT releases to prevent automatic actuation of ASV System due to R-13/R-14 alarm

9.15 COMTRAK 89-207, Committed to INPO to establishing methods for determining Iodine release from S/G PORVs during periods of pri-sec leakage

9.16 CAP 1403, Nitrogen Purging of Waste Gas Decay Tanks

9.17 PCR 12651, Resolve inconsistency between SP-32B-116 Attachment E and N-GWP-32B

GAS DECAY TANK PRERELEASE EVALUATION

DISCHARGE PERMIT 05-XXXXX

Complete this attachment when sample results of a gas decay tank indicate total gas activity greater than 1.0E-2 μCi/cc.

TANK NO. A DATE/TIME SAMPLED 11-16-05 / 0320

TOTAL GAS ACTIVITY 1.71E-02 μCi/cc

1. Will this tank be put on hold for decay prior to release? YES / NO

2. IF YES, THEN how long will it take for this tank to decay to less than 1.0E-2 μCi/cc? _____ Days
   (Attach decay calculations)
   This tank should then be resampled for release no sooner than: _____ Time/Date

3. IF NO, THEN use the following chart to determine release parameters to be used. Circle appropriate values.

GDT Concentration (μCi/cc)	Allowable Release Rate (SCFM)	WG-36 Setting (% OPEN)	Estimated Release Time (HOURS)
1.0 E-2	110	100	0.6
2.0 E-2	55	75	1.2
3.0 E-2	36	65	1.8
4.0 E-2	27	55	2.4
5.0 E-2	22	50	3.0
6.0 E-2	18	45	3.7
7.0 E-2	15	40	4.4
8.0 E-2	13	37	5.2
9.0 E-2	12	35	5.5
1.0 E-1	11	30	6.0

   Holdup for decay is mandatory for any gas decay tank exceeding total gas activity concentration of 1.0 E-1 μCi/cc.

4. Attach to appropriate discharge permit.

Prepared By _____ Date _____

Reviewed By HP Supervisor _____ Date _____

PRERELEASE DOSE ESTIMATE

DISCHARGE PERMIT 05-XXXXX

A.	Volume to be released	3.09+07	cc
B.	Concentration of all Noble Gas isotopes	1.71E-02	µCi/cc
C.	Concentration of I-131 and all particulate isotopes half live > 8 days	1.00E-04	µCi/cc
D.	Multiply A time B to get microcuries of noble gases to be released	5.28E+05	µCi
E.	Multiply A times C to get microcuries of I-131 and > 8 day particulates to be released	3.09E+03	µCi
F.	Multiply D times 1.2 E-10 to find estimated dose due to Gamma	6.34E-05	mRAD
G.	Multiply D times 2.5 E-10 to find estimated dose due to Beta	1.32E-04	mRAD
H.	Multiply E times 9.32 E-5 to find estimated dose due to Iodines and > 8 day particulates	2.88E-01	mRem
I.	Add F plus cumulative quarterly Whole Body total	6.34E-05	mRAD
J.	Add G plus cumulative quarterly Skin total	1.32E-04	mRAD
K.	Add H plus cumulative quarterly Organ total	2.88E-01	mRem
L.	Is I ≤ 0.62 mRAD? YES NO		
M.	Is J ≤ 1.25 mRAD? YES NO		
N.	Is K ≤ 0.94 mRem? YES NO		

IF L, M, or N is answered "No," THEN notify HP Group Supervisor. Release may NOT proceed unless Treatment Systems are used. See ODCM Specification 3.4.4.

Prepared By _____ Date _____

Reviewed By HP Supervisor _____ Date _____

POST-DISCHARGE SUMMARY SHEET

DISCHARGE PERMIT NO. _____

Type of Discharge _____

Start Date and Time _____

End Date and Time _____

Volume Discharged (cc's) _____

Duration of Discharge (sec.) _____

List microcurie amounts for all isotopes released during this discharge:

ISOTOPE	µCi RELEASED	ISOTOPE	µCi RELEASED

Prepared By _____ Date _____

Reviewed By HP Supervisor _____ Date _____

CONTAINMENT PURGE DISCHARGE PERMIT

PERMIT NO. 05-XXXXX

Total Gas Activity	1.71E-02	µCi	Part Alpha	_____	µCi/cc
Part. Beta-Gamma	1.00E-04	µCi	Tritium Activity	_____	µCi/cc
Total Halogens	0.0E+00	µCi	RBV SYS Lineup Requested:		
			_____ 36″ Normal Purge		
Attach sample results and Pre-release Dose Estimate.			_____ 36″ Purge via Purge Filter		

Radiation Technologist _____ Time/Date _____

HP Supervisor _____ Time/Date _____

PRIOR TO DISCHARGE:

RM-11	Indication	=	_____	CPM	RM-11	Source Check	=	_____	CPM
RM-12	Indication	=	_____	CPM	RM-12	Source Check	=	_____	CPM
RM-21	Indication	=	_____	CPM	RM-21	Source Check	=	_____	CPM

Notify HP to install fresh filters in the RM-21 Sampler. _____ Initials

Position RM-11 Samples Selector Switch to VENT. _____ Initials

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

Authorization to Start (Shift Mgr.) _____ Time/Date _____

HP notified prior to start of release. _____ Initials

Release Started By _____ Time/Date _____

Release Ended By _____ Time/Date _____

AT END OF RELEASE:

RM-11	Indication	=	_____	CPM	RM-21	Indications	=	_____	CPM
RM-12	Indication	=	_____	CPM					

Notify HP of release completion and for filter change out in RM-21 Sampler. _____ Initials

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

AR Initiated: YES NO AR No. _____

Discharge Permit Reviewed By
Shift Manager _____ Time/Date _____

Route completed Discharge Permit to HP Group Supervisor.

Complete all post-discharge data. _____ Initials

Complete and attach Post-Discharge Summary Sheet. _____ Initials

HP Supervisor _____ Date _____

GAS DECAY TANK DISCHARGE PERMIT

PERMIT NO. 05-XXXXX

TIME/DATE 0600 11/16/2005

Total Gas Activity	1.71E-02	µCi/cc	Tank Number A
Part. Beta-Gamma	1.00E-04	µCi/cc	
Part. Alpha	0.00E+00	µCi/cc	Tank Pressure
			1.98E+01 PSIG
Total Halogens	0.00E+00	µCi/cc	
Tritium Activity	2.13E-05	µCi/cc	

Radiation Technologist _____ Time/Date _____

Do NOT exceed 75 % open on Valve WG-36. (See Attachment A, SP-32B-116.)
Attach all sampling results sheets and pre-release dose estimate.

HP Supervisor _____ Time/Date _____

PRIOR TO DISCHARGE:

RM-13	Indication	=	_____	CPM	RM-14	Indication	=	_____	CPM
RM-13	Source Check	=	_____	CPM	RM-14	Source Check	=	_____	CPM

Aux. Bldg. Vent Sys lineup: TRAIN A B BOTH (Both required when Total Gas ≥ 1.0 E-2 µCi/cc.)

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

Authorization to Start (Shift Manager) _____ Time/Date _____

HP notified prior to start of release. _____ Initials

Release Started By _____ Time/Date _____

Release Ended By _____ Time/Date _____

AT END OF RELEASE:

RM-13	Indication	=	_____	CPM	RM-14	Indications	=	_____	CPM
Tank Pressure		=	_____	PSIG					

HP notified after completion of release. YES NO _____ Initials

Tank was purged: YES NO _____ Initials

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

AR Initiated: YES NO AR No. _____

Discharge Permit Reviewed By
Shift Manager _____ Time/Date _____

Route completed Discharge Permit to HP Group Supervisor.

Complete all post-discharge data. _____ Initials

Complete and attach Post-Discharge Summary Sheet. _____ Initials

HP Supervisor _____ Date _____

PORV DISCHARGE PERMIT

PERMIT NO. _____

	ISOTOPE	ACTIVITY		ISOTOPE	ACTIVITY	
AIR EJECTOR GAS RESULTS	_____	_____	µCi/cc	_____	_____	µCi/cc
	_____	_____	µCi/cc	_____	_____	µCi/cc

STEAM GENERATOR BLOWDOWN RESULTS: (µCi/ml)

	1A		1B	
	ISOTOPE	ACTIVITY	ISOTOPE	ACTIVITY
Iodine Activity	_____	_____	_____	_____
Tritium Activity	_____	_____	_____	_____
All Other Isotopes	_____	_____	_____	_____

Attached sample results and pre-release dose estimate.

HP Supervisor _____ Time/Date _____

PRIOR TO DISCHARGE:

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

HP notified prior to start of release. _____ Initials

During PORV operation for plant cool down, log the following:

S/G	**PORV OPENED**			**PORV CLOSED**		
(A or B)	DATE	TIME	S/G psig	DATE	TIME	S/G psig

AT COMPLETION:

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

HP notified after completion of release. _____ Initials

Reviewed by Shift Manager _____ Time/Date _____

Route completed Discharge Permit to HP Group Supervisor.

Complete all post-discharge data. _____ Initials

Complete and attach Post-Discharge Summary Sheet. _____ Initials

HP Supervisor _____ Date _____

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Nuclear Safety Related	☐ Yes ☑ No	**PORC Review Required**	☑ Yes ☐ No	**SRO Approval Of Temporary Changes Required**	☑ Yes ☐ No

1.0 Plant Initial Conditions

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1.2 This procedure is performed under all plant conditions.

Note

For other batch releases, refer to Procedure HP-05.015, "Miscellaneous Gaseous Radwaste Releases."

2.0 Precautions

2.1 A WGDT having a total noble gas activity concentration exceeding 1.0E-02 µCi/cc, shall NOT be released until evaluations listed in "Gas Decay Tank Prerelease Evaluation," Attachment A, are completed.

2.2 Both trains of the Auxiliary Building Ventilation (ABV) System shall be in operation during the release of a WGDT exceeding 1.0E-02 µCi/cc total gas activity concentration.

2.3 A WGDT having a total noble gas activity concentration exceeding 1.0E-01 µCi/cc, shall be placed on hold for decay prior to release.

2.4 A WGDT may contain explosive levels of hydrogen, therefore:

2.4.1 Samples should NOT be taken using a RAP pump. These pumps are NOT designed for use in an explosive atmosphere. See Procedure HP-06.063, " Instrument Operating Procedure - Air Sample Pumps: RAS-1, RAP-1, RAP-1Q, and RAP-3."

2.4.2 Silver Zeolite sample cartridges should NOT be used when sampling a WGDT. A reaction may occur within the cartridge causing a rapid increase in temperature and possibly an explosion. See OEA 86-52.

2.5 IF during an outage, the RBV system is OOS for less than 48 hours, THEN no discharge permit is required to restart containment vent.

2.6 IF noble gases are identified from samples being analyzed for effluent releases, THEN the Iodine sample cartridge should be purged with air for at least 5 minutes. This is done to remove noble gases entrapped in the cartridge so they are NOT misidentified as Iodine peaks.

2.7 For non-routine batch discharges (e.g., CVCS hold up tanks) NOT included in this procedure, contact RP supervision for specific work instructions. **[PCR 8891]**

3.0 Limiting Conditions for Operation

3.1 For actions to be taken if any gaseous effluent radiation monitors are out of service refer to the ODCM, Table 3.2 or SP-45-290, "Radioactive Gaseous Effluent Monitoring Instrumentation, Compensatory Actions for Channels Out of Service."

3.2 IF site-boundary dose estimates exceed the limits stated in SP-32B-268, "Site Boundary Doses from Gaseous Effluents," THEN the Gaseous Radwaste Treatment System or the Ventilation Exhaust Treatment System, whichever is applicable, shall be used.

4.0 General Instructions

4.1 Description

4.1.1 The RETSCODE Computer Program is used to calculate the gaseous activity released to the environment and the dose rates at the site boundary. IF the RETSCODE Computer Program is unavailable, THEN manual calculations are required.

4.1.2 Gaseous effluent monitor setpoints are determined in accordance with ODCM methodology so they will alarm and automatically terminate a release prior to exceeding site boundary dose rates based on values from 10CFR20, Appendix B, Table II, Column 1. Generally, these alarm/trip setpoints are conservatively set.

4.1.3 Procedure HP-05.004, "Radiation/Contamination Survey and Airborne Radioactivity Sampling Schedules," contains the sampling requirements for the WGDTs.

4.1.4 Sample results from the R-11/12 sample point are used for containment purge batch releases. See procedure HP-05.004.

4.1.5 Sample results from the Air Ejector gas sample point and Steam Generator Blowdown point are used for PORV releases. See procedure HP-05.004 for air ejector samples and contact chemistry for blowdown results.

Note

Steam releases through the PORVs can NOT be sampled directly. Therefore, controlled plant cool downs performed by dumping steam to the atmosphere through the PORVs must be quantified indirectly.

Iodine concentrations may be reduced by a factor of 10 in the Pre-release Dose Estimate per USAR, Section 10.2.

4.2 Definitions

4.2.1 Off-site Dose Calculation Manual (ODCM) - A document that contains the current methodology and parameters used in the calculation of off-site doses and alarm/trip setpoints for radioactive gaseous and liquid effluents.

4.2.2 Gaseous Radwaste Treatment System - A system used to reduce the radioactivity of gaseous effluents by collecting off-gases from the reactor coolant system and holding them for decay prior to release to the environment, i.e., WGDTs.

4.2.3 Ventilation Exhaust Treatment System - A system used to reduce radioactive Iodine and particulate effluents through the use of charcoal absorbers and/or HEPA filters prior to release to the environment, i.e., Containment Purge Exhaust Filter.

4.2.4 Engineered Safety Feature (ESF) Systems - These are considered atmospheric cleanup systems, which include:

- Auxiliary Building Special Ventilation (ASV)
- Shield Building Ventilation System (SBV)
- Spent Fuel Pool Ventilation System (part of the Auxiliary Ventilation System)

These systems are NOT considered to be Ventilation Exhaust Treatment Systems.

4.2.5 Purge - The controlled process of discharging air or gas from a compartment to maintain temperature, pressure, humidity, concentration, or any other operating condition in such a manner that replacement air or gas is required.

4.2.6 Vent - The controlled process of discharging air or gas such that replacement air or gas is NOT provided or required.

5.0 Equipment Required

5.1 Personal computer loaded with RETSCODE software.

6.0 Procedure

Note

For non-routine batch discharges Attachment E, "Gas Decay Tank Discharge Permit," may be used to document the release. Contact RP supervision for specific work instructions. ***[CAP 12763]***

6.1 WGDT

Note

Pre-release sampling is required for WGDTs.

6.1.1 Sample the tank to be discharged per HP-05.004.

6.1.1.1 IF noble gases are identified, THEN purge the Iodine sample cartridge with air for at least 5 minutes.

Note

A WGDT having a total noble gas activity concentration exceeding 1.0E-01 µCi/cc shall be placed on hold for decay prior to release.

6.1.2 Analyze the sample per HP-05.001, "Survey and Sampling Techniques."

6.1.3 Complete Attachment A if the total noble gas specific activity concentration exceeds 1.0E-02 µCi/cc. **[PCR 12651]**

6.1.4 Enter the sample results into the RETSCODE Computer Program using HP-01.012, "RETSCODE Computer Program Operating Guide."

6.1.5 Complete Attachment B, "Pre-release Dose Estimate."

6.1.6 Review Attachment B to ensure no Technical Specification (TS) limits will be exceeded for the release:

6.1.6.1 IF TS limits are NOT exceeded, THEN continue with the release.

6.1.6.2 IF TS limits are exceeded, THEN contact RP Supervision.

6.1.7 Complete the upper portion of Attachment E, attach the sample results and Attachment B, and Attachment A, if applicable. Sign all forms where applicable.

6.1.8 Route the discharge permit to RP Supervision for signature and review.

6.1.9 Route the discharge permit to the Shift Manager for disposition of the WGDT.

6.1.10 Upon receiving the discharge permit back from operations, verify PRIOR TO DISCHARGE and END OF RELEASE data has been completed.

6.1.11 Enter post-release data into the RETSCODE program using HP-01.012.

6.1.12 Complete Attachment C, "Post-Discharge Summary Sheet," and sign the form.

6.1.13 Initial near the bottom of Attachment E upon completing all post-discharge data and the Post-Discharge Summary Sheet.

6.1.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

6.2 Containment Building Purge

Note

Pre-release sampling is required for Containment Building Purge.

6.2.1 Sample the Containment Building per HP-05.004.

6.2.2 Analyze the sample per HP-05.001.

6.2.2.1 IF noble gases are identified, THEN purge the Iodine sample cartridge with air for at least 5 minutes.

6.2.3 Enter the sample results into the RETSCODE Computer Program using HP-01.012.

6.2.4 Complete Attachment B.

6.2.5 Review Attachment B to verify no TS limits shall be exceeded for the release:

6.2.5.1 IF TS limits are NOT exceeded, THEN continue with the release.

6.2.5.2 IF TS limits are exceeded, THEN contact RP Supervision.

6.2.6 Complete the upper portion of Attachment D, attach the sample results and Attachment B. Sign all forms where applicable.

6.2.7 Route the discharge permit to RP Supervision for signature and review.

6.2.8 Route the discharge permit to the Shift Manager for disposition of the permit.

Note

Containment is sampled every hour for radioactive gases after the release is started until gaseous isotopes are no longer identified. This is done to allow for a more accurate quantification of activity being released to the environment.

6.2.9 Upon receiving the discharge permit back from Operations, verify PRIOR TO DISCHARGE and END OF RELEASE data has been completed.

6.2.10 Calculate the post-release volume by multiplying the containment fan flow by the 24 hour run time for the purge.

6.2.11 Enter post-release data into the RETSCODE program using HP-01.012.

6.2.12 Complete Attachment C and sign the form.

6.2.13 Initial near the bottom of Attachment D upon completing all post-discharge data and Attachment C.

6.2.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

6.3 PORV Release with Primary-to-Secondary Leakage

Note

Steam releases through the PORVs can NOT be sampled directly. Therefore, controlled plant cool downs performed by dumping steam to the atmosphere through the PORVs must be quantified indirectly.

6.3.1 Obtain a copy of the latest air ejector gas sample results and the latest Steam Generator (SG) blowdown sample results.

Note

Iodine concentrations may be reduced by a factor of 10 in the Pre-release Dose Estimate in accordance with USAR, Section 10.2.

6.3.2 Enter the sample results into the RETSCODE Computer Program using HP-01.012.

6.3.3 Determine the estimated PORV steam release volume:

6.3.3.1 Access file J:\AppData\rxeng\STMRLS.EXE

6.3.3.2 Enter "Y" to answer the first question.

6.3.3.3 Enter SG pressure in psig for the SG to be used for cool down.

6.3.3.4 Enter "1" for PORV release.

6.3.3.5 Steam release rate is given in cc/sec. Multiply this value by the estimated release time in seconds to get the release volume in cc's.

6.3.3.6 Exit the STMRLS program by entering "N."

6.3.4 Enter estimated release volume into the RETSCODE program.

6.3.4.1 IF the calculated activity could cause the site boundary dose limits to be exceeded, in accordance with SP-32B-268, THEN, if possible, the duration of the release should be shortened.

6.3.5 Complete Attachment B.

6.3.6 Review Attachment B to verify no TS limits will be exceeded for the release:

6.3.6.1 IF TS limits are NOT exceeded, THEN continue with the release.

6.3.6.2 IF TS limits are exceeded, THEN contact RP Supervision.

6.3.7 Complete the upper portion of Attachment F, attach the sample results and Attachment B. Sign all forms where applicable.

6.3.8 Route the discharge permit to RP Supervision for signature and review.

6.3.9 Route the discharge permit to the Shift Manager for disposition.

Note

Since a release from a PORV is NOT monitored during the release, consider taking a field sample down wind of the PORV at the site boundary to assist in verifying the activity released.

6.3.10 Upon receiving the discharge permit back from operations, verify PRIOR TO DISCHARGE and END OF RELEASE data has been completed.

6.3.11 Enter post-release data into the RETSCODE program using HP-01.012.

6.3.12 Complete Attachment C and sign the form.

6.3.13 Initial near the bottom of Attachment F upon completing all post-discharge data and Attachment C.

6.3.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

6.4 Manual Generation of Batch Release Reports

6.4.1 Obtain the applicable hard copy sample cover sheets and pre-release sheets contained in this procedure.

6.4.2 Enter the sample results onto the applicable sample cover sheet.

6.4.3 Complete any necessary attachments required by this procedure based on sample results.

6.4.4 Calculate the volume for the applicable sample as follows:

a. WGDT

1. Pre-release and post-release volumes are calculated as follows:

([Tank pressure in psig + 14.7 psia] ÷ 14.7 psia)×(1.33 E+7 cc)=Tank volume in cc's

b. Containment Building Purge

1. Based on elimination of airborne radioactivity in containment after five air changes with a fan flow rate of 33,000 cfm and containment volume of 1.32 E+6 ft^3, the pre-release volume would be 1.87 E+11 cc's.
2. Post-release volume is calculated per Step 6.2.10 of this procedure.

c. PORV

1. PORV volumes are calculated per Step 6.3.3 of this procedure.

6.4.5 Enter the volume onto Attachment B.

6.4.6 Complete the rest of the Attachment B.

6.4.7 Assign the next discharge permit number to the release paperwork.

6.4.8 Attach sample results and Attachment B to the applicable sample cover sheet. Sign all forms where applicable.

6.4.9 Route the discharge permit to RP Supervision for signature and review.

6.4.10 Route the discharge permit to the Shift Manager for disposition of the permit.

6.4.11 Upon receiving the discharge permit back from Operations, verify PRIOR TO DISCHARGE and END OF RELEASE that data has been completed.

6.4.12 Calculate post-release data and then complete Attachment C and sign the form.

6.4.13 Initial near the bottom of the applicable sample cover sheet upon completing all post-discharge data and Attachment C.

Note

The discharge data should be entered in the RETSCODE Computer Program as soon as the system is back in service.

6.4.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

7.0 Problems

7.1 Complete an Action Request (AR) Form, NMC FP-PA-ARP-1, to document and assess for any problems encountered during the performance of this procedure.

8.0 Acceptance Criteria

8.1 This procedure is considered complete and acceptable when the batch release has been completed and none of the following limits have been exceeded:

8.1.1 Dose Rate, per ODCM Specification 3.4.1

8.1.2 Dose - Noble Gases, per ODCM Specification 3.4.2

8.1.3 Dose - Iodine-131, Iodine-133, and radionuclides in particulate form, per ODCM Specification 3.4.3

9.0 References

9.1 HP-01.012, RETSCODE Computer Program Operating Guide

9.2 HP-05.015, Miscellaneous Gaseous Radwaste Releases

9.3 HP-06.063, Instrument Operating Procedure - Air Sample Pumps: RAS-1, RAP-1, RAP-1Q, and RAP-3.

9.4 OEA No. 86-52, Off-Gas Hydrogen Explosion While Sampling

9.5 PCR8891, Guidance for non-routine batch discharges

9.6 ODCM, Offsite Dose Calculation Manual

9.7 SP-32B-268, Site Boundary Doses from Gaseous Effluents

9.8 SP-45-290, Radioactive Gaseous Effluent Monitoring Instrumentation, Compensatory Actions for Channels 0ut of Service

9.9 10CFR20, Appendix B, Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of Radionuclides for Occupational Exposure

9.10 HP-05.004, Radiation/Contamination Survey and Airborne Radioactivity Sampling Schedules

9.11 USAR, Section 10.2

9.12 HP-05.001, Survey and Sampling Techniques

9.13 NMC FP-PA-ARP-01, Action Request Process

9.14 COMTRAK 89-078 (LER 89-003), Committed to the USNRC to provide operators with valve settings during WGDT releases to prevent automatic actuation of ASV System due to R-13/R-14 alarm

9.15 COMTRAK 89-207, Committed to INPO to establishing methods for determining Iodine release from S/G PORVs during periods of pri-sec leakage

9.16 CAP 1403, Nitrogen Purging of Waste Gas Decay Tanks

9.17 PCR 12651, Resolve inconsistency between SP-32B-116 Attachment E and N-GWP-32B

GAS DECAY TANK PRERELEASE EVALUATION

DISCHARGE PERMIT 05-XXXXX

Complete this attachment when sample results of a gas decay tank indicate total gas activity greater than 1.0E-2 μCi/cc.

TANK NO. A DATE/TIME SAMPLED 11-16-05 / 0320

TOTAL GAS ACTIVITY 1.71E-02 μCi/cc

1. Will this tank be put on hold for decay prior to release? YES / NO

2. IF YES, THEN how long will it take for this tank to decay to less than 1.0E-2 μCi/cc? _____ Days
   (Attach decay calculations)
   This tank should then be resampled for release no sooner than: _____ Time/Date

3. IF NO, THEN use the following chart to determine release parameters to be used. Circle appropriate values.

GDT Concentration (μCi/cc)	Allowable Release Rate (SCFM)	WG-36 Setting (% OPEN)	Estimated Release Time (HOURS)
1.0 E-2	110	100	0.6
2.0 E-2	55	75	1.2
3.0 E-2	36	65	1.8
4.0 E-2	27	55	2.4
5.0 E-2	22	50	3.0
6.0 E-2	18	45	3.7
7.0 E-2	15	40	4.4
8.0 E-2	13	37	5.2
9.0 E-2	12	35	5.5
1.0 E-1	11	30	6.0

   Holdup for decay is mandatory for any gas decay tank exceeding total gas activity concentration of 1.0 E-1 μCi/cc.

4. Attach to appropriate discharge permit.

Prepared By _____ Date _____

Reviewed By HP Supervisor _____ Date _____

PRERELEASE DOSE ESTIMATE

DISCHARGE PERMIT 05-XXXXX

A.	Volume to be released	5.00E+06	cc
B.	Concentration of all Noble Gas isotopes	0.0E+00	µCi/cc
C.	Concentration of I-131 and all particulate isotopes half live > 8 days	0.0E+00	µCi/cc
D.	Multiply A time B to get microcuries of noble gases to be released	0.0E+00	µCi
E.	Multiply A times C to get microcuries of I-131 and > 8 day particulates to be released	0.0E+00	µCi
F.	Multiply D times 1.2 E-10 to find estimated dose due to Gamma	0.0E+00	mRAD
G.	Multiply D times 2.5 E-10 to find estimated dose due to Beta	0.0E+00	mRAD
H.	Multiply E times 9.32 E-5 to find estimated dose due to Iodines and > 8 day particulates	0.0E+00	mRem
I.	Add F plus cumulative quarterly Whole Body total	0.0E+00	mRAD
J.	Add G plus cumulative quarterly Skin total	0.0E+00	mRAD
K.	Add H plus cumulative quarterly Organ total	0.0E+00	mRem
L.	Is I ≤ 0.62 mRAD? YES NO		
M.	Is J ≤ 1.25 mRAD? YES NO		
N.	Is K ≤ 0.94 mRem? YES NO		

IF L, M, or N is answered "No," THEN notify HP Group Supervisor. Release may NOT proceed unless Treatment Systems are used. See ODCM Specification 3.4.4.

Prepared By _____ Date _____

Reviewed By HP Supervisor _____ Date _____

POST-DISCHARGE SUMMARY SHEET

DISCHARGE PERMIT NO. _____

Type of Discharge _____

Start Date and Time _____

End Date and Time _____

Volume Discharged (cc's) _____

Duration of Discharge (sec.) _____

List microcurie amounts for all isotopes released during this discharge:

ISOTOPE	µCi RELEASED	ISOTOPE	µCi RELEASED

Prepared By _____ Date _____

Reviewed By HP Supervisor _____ Date _____

CONTAINMENT PURGE DISCHARGE PERMIT

PERMIT NO. 05-XXXXX

Total Gas Activity	0.00E+00	µCi	Part Alpha	0.00E+00	µCi/cc
Part. Beta-Gamma	0.00E+00	µCi	Tritium Activity	0.00E+00	µCi/cc
Total Halogens	0.00E+00	µCi	RBV SYS Lineup Requested:		
			X 36″ Normal Purge		
Attach sample results and Pre-release Dose Estimate.			_____ 36″ Purge via Purge Filter		

Radiation Technologist _____ Time/Date _____

HP Supervisor _____ Time/Date _____

PRIOR TO DISCHARGE:

RM-11	Indication	=	_____	CPM	RM-11	Source Check	=	_____ CPM
RM-12	Indication	=	_____	CPM	RM-12	Source Check	=	_____ CPM
RM-21	Indication	=	_____	CPM	RM-21	Source Check	=	_____ CPM

Notify HP to install fresh filters in the RM-21 Sampler. _____ Initials

Position RM-11 Samples Selector Switch to VENT. _____ Initials

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

Authorization to Start (Shift Mgr.) _____ Time/Date _____

HP notified prior to start of release. _____ Initials

Release Started By _____ Time/Date _____

Release Ended By _____ Time/Date _____

AT END OF RELEASE:

RM-11	Indication	=	_____	CPM	RM-21	Indications	=	_____ CPM
RM-12	Indication	=	_____	CPM				

Notify HP of release completion and for filter change out in RM-21 Sampler. _____ Initials

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

AR Initiated: YES NO AR No. _____

Discharge Permit Reviewed By
Shift Manager _____ Time/Date _____

Route completed Discharge Permit to HP Group Supervisor.

Complete all post-discharge data. _____ Initials

Complete and attach Post-Discharge Summary Sheet. _____ Initials

HP Supervisor _____ Date _____

GAS DECAY TANK DISCHARGE PERMIT

PERMIT NO. 05-XXXXX

TIME/DATE 0600 11/16/2005

Total Gas Activity	1.71E-02	µCi/cc	Tank Number A
Part. Beta-Gamma	1.00E-04	µCi/cc	
Part. Alpha	0.00E+00	µCi/cc	Tank Pressure
			1.98E+01 PSIG
Total Halogens	0.00E+00	µCi/cc	
Tritium Activity	2.13E-05	µCi/cc	

Radiation Technologist _____ Time/Date _____

Do NOT exceed 75 % open on Valve WG-36. (See Attachment A, SP-32B-116.)
Attach all sampling results sheets and pre-release dose estimate.

HP Supervisor _____ Time/Date _____

PRIOR TO DISCHARGE:

RM-13	Indication	=	_____	CPM	RM-14	Indication	=	_____	CPM
RM-13	Source Check	=	_____	CPM	RM-14	Source Check	=	_____	CPM

Aux. Bldg. Vent Sys lineup: TRAIN A B BOTH (Both required when Total Gas ≥ 1.0 E-2 µCi/cc.)

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

Authorization to Start (Shift Manager) _____ Time/Date _____

HP notified prior to start of release. _____ Initials

Release Started By _____ Time/Date _____

Release Ended By _____ Time/Date _____

AT END OF RELEASE:

RM-13	Indication	=	_____	CPM	RM-14	Indications	=	_____	CPM
Tank Pressure		=	_____	PSIG					

HP notified after completion of release. YES NO _____ Initials

Tank was purged: YES NO _____ Initials

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

AR Initiated: YES NO AR No. _____

Discharge Permit Reviewed By
Shift Manager _____ Time/Date _____

Route completed Discharge Permit to HP Group Supervisor.

Complete all post-discharge data. _____ Initials

Complete and attach Post-Discharge Summary Sheet. _____ Initials

HP Supervisor _____ Date _____

PORV DISCHARGE PERMIT

PERMIT NO. _____

	ISOTOPE	ACTIVITY		ISOTOPE	ACTIVITY	
AIR EJECTOR GAS RESULTS	_____	_____	µCi/cc	_____	_____	µCi/cc
	_____	_____	µCi/cc	_____	_____	µCi/cc

STEAM GENERATOR BLOWDOWN RESULTS: (µCi/ml)

	1A		1B	
	ISOTOPE	ACTIVITY	ISOTOPE	ACTIVITY
Iodine Activity	_____	_____	_____	_____
Tritium Activity	_____	_____	_____	_____
All Other Isotopes	_____	_____	_____	_____

Attached sample results and pre-release dose estimate.

HP Supervisor _____ Time/Date _____

PRIOR TO DISCHARGE:

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

HP notified prior to start of release. _____ Initials

During PORV operation for plant cool down, log the following:

S/G	**PORV OPENED**			**PORV CLOSED**		
(A or B)	DATE	TIME	S/G psig	DATE	TIME	S/G psig

AT COMPLETION:

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

HP notified after completion of release. _____ Initials

Reviewed by Shift Manager _____ Time/Date _____

Route completed Discharge Permit to HP Group Supervisor.

Complete all post-discharge data. _____ Initials

Complete and attach Post-Discharge Summary Sheet. _____ Initials

HP Supervisor _____ Date _____

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant *Surveillance Procedure*	**No.** SP-32B-116	**Rev.** X
	Title Gaseous Radioactive Effluents - Reports for Batch Releases	
	Date MAY 27 2004	**Page** 1 **of** 16
Reviewed By Bart Steckler	**Approved By** Tom Schmidli	

Nuclear Safety Related	☐ Yes ☑ No	**PORC Review Required**	☑ Yes ☐ No	**SRO Approval Of Temporary Changes Required**	☑ Yes ☐ No

1.0 Plant Initial Conditions

1.1 This procedure is used, in conjunction with Procedure HP-01.012, "RETSCODE Computer Program Operating Guide," to generate radioactive gaseous effluents release reports for batch releases from the Kewaunee Nuclear Power Plant (KNPP). It quantifies radioactive gaseous effluents for batch releases from the following locations:

- Waste Gas Decay Tanks (WGDT)
- Containment Building Purge, which is defined as the first 24 hours of Reactor Building Vent (RBV) System operation after reactor plant shutdown.
- Power Operated Relief Valves (PORV), during periods of primary-to-secondary leakage.

1.2 This procedure is performed under all plant conditions.

Note

For other batch releases, refer to Procedure HP-05.015, "Miscellaneous Gaseous Radwaste Releases."

2.0 Precautions

2.1 A WGDT having a total noble gas activity concentration exceeding 1.0E-02 µCi/cc, shall NOT be released until evaluations listed in "Gas Decay Tank Prerelease Evaluation," Attachment A, are completed.

2.2 Both trains of the Auxiliary Building Ventilation (ABV) System shall be in operation during the release of a WGDT exceeding 1.0E-02 µCi/cc total gas activity concentration.

2.3 A WGDT having a total noble gas activity concentration exceeding 1.0E-01 µCi/cc, shall be placed on hold for decay prior to release.

2.4 A WGDT may contain explosive levels of hydrogen, therefore:

2.4.1 Samples should NOT be taken using a RAP pump. These pumps are NOT designed for use in an explosive atmosphere. See Procedure HP-06.063, " Instrument Operating Procedure - Air Sample Pumps: RAS-1, RAP-1, RAP-1Q, and RAP-3."

2.4.2 Silver Zeolite sample cartridges should NOT be used when sampling a WGDT. A reaction may occur within the cartridge causing a rapid increase in temperature and possibly an explosion. See OEA 86-52.

2.5 IF during an outage, the RBV system is OOS for less than 48 hours, THEN no discharge permit is required to restart containment vent.

2.6 IF noble gases are identified from samples being analyzed for effluent releases, THEN the Iodine sample cartridge should be purged with air for at least 5 minutes. This is done to remove noble gases entrapped in the cartridge so they are NOT misidentified as Iodine peaks.

2.7 For non-routine batch discharges (e.g., CVCS hold up tanks) NOT included in this procedure, contact RP supervision for specific work instructions. **[PCR 8891]**

3.0 Limiting Conditions for Operation

3.1 For actions to be taken if any gaseous effluent radiation monitors are out of service refer to the ODCM, Table 3.2 or SP-45-290, "Radioactive Gaseous Effluent Monitoring Instrumentation, Compensatory Actions for Channels Out of Service."

3.2 IF site-boundary dose estimates exceed the limits stated in SP-32B-268, "Site Boundary Doses from Gaseous Effluents," THEN the Gaseous Radwaste Treatment System or the Ventilation Exhaust Treatment System, whichever is applicable, shall be used.

4.0 General Instructions

4.1 Description

4.1.1 The RETSCODE Computer Program is used to calculate the gaseous activity released to the environment and the dose rates at the site boundary. IF the RETSCODE Computer Program is unavailable, THEN manual calculations are required.

4.1.2 Gaseous effluent monitor setpoints are determined in accordance with ODCM methodology so they will alarm and automatically terminate a release prior to exceeding site boundary dose rates based on values from 10CFR20, Appendix B, Table II, Column 1. Generally, these alarm/trip setpoints are conservatively set.

4.1.3 Procedure HP-05.004, "Radiation/Contamination Survey and Airborne Radioactivity Sampling Schedules," contains the sampling requirements for the WGDTs.

4.1.4 Sample results from the R-11/12 sample point are used for containment purge batch releases. See procedure HP-05.004.

4.1.5 Sample results from the Air Ejector gas sample point and Steam Generator Blowdown point are used for PORV releases. See procedure HP-05.004 for air ejector samples and contact chemistry for blowdown results.

Note

Steam releases through the PORVs can NOT be sampled directly. Therefore, controlled plant cool downs performed by dumping steam to the atmosphere through the PORVs must be quantified indirectly.

Iodine concentrations may be reduced by a factor of 10 in the Pre-release Dose Estimate per USAR, Section 10.2.

4.2 Definitions

4.2.1 Off-site Dose Calculation Manual (ODCM) - A document that contains the current methodology and parameters used in the calculation of off-site doses and alarm/trip setpoints for radioactive gaseous and liquid effluents.

4.2.2 Gaseous Radwaste Treatment System - A system used to reduce the radioactivity of gaseous effluents by collecting off-gases from the reactor coolant system and holding them for decay prior to release to the environment, i.e., WGDTs.

4.2.3 Ventilation Exhaust Treatment System - A system used to reduce radioactive Iodine and particulate effluents through the use of charcoal absorbers and/or HEPA filters prior to release to the environment, i.e., Containment Purge Exhaust Filter.

4.2.4 Engineered Safety Feature (ESF) Systems - These are considered atmospheric cleanup systems, which include:

- Auxiliary Building Special Ventilation (ASV)
- Shield Building Ventilation System (SBV)
- Spent Fuel Pool Ventilation System (part of the Auxiliary Ventilation System)

These systems are NOT considered to be Ventilation Exhaust Treatment Systems.

4.2.5 Purge - The controlled process of discharging air or gas from a compartment to maintain temperature, pressure, humidity, concentration, or any other operating condition in such a manner that replacement air or gas is required.

4.2.6 Vent - The controlled process of discharging air or gas such that replacement air or gas is NOT provided or required.

5.0 Equipment Required

5.1 Personal computer loaded with RETSCODE software.

6.0 Procedure

Note

For non-routine batch discharges Attachment E, "Gas Decay Tank Discharge Permit," may be used to document the release. Contact RP supervision for specific work instructions. ***[CAP 12763]***

6.1 WGDT

Note

Pre-release sampling is required for WGDTs.

6.1.1 Sample the tank to be discharged per HP-05.004.

6.1.1.1 IF noble gases are identified, THEN purge the Iodine sample cartridge with air for at least 5 minutes.

Note

A WGDT having a total noble gas activity concentration exceeding 1.0E-01 µCi/cc shall be placed on hold for decay prior to release.

6.1.2 Analyze the sample per HP-05.001, "Survey and Sampling Techniques."

6.1.3 Complete Attachment A if the total noble gas specific activity concentration exceeds 1.0E-02 µCi/cc. **[PCR 12651]**

6.1.4 Enter the sample results into the RETSCODE Computer Program using HP-01.012, "RETSCODE Computer Program Operating Guide."

6.1.5 Complete Attachment B, "Pre-release Dose Estimate."

6.1.6 Review Attachment B to ensure no Technical Specification (TS) limits will be exceeded for the release:

6.1.6.1 IF TS limits are NOT exceeded, THEN continue with the release.

6.1.6.2 IF TS limits are exceeded, THEN contact RP Supervision.

6.1.7 Complete the upper portion of Attachment E, attach the sample results and Attachment B, and Attachment A, if applicable. Sign all forms where applicable.

6.1.8 Route the discharge permit to RP Supervision for signature and review.

6.1.9 Route the discharge permit to the Shift Manager for disposition of the WGDT.

6.1.10 Upon receiving the discharge permit back from operations, verify PRIOR TO DISCHARGE and END OF RELEASE data has been completed.

6.1.11 Enter post-release data into the RETSCODE program using HP-01.012.

6.1.12 Complete Attachment C, "Post-Discharge Summary Sheet," and sign the form.

6.1.13 Initial near the bottom of Attachment E upon completing all post-discharge data and the Post-Discharge Summary Sheet.

6.1.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

6.2 Containment Building Purge

Note

Pre-release sampling is required for Containment Building Purge.

6.2.1 Sample the Containment Building per HP-05.004.

6.2.2 Analyze the sample per HP-05.001.

6.2.2.1 IF noble gases are identified, THEN purge the Iodine sample cartridge with air for at least 5 minutes.

6.2.3 Enter the sample results into the RETSCODE Computer Program using HP-01.012.

6.2.4 Complete Attachment B.

6.2.5 Review Attachment B to verify no TS limits shall be exceeded for the release:

6.2.5.1 IF TS limits are NOT exceeded, THEN continue with the release.

6.2.5.2 IF TS limits are exceeded, THEN contact RP Supervision.

6.2.6 Complete the upper portion of Attachment D, attach the sample results and Attachment B. Sign all forms where applicable.

6.2.7 Route the discharge permit to RP Supervision for signature and review.

6.2.8 Route the discharge permit to the Shift Manager for disposition of the permit.

Note

Containment is sampled every hour for radioactive gases after the release is started until gaseous isotopes are no longer identified. This is done to allow for a more accurate quantification of activity being released to the environment.

6.2.9 Upon receiving the discharge permit back from Operations, verify PRIOR TO DISCHARGE and END OF RELEASE data has been completed.

6.2.10 Calculate the post-release volume by multiplying the containment fan flow by the 24 hour run time for the purge.

6.2.11 Enter post-release data into the RETSCODE program using HP-01.012.

6.2.12 Complete Attachment C and sign the form.

6.2.13 Initial near the bottom of Attachment D upon completing all post-discharge data and Attachment C.

6.2.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

6.3 PORV Release with Primary-to-Secondary Leakage

Note

Steam releases through the PORVs can NOT be sampled directly. Therefore, controlled plant cool downs performed by dumping steam to the atmosphere through the PORVs must be quantified indirectly.

6.3.1 Obtain a copy of the latest air ejector gas sample results and the latest Steam Generator (SG) blowdown sample results.

Note

Iodine concentrations may be reduced by a factor of 10 in the Pre-release Dose Estimate in accordance with USAR, Section 10.2.

6.3.2 Enter the sample results into the RETSCODE Computer Program using HP-01.012.

6.3.3 Determine the estimated PORV steam release volume:

6.3.3.1 Access file J:\AppData\rxeng\STMRLS.EXE

6.3.3.2 Enter "Y" to answer the first question.

6.3.3.3 Enter SG pressure in psig for the SG to be used for cool down.

6.3.3.4 Enter "1" for PORV release.

6.3.3.5 Steam release rate is given in cc/sec. Multiply this value by the estimated release time in seconds to get the release volume in cc's.

6.3.3.6 Exit the STMRLS program by entering "N."

6.3.4 Enter estimated release volume into the RETSCODE program.

6.3.4.1 IF the calculated activity could cause the site boundary dose limits to be exceeded, in accordance with SP-32B-268, THEN, if possible, the duration of the release should be shortened.

6.3.5 Complete Attachment B.

6.3.6 Review Attachment B to verify no TS limits will be exceeded for the release:

6.3.6.1 IF TS limits are NOT exceeded, THEN continue with the release.

6.3.6.2 IF TS limits are exceeded, THEN contact RP Supervision.

6.3.7 Complete the upper portion of Attachment F, attach the sample results and Attachment B. Sign all forms where applicable.

6.3.8 Route the discharge permit to RP Supervision for signature and review.

6.3.9 Route the discharge permit to the Shift Manager for disposition.

Note

Since a release from a PORV is NOT monitored during the release, consider taking a field sample down wind of the PORV at the site boundary to assist in verifying the activity released.

6.3.10 Upon receiving the discharge permit back from operations, verify PRIOR TO DISCHARGE and END OF RELEASE data has been completed.

6.3.11 Enter post-release data into the RETSCODE program using HP-01.012.

6.3.12 Complete Attachment C and sign the form.

6.3.13 Initial near the bottom of Attachment F upon completing all post-discharge data and Attachment C.

6.3.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

6.4 Manual Generation of Batch Release Reports

6.4.1 Obtain the applicable hard copy sample cover sheets and pre-release sheets contained in this procedure.

6.4.2 Enter the sample results onto the applicable sample cover sheet.

6.4.3 Complete any necessary attachments required by this procedure based on sample results.

6.4.4 Calculate the volume for the applicable sample as follows:

a. WGDT

1. Pre-release and post-release volumes are calculated as follows:

([Tank pressure in psig + 14.7 psia] ÷ 14.7 psia)×(1.33 E+7 cc)=Tank volume in cc's

b. Containment Building Purge

1. Based on elimination of airborne radioactivity in containment after five air changes with a fan flow rate of 33,000 cfm and containment volume of 1.32 E+6 ft^3, the pre-release volume would be 1.87 E+11 cc's.
2. Post-release volume is calculated per Step 6.2.10 of this procedure.

c. PORV

1. PORV volumes are calculated per Step 6.3.3 of this procedure.

6.4.5 Enter the volume onto Attachment B.

6.4.6 Complete the rest of the Attachment B.

6.4.7 Assign the next discharge permit number to the release paperwork.

6.4.8 Attach sample results and Attachment B to the applicable sample cover sheet. Sign all forms where applicable.

6.4.9 Route the discharge permit to RP Supervision for signature and review.

6.4.10 Route the discharge permit to the Shift Manager for disposition of the permit.

6.4.11 Upon receiving the discharge permit back from Operations, verify PRIOR TO DISCHARGE and END OF RELEASE that data has been completed.

6.4.12 Calculate post-release data and then complete Attachment C and sign the form.

6.4.13 Initial near the bottom of the applicable sample cover sheet upon completing all post-discharge data and Attachment C.

Note

The discharge data should be entered in the RETSCODE Computer Program as soon as the system is back in service.

6.4.14 Route to RP Supervision for signatures and subsequent routing to the KNPP QA Vault.

7.0 Problems

7.1 Complete an Action Request (AR) Form, NMC FP-PA-ARP-1, to document and assess for any problems encountered during the performance of this procedure.

8.0 Acceptance Criteria

8.1 This procedure is considered complete and acceptable when the batch release has been completed and none of the following limits have been exceeded:

8.1.1 Dose Rate, per ODCM Specification 3.4.1

8.1.2 Dose - Noble Gases, per ODCM Specification 3.4.2

8.1.3 Dose - Iodine-131, Iodine-133, and radionuclides in particulate form, per ODCM Specification 3.4.3

9.0 References

9.1 HP-01.012, RETSCODE Computer Program Operating Guide

9.2 HP-05.015, Miscellaneous Gaseous Radwaste Releases

9.3 HP-06.063, Instrument Operating Procedure - Air Sample Pumps: RAS-1, RAP-1, RAP-1Q, and RAP-3.

9.4 OEA No. 86-52, Off-Gas Hydrogen Explosion While Sampling

9.5 PCR8891, Guidance for non-routine batch discharges

9.6 ODCM, Offsite Dose Calculation Manual

9.7 SP-32B-268, Site Boundary Doses from Gaseous Effluents

9.8 SP-45-290, Radioactive Gaseous Effluent Monitoring Instrumentation, Compensatory Actions for Channels 0ut of Service

9.9 10CFR20, Appendix B, Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of Radionuclides for Occupational Exposure

9.10 HP-05.004, Radiation/Contamination Survey and Airborne Radioactivity Sampling Schedules

9.11 USAR, Section 10.2

9.12 HP-05.001, Survey and Sampling Techniques

9.13 NMC FP-PA-ARP-01, Action Request Process

9.14 COMTRAK 89-078 (LER 89-003), Committed to the USNRC to provide operators with valve settings during WGDT releases to prevent automatic actuation of ASV System due to R-13/R-14 alarm

9.15 COMTRAK 89-207, Committed to INPO to establishing methods for determining Iodine release from S/G PORVs during periods of pri-sec leakage

9.16 CAP 1403, Nitrogen Purging of Waste Gas Decay Tanks

9.17 PCR 12651, Resolve inconsistency between SP-32B-116 Attachment E and N-GWP-32B

GAS DECAY TANK PRERELEASE EVALUATION

DISCHARGE PERMIT _____

Complete this attachment when sample results of a gas decay tank indicate total gas activity greater than 1.0E-2 μCi/cc.

TANK NO. _____ DATE/TIME SAMPLED _____

TOTAL GAS ACTIVITY _____ μCi/cc

1. Will this tank be put on hold for decay prior to release? YES / NO

2. IF YES, THEN how long will it take for this tank to decay to less than 1.0E-2 μCi/cc? _____ Days
   (Attach decay calculations)
   This tank should then be resampled for release no sooner than: _____ Time/Date

3. IF NO, THEN use the following chart to determine release parameters to be used. Circle appropriate values.

GDT Concentration (μCi/cc)	Allowable Release Rate (SCFM)	WG-36 Setting (% OPEN)	Estimated Release Time (HOURS)
1.0 E-2	110	100	0.6
2.0 E-2	55	75	1.2
3.0 E-2	36	65	1.8
4.0 E-2	27	55	2.4
5.0 E-2	22	50	3.0
6.0 E-2	18	45	3.7
7.0 E-2	15	40	4.4
8.0 E-2	13	37	5.2
9.0 E-2	12	35	5.5
1.0 E-1	11	30	6.0

   Holdup for decay is mandatory for any gas decay tank exceeding total gas activity concentration of 1.0 E-1 μCi/cc.

4. Attach to appropriate discharge permit.

Prepared By _____ Date _____

Reviewed By HP Supervisor _____ Date _____

PRERELEASE DOSE ESTIMATE

DISCHARGE PERMIT _____

A.	Volume to be released	_____	cc
B.	Concentration of all Noble Gas isotopes	_____	µCi/cc
C.	Concentration of I-131 and all particulate isotopes half live > 8 days	_____	µCi/cc
D.	Multiply A time B to get microcuries of noble gases to be released	_____	µCi
E.	Multiply A times C to get microcuries of I-131 and > 8 day particulates to be released	_____	µCi
F.	Multiply D times 1.2 E-10 to find estimated dose due to Gamma	_____	mRAD
G.	Multiply D times 2.5 E-10 to find estimated dose due to Beta	_____	mRAD
H.	Multiply E times 9.32 E-5 to find estimated dose due to Iodines and > 8 day particulates	_____	mRem
I.	Add F plus cumulative quarterly Whole Body total	_____	mRAD
J.	Add G plus cumulative quarterly Skin total	_____	mRAD
K.	Add H plus cumulative quarterly Organ total	_____	mRem
L.	Is I ≤ 0.62 mRAD? YES NO		
M.	Is J ≤ 1.25 mRAD? YES NO		
N.	Is K ≤ 0.94 mRem? YES NO		

IF L, M, or N is answered "No," THEN notify HP Group Supervisor. Release may NOT proceed unless Treatment Systems are used. See ODCM Specification 3.4.4.

Prepared By _____ Date _____

Reviewed By HP Supervisor _____ Date _____

POST-DISCHARGE SUMMARY SHEET

DISCHARGE PERMIT NO. _____

Type of Discharge _____

Start Date and Time _____

End Date and Time _____

Volume Discharged (cc's) _____

Duration of Discharge (sec.) _____

List microcurie amounts for all isotopes released during this discharge:

ISOTOPE	µCi RELEASED	ISOTOPE	µCi RELEASED

Prepared By _____ Date _____

Reviewed By HP Supervisor _____ Date _____

CONTAINMENT PURGE DISCHARGE PERMIT

PERMIT NO. _____

Total Gas Activity	_____	µCi	Part Alpha	_____	µCi/cc
Part. Beta-Gamma	_____	µCi	Tritium Activity	_____	µCi/cc
Total Halogens	_____	µCi	RBV SYS Lineup Requested:		
			_____ 36″ Normal Purge		
Attach sample results and Pre-release Dose Estimate.			_____ 36″ Purge via Purge Filter		

Radiation Technologist _____ Time/Date _____

HP Supervisor _____ Time/Date _____

PRIOR TO DISCHARGE:

RM-11	Indication	=	_____	CPM	RM-11	Source Check	=	_____	CPM
RM-12	Indication	=	_____	CPM	RM-12	Source Check	=	_____	CPM
RM-21	Indication	=	_____	CPM	RM-21	Source Check	=	_____	CPM

Notify HP to install fresh filters in the RM-21 Sampler. _____ Initials

Position RM-11 Samples Selector Switch to VENT. _____ Initials

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

Authorization to Start (Shift Mgr.) _____ Time/Date _____

HP notified prior to start of release. _____ Initials

Release Started By _____ Time/Date _____

Release Ended By _____ Time/Date _____

AT END OF RELEASE:

RM-11	Indication	=	_____	CPM	RM-21	Indications	=	_____	CPM
RM-12	Indication	=	_____	CPM					

Notify HP of release completion and for filter change out in RM-21 Sampler. _____ Initials

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

AR Initiated: YES NO AR No. _____

Discharge Permit Reviewed By
Shift Manager _____ Time/Date _____

Route completed Discharge Permit to HP Group Supervisor.

Complete all post-discharge data. _____ Initials

Complete and attach Post-Discharge Summary Sheet. _____ Initials

HP Supervisor _____ Date _____

GAS DECAY TANK DISCHARGE PERMIT

PERMIT NO. _____

TIME/DATE _____

Total Gas Activity	_____	µCi/cc	Tank Number _____
Part. Beta-Gamma	_____	µCi/cc	
Part. Alpha	_____	µCi/cc	Tank Pressure _____ PSIG
Total Halogens	_____	µCi/cc	
Tritium Activity	_____	µCi/cc	

Radiation Technologist _____ Time/Date _____

Do NOT exceed _____% open on Valve WG-36. (See Attachment A, SP-32B-116.)
Attach all sampling results sheets and pre-release dose estimate.

HP Supervisor _____ Time/Date _____

PRIOR TO DISCHARGE:

RM-13	Indication	=	_____	CPM	RM-14	Indication	=	_____	CPM
RM-13	Source Check	=	_____	CPM	RM-14	Source Check	=	_____	CPM

Aux. Bldg. Vent Sys lineup: TRAIN A B BOTH (Both required when Total Gas ≥ 1.0 E-2 µCi/cc.)

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

Authorization to Start (Shift Manager) _____ Time/Date _____

HP notified prior to start of release. _____ Initials

Release Started By _____ Time/Date _____

Release Ended By _____ Time/Date _____

AT END OF RELEASE:

RM-13	Indication	=	_____	CPM	RM-14	Indications	=	_____	CPM
Tank Pressure		=	_____	PSIG					

HP notified after completion of release. YES NO _____ Initials

Tank was purged: YES NO _____ Initials

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

AR Initiated: YES NO AR No. _____

Discharge Permit Reviewed By
Shift Manager _____ Time/Date _____

Route completed Discharge Permit to HP Group Supervisor.

Complete all post-discharge data. _____ Initials

Complete and attach Post-Discharge Summary Sheet. _____ Initials

HP Supervisor _____ Date _____

PORV DISCHARGE PERMIT

PERMIT NO. _____

	ISOTOPE	ACTIVITY		ISOTOPE	ACTIVITY	
AIR EJECTOR GAS RESULTS	_____	_____	µCi/cc	_____	_____	µCi/cc
	_____	_____	µCi/cc	_____	_____	µCi/cc

STEAM GENERATOR BLOWDOWN RESULTS: (µCi/ml)

	1A		1B	
	ISOTOPE	ACTIVITY	ISOTOPE	ACTIVITY
Iodine Activity	_____	_____	_____	_____
Tritium Activity	_____	_____	_____	_____
All Other Isotopes	_____	_____	_____	_____

Attached sample results and pre-release dose estimate.

HP Supervisor _____ Time/Date _____

PRIOR TO DISCHARGE:

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

HP notified prior to start of release. _____ Initials

During PORV operation for plant cool down, log the following:

S/G	**PORV OPENED**			**PORV CLOSED**		
(A or B)	DATE	TIME	S/G psig	DATE	TIME	S/G psig

AT COMPLETION:

Obtain current Meteorological data from PPCS and attach to this permit. _____ Initials

HP notified after completion of release. _____ Initials

Reviewed by Shift Manager _____ Time/Date _____

Route completed Discharge Permit to HP Group Supervisor.

Complete all post-discharge data. _____ Initials

Complete and attach Post-Discharge Summary Sheet. _____ Initials

HP Supervisor _____ Date _____

Status: Pre Release

DOSE ANALYSIS

Nobel gas Dose analysis is based on release volume of 3.09E+07 cc
Quarter is 4 based on SAMPLE date of 11/16/2005
Quarter and year to date totals are as of 11/16/2005

Nobel Gases

	Gamma Air (mrad)	Beta Air (mrad)
Release:	6.34E-05	1.32E-04
QTD	0.00E+00	0.00E+00
YTD	1.35E-07	3.47E-7
Projected Quarterly	6.34E-05	1.32E-04

Quarterly Gamma Air Dose	0.00E+00	is within	T.S. 7.4.2	5 mrad limit
Annual Gamma Air Dose	1.35E-07	is within	T.S. 7.4.2	10 mrad limit
Quarterly Beta Air Dose	0.00E+00	is within	T.S. 7.4.2	10 mrad limit
Annual Beta Air Dose	3.475E-07	is within	T.S. 7.4.2	20 mrad limit

Quarterly Projected Gamma Air Dose	6.34E-05	is within	T.S. 7.4.2	0.62 mrad limit
Quarterly Projected Beta Air Dose	1.32E-04	is within	T.S. 7.4.2	1.25 mrad limit

Iodines & Particulates

Iodine & Particulate Dose analysis based on a release volume of 3.09E+07 cc
Infant age group, and the following pathways:

Pathway	X/Q (sec/m3)	D/Q (1/m2)
Grnd	5.60E-07	5.60E-09
Gcm	5.60E-07	5.60E-09

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Perform the Actions Prior to Initiating a Containment Purge**

JPM NUMBER: **RO-018-JP03A** **REV.** **A**

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **0180030101/ Perform a Containment Purge Using the 36" RBV Valves**

K/A NUMBERS: **2.3.9 RO value 2.5 / SRO value 3.4**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [**X**] Other: [ ]

Lab: [ ]

Time for Completion: **18** Minutes Time Critical: **No**

Alternate Path / Faulted: **No**

TASK APPLICABILITY: **RO**

Additional signatures may be added as needed.

Developed by: _____
Instructor Date

Validated by: _____
Validation Instructor Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A

JPM Number: RO-018-JP03A

JPM Title: Perform the Actions Prior to Initiating a Containment Purge

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

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

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A

JPM BRIEFING/TURNOVER
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.* ***Read to Examinee:*** You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

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

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) 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 Reactor Operator.

The plant is in INTERMEDIATE SHUTDOWN.

HP has delivered a Containment Purge Discharge Permit to the Control Room.

INITIATING CUES (IF APPLICABLE):

The Unit Supervisor directs you to prepare for a Containment Purge by performing the steps 4.1.2.b through 4.1.2.f of N-RBV-18B, Reactor Bldg Vent System Cold Operation and Making Releases and complete the PRIOR TO DISCHARGE section of the Containment Purge Discharge Permit for the Shift Manager authorization to start.

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A

JPM PERFORMANCE INFORMATION

Required Materials:	**N-RBV-18B, Rev. AA (with step 4.1.2.a marked as performed)** **SP-32B-116, Rev. X, Attachment D with Top section completed.** **N-RM-45, Rev. AQ**
General References:	**None**
Task Standards:	**Attachment D SP-32B-116, 2nd section complete through "Authorization to Start (Shift Mgr.).**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**Refer to N-RBV-18B.**
Standard:	**Refer to N-RBV-18B.**
Evaluator Note:	**Procedure N-RBV-18B and the Containment Purge Discharge Permit (Attachment D SP-32B-116) are provided to the operator at this time.**
Evaluator Cue:	**If required: All procedure Initial Conditions and Precautions are satisfied.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A

Performance Step: 2 **Critical: No**	**N-RBV-18B, step 4.1.2.b** **Notify Radiation Protection discharge is about to begin, and request they changed fixed filters in R-21.**
Standard:	**Radiation Protection notified to change R-21 filters.**
Evaluator Note:	**The operator may either notify the Unit Supervisor of need to contact Radiation Protection OR may directly contact Radiation Protection.** **Record keeping for this step is also identified on Attachment D sheet. The operator may initial the proper blank at this time or may do this in the following step while recording "Prior to Discharge" data.**
Evaluator Cue:	**As either Unit Supervisor or Rad Protection: Radiation Protection acknowledges request and reports that filters for R-21 have been changed.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 3 **Critical: Yes**	**N-RBV-18B, step 4.1.2.c** **Record "Prior to Discharge" data on Containment Purge Discharge Permit.**
Standard:	**Data for RM-11, RM-12 and R-21 indication recorded under "Prior to Discharge" section of Attachment D SP-32B-116.**
Evaluator Note:	**This step references the Precaution and Limitation 2.6 concerning Containment Vent Operations. This JPM does not actually start the vent/purge process and so the direction does not directly affect the operator actions. If the operator raises questions concerning SP 32-113 Data Sheet C, Containment Vent Log or logging in Control Room Log, the CUE below is provided.**
Evaluator Cue:	**If the operator raises questions concerning SP 32-113 Data Sheet C, Containment Vent Log, CUE: The Unit Supervisor is maintaining the Data Sheet.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A

Performance Step: 4 **Critical: Yes**	**N-RBV-18B, step 4.1.2.d** **Position R-11/12 Sample Control switch to VENT.**
Standard:	**R-11/R-12 Sample Control switch is in VENT position.** **Verify AMBER Vent light lit.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 5 **Critical: No**	**N-RBV-18B, step 4.1.2.e** **Verify R-21 is operating.**
Standard:	**1. Check R-21 GREEN Operating light lit.** **2. Check R-21 Key switch in ON position.** **3. Check R-21 rate indication reading background level.**
Evaluator Note:	**The value for R-21 background reading is recorded on the plaque in the center of the Radiation Monitor Panel (on the left) housing the R-21 module.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 6 **Critical: No**	**N-RBV-18B, step 4.1.2.**e **Perform Source Check on the following Radiation Monitoring Channels per N-RM-45: R-11, R-12, R-21.**
Standard:	**Refers to N-RM-45**
Evaluator Note:	**Provide the operator with a copy of N-RM-45 when need is identified.**
Evaluator Cue:	**If required: All procedure Initial Conditions and Precautions are satisfied.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A

Performance Step: 7 **Critical: Yes (1 & 4)**	**N-RM-45, step 4.2.2.** **If a source check is required then perform the following:** **a. Momentarily press Check Source Button on affected channel and verify the following:** **1. RAD MONITOR CHECK SOURCE ACTUATED (47014-B) ON.** **2. Increase in indicated dose or count rate.**
Standard:	**1. R-11 (R-12 OR R-21) SOURCE CHECK button (pad) is pressed.** **2. 47014-B is verified ON and acknowledged.** **3. R-11 (R-12 OR R-21) indicated count rate increase is verified.** **4. R-11 (R-12 OR R-21) Source Check indication recorded under "Prior to Discharge" section of Attachment D SP-32B-116.**
Evaluator Note:	**Only the first and last items are CRITICAL for this step.** **The action is the same for all three radiation monitors. The procedure does not specify a particular order for performing the source check on the radiation monitors, so all three are identified in this step.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 8 **Critical: No**	**N-RM-45, step 4.2.2.b** **After 30-35 seconds, verify the following:** **1. RAD MONITOR CHECK SOURCE ACTUATED (47014-B) OFF.** **2. Dose or count rate lowers to normal background value.**
Standard:	**After 30-35 seconds:** **1. 47014-B is verified OFF and is reset.** **2. R-11 (R-12 OR R-21) indicated count rate lowered to approximately background value is verified.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A

Performance Step: 9 **Critical: Yes**	**Performance Steps 7 and 8 are performed for each of the identified Radiation Monitors.**
Standard:	**R-11, R-12 and R-21 Source Check performed.**
Evaluator Note:	**This is a placekeeping step to document performance of source check for each of the three radiation monitors.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: Yes**	**Complete Containment Purge Discharge Permit.** **Notify HP to install fresh filters in RM-21 Sampler.**
Standard:	**Place initials in blank for "Notify HP to install fresh filters in RM-21 Sampler" on Containment Purge Discharge Permit.**
Evaluator Note:	**This action may have been performed earlier when action was directed by N-RBV-18B.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: Yes**	**Complete Containment Purge Discharge Permit.** **Position RM-11 Samples Selector Switch to VENT.**
Standard:	**Place initials in blank for "Position RM-11 Samples Selector Switch to VENT" on Containment Purge Discharge Permit.**
Evaluator Note:	**This action may have been performed earlier when action was directed by N-RBV-18B.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A

Performance Step: 12 **Critical: No**	**Containment Purge Discharge Permit.** **Obtain current Meteorological data from PPCS and attach to this permit.**
Standard:	**Meteorological Data (Group 9) printout completed from PPCS.**
Evaluator Note:	**This actions on the PPCS workstation from Main Menu:** **1. Select "Area/Group Display."** **2. Click, "1: Operations – Protected"** **3. Click, "9: Meteorological Data"** **4. Click PRINT icon or select Print under File on dropdown menu.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: Yes**	**Complete Containment Purge Discharge Permit.** **Obtain current Meteorological data from PPCS and attach to this permit.**
Standard:	**1. Meteorological printout attached to Containment Purge Discharge Permit.** **2. Place initials in blank for "Obtain current Meteorological data from PPCS and attach to this permit" on Containment Purge Discharge Permit.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical: No**	**Inform Unit Supervisor of completion of steps of N-RBV-18B and the Containment Purge Discharge Permit, PRIOR TO DISCHARGE information.**
Standard:	**Unit Supervisor notified of completion of actions for Containment Purge Discharge Permit.**
Evaluator Cue:	**Acknowledge report from operator.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A

Terminating Cues: When Unit Supervisor notification complete, CUE: This completes this JPM.

Stop Time: _____

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator to any Shutdown IC, then perform the following:

NOTE: This JPM is set to be run with setup conditions of JPM A.1R RO-033-JP05C, Perform Independent Verification of SI Valve Lineup.

1. Ensure Containment vent or purge is NOT in progress.
2. Update Radiation Monitor NORMAL READINGS plaques to current background values.
3. Ensure PPCS is at TOP Level Display page. (MAIN MENU)

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
N/A	N/A	N/A	N/A

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A

TURNOVER SHEET

INITIAL CONDITIONS:

You are the Reactor Operator.

The plant is in INTERMEDIATE SHUTDOWN.

HP has delivered a Containment Purge Discharge Permit to the Control Room.

INITIATING CUES (IF APPLICABLE):

The Unit Supervisor directs you to prepare for a Containment Purge by performing the steps 4.1.2.b through 4.1.2.f of N-RBV-18B, Reactor Bldg Vent System Cold Operation and Making Releases and complete the PRIOR TO DISCHARGE section of the Containment Purge Discharge Permit for the Shift Manager authorization to start.

RO-018-JP03A, Perform the Actions Prior to Initiating a Containment Purge, Rev. A
ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Perform Independent Verification of SI Valve Lineup**

JPM NUMBER: **RO-033-JP05C** **REV.** **A**

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **0330050101 / Perform a Pre-Start Checklist of the Safety Injection System**
1190040304 / Perform a Independent Verification

K/A NUMBERS: **2.1.29 RO value 3.4 / SRO value 3.3**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: **8** Minutes Time Critical: **No**

Alternate Path / Faulted: **No**

TASK APPLICABILITY: **RO, SRO**

Additional signatures may be added as needed.

Developed by: _____
Instructor Date

Validated by: _____
Validation Instructor Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

RO-033-JP05C, Perform Independent Verification of SI Valve Lineup, Rev. A

JPM Number: RO-033-JP05C

JPM Title: Perform Independent Verification of SI Valve Lineup

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

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

RO-033-JP05C, Perform Independent Verification of SI Valve Lineup, Rev. A

JPM BRIEFING/TURNOVER
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.* ***Read to Examinee:*** You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

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

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) 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:

1. You are the second NCO.
2. A plant startup is in progress at Step 4.35.3 of N-O-01, Plant Startup from Cold Shutdown to Hot Shutdown Condition (Align Safety Injection System per N-SI-33-CL, Appendix A).
3. The Reactor Operator has just completed the "Control Room Switches" portion of N-SI-33-CL, Appendix A, SI Valve Lineup Prior To Exceeding 1000 psig.

INITIATING CUES (IF APPLICABLE):

The Unit Supervisor directs you to complete the SECOND OPERATOR actions for the "Control Room Switches."

RO-033-JP05C, Perform Independent Verification of SI Valve Lineup, Rev. A

JPM PERFORMANCE INFORMATION

Required Materials:	**N-SI-33-CL, Rev. AH, Appendix A with FIRST OPERATOR section completed (See under Simulator Setup)**
General References:	**N-O-01, Rev. BD** **GNP-03.09.01, Rev. D**
Task Standards:	**Second Operator initials complete for "correct" items. BOTH incorrect items identified and reported.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**Refer to N-SI-33-CL, Appendix A – SI VALVE LINEUP PRIOR TO EXCEEDING 1000 psig.**
Standard:	**Refer to N-SI-33-CL, Attachment A.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: No**	**Safety Injection Pump A AUTO**
Standard:	**Blank under SECOND OPER for SI Pump A initialed.**
Evaluator Note:	**The order in which the items are addressed is not important. They are listed in the same order as the Appendix.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 3 **Critical: No**	**Safety Injection Pump B AUTO**
Standard:	**Blank under SECOND OPER for SI Pump B initialed.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 4 **Critical: No**	**SI-20A/MV32091 Accumulator A Isolation OPEN/AUTO**
Standard:	**Blank under SECOND OPER for SI-20A initialed.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 5 **Critical: No**	**SI-20B/MV32096 Accumulator B Isolation OPEN/AUTO**
Standard:	**Blank under SECOND OPER for SI-20B initialed.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 6 **Critical: Yes**	**SI-11A/MV32092 Safety Injection to Loop A Cold Leg OPEN/AUTO**
Standard:	**Identify SI-11B as CLOSED. Blank under SECOND OPER for SI-11A NOT initialed.**
Evaluator Cue:	**As UNIT SUPERVISOR acknowledge report and direct completion of the remainder of the list.** **Discrepancy will be addressed when the list is completed.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 7 **Critical: No**	**SI-11B/MV32097 Safety Injection to Loop B Cold Leg**	**OPEN/AUTO**
Standard:	**Blank under SECOND OPER for SI-11B initialed.**	
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐	
Comments:	_____	

Performance Step: 8 **Critical: No**	**SI-9A/MV32094 Safety Injection to RCS Cold Legs**	**OPEN/MP**
Standard:	**Blank under SECOND OPER for SI-9A initialed.**	
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐	
Comments:	_____	

Performance Step: 9 **Critical: No**	**SI-9B/MV32095 Safety Injection to Reactor Vessel**	**OPEN/MP**
Standard:	**Blank under SECOND OPER for SI-9B initialed.**	
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐	
Comments:	_____	

Performance Step: 10 **Critical: No**	**SI-300A/MV32111 RWST Supply to RHR Pump A**	**OPEN/MP**
Standard:	**Blank under SECOND OPER for SI-300A initialed.**	
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐	
Comments:	_____	

RO-033-JP05C, Perform Independent Verification of SI Valve Lineup, Rev. A

Performance Step: 11 **Critical: Yes**	**SI-300B/MV32112 RWST Supply to RHR Pump B OPEN/MP**
Standard:	**Identify FIRST OPER has not initialed blank for SI-300B. Blank under SECOND OPER for SI-300B NOT initialed.**
Evaluator Cue:	**As UNIT SUPERVISOR acknowledge report and direct completion of the remainder of the list.** **Discrepancy will be addressed when the list is completed.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: No**	**SI-302A/MV32100 RHR Pump A Injection to Reactor Vessel OPEN/AUTO**
Standard:	**Blank under SECOND OPER for SI-302A initialed.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: No**	**SI-302B/MV32101 RHR Pump B Injection to Reactor Vessel OPEN/AUTO**
Standard:	**Blank under SECOND OPER for SI-302B initialed.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-033-JP05C, Perform Independent Verification of SI Valve Lineup, Rev. A

Performance Step: 14 **Critical: No**	**PERFORMED BY _____ DATE_____**
Standard:	**Signs and Dates PERFORMED BY blanks**
Evaluator Note:	**This may NOT occur if the operator reports completion of the steps he could perform and notes the two items need to be resolved for completion.**
Performance:	**SATISFACTORY ☐ UNSATISFACTORY ☐**
Comments:	_____

Terminating Cues: **When lineup checklist is returned to the UNIT SUPERVISOR: This completes this JPM.**

Stop Time: _____

RO-033-JP05C, Perform Independent Verification of SI Valve Lineup, Rev. A

SIMULATOR SET UP:
Simulator Setup Instructions:
If necessary, reset the simulator to IC-5, HSD BOC SD Banks Out @ Critical Boron, then perform the following:

1. Go to RUN.
2. Throttle open SG PORVs to initiate RCS cooldown.
3. Reduce RCS pressure as directed in N-RC-36C, section 4.4
4. Restore power to SI valves using Trigger 1 for Remote Functions.
5. Stabilize conditions with RCS pressure is between 925 and 975 psig and RCS temperature is between 450 and 495ºF.
6. Verify the SI Lineup is correct per N-SI-33 CL, Appendix A.
7. Position SI-11A control switch to CLOSE (spring return to AUTO). Verify valve closed.
8. Enter Light Override to turn off SI Ready status light for SI-11A
9. End conditions should approximate the following:
   a. Przr Press Master Control output (lower meter ~ 67% demand)
   b. SG A & B PORV controllers at ~610 psig (493ºF)
   c. AFW-2A at ~70% and AFW-2B at ~ 65%

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
1 TRIGGER 1	N/A	N/A	Actuates the Remote Functions to restore power to SI valves.

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
8	**Light DO-44909-0201**	**Loop A Cold Leg Vlv S-11A Closed**	N/A	N/A	**OFF**	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
TRIGGER 1	SI115	SI-11A Breaker	ON	N/A
"	SI116	SI-11B Breaker	ON	N/A
"	SI117	SI-20A Breaker	ON	N/A
"	SI118	SI-20B Breaker	ON	N/A
"	SI119	SI-09A Breaker	ON	N/A
"	SI120	SI-09B Breaker	ON	N/A

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are the second NCO.
2. A plant startup is in progress at Step 4.35.3 of N-O-01, Plant Startup from Cold Shutdown to Hot Shutdown Condition (Align Safety Injection System per N-SI-33-CL, Appendix A).
3. The Reactor Operator has just completed the “Control Room Switches” portion of N-SI-33-CL, Appendix A, SI Valve Lineup Prior To Exceeding 1000 psig.

INITIATING CUES (IF APPLICABLE):

The Unit Supervisor directs you to complete the SECOND OPERATOR actions for the “Control Room Switches.”

RO-033-JP05C, Perform Independent Verification of SI Valve Lineup, Rev. A
ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Reactor Coolant System Leak Rate Check**

JPM NUMBER: **RO-036-JP03A** **REV.** **C**

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **0360030201 / Perform a Reactor Coolant System Leak Rate Check**

K/A NUMBERS: **002A4.01 RO value 3.5 / SRO value 3.8**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [**X**] Other: [ ]

Lab: [ ]

Time for Completion: **17** Minutes Time Critical: **No**

Alternate Path / Faulted: **No**

TASK APPLICABILITY: **RO, SRO**

Additional signatures may be added as needed.

Developed by: _____
Instructor Date

Validated by: _____
Validation Instructor Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

RO-036-JP03A, Perform a Reactor Coolant System Leak Rate Check, Rev. C

JPM Number: RO-036-JP03A

JPM Title: Perform a Reactor Coolant System Leak Rate Check

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

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

JPM BRIEFING/TURNOVER
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.* ***Read to Examinee:*** You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

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

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) 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 Reactor Operator.

INITIATING CUES (IF APPLICABLE):

The Unit Supervisor directs you to perform a RCS leak rate check using the PPCS in accordance with SP-36-082, Reactor Coolant System Leak Rate Check.

RO-036-JP03A, Perform a Reactor Coolant System Leak Rate Check, Rev. C

JPM PERFORMANCE INFORMATION

Required Materials: SP-36-082, Rev. AG

General References:

Task Standards: Determine RCS leak rate of 0.74 gpm, and notify the CRS that investigation and evaluation of leak is required to be started within 4 hours.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**Refer to SP-36-082.**
Standard:	**Refer to SP-36-082.**
Evaluator Cue:	**If required: All procedure Initial Conditions and Precautions are satisfied.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: No**	**SP-36-082, step 6.1.1.a** **On PPCS Main Menu, click on Applications Menu.**
Standard:	**APPLICATION MENU page displayed.**
Evaluator Note:	**Direct Operator to the BOP 1 PPCS display. The RO 1 PPCS display will be set up with Leak Rate values.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 3 **Critical: No**	**SP-36-082, step 6.1.1.b** **On Applications Menu, click on On Demand RCS Leakage.**
Standard:	**ON DEMAND RCS LEAKAGE page displayed.**
Evaluator Note:	**Once the page is displayed, direct the operator to the RO 1 PPCS unit. The expected values to be used are on this display.**
Evaluator Cue:	**Current values are displayed on THIS unit.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 4 **Critical: No**	**SP-36-082, step 6.1.1.c** **VERIFY values are provided for all RCS Leakage data points.**
Standard:	**Supplied values entered into proper data point locations.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 5 **Critical: No**	**SP-36-082, step 6.1.1.d** **Verify appropriate value for VCT level Over 56%.**
Standard:	**"VCT Over 56%" display block indicates "NO".**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 6 **Critical: YES**	**SP-36-082, step 6.1.1.e** **Click on Calculate and VERIFY printout of RCS leakage calculation results.**
Standard:	**1. Report sheet for RCS Leakage displayed.** **2. RCS Leakage sheet printed out.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 7 **Critical: Yes**	**SP-36-082, step 6.1.1.f** **Record calculated RCS leak rate on Data Sheet 1 and ATTACH RCS leakage calculation printout to Data Sheet 1.**
Standard:	**1. Data Sheet 1, Reactor Coolant Leakage calculation By Computer data blanks filled in.** **2. PERFORMED BY / DATE blanks filled in.**
Evaluator Note:	**Provide attached partially completed Data Sheet 1 to operator.** **Cont. El 626 Amb. Air Temp value is read from Control Board Omni-Guard.** **Containment Humidity is read from Control Board indicator 41517.** **When operator addresses "Attach Cont Sump Pump Data Sheet", provide attached "Data Sheet 3".**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 8 **Critical: No**	**SP-36-082, step 6.1.1.g** **If Mass Balance leakrate calculation is negative, THEN PERFORM one of the following:**
Standard:	**Step is Not Applicable.**
Evaluator Note:	**This item is also addressed on Data Sheet 1.** **Leak rate has positive value.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: No**	**SP-36-082, step 6.1.1.h** **Record leak rate in the Control Room Log and on Shift Manager's status board.**
Standard:	**1. Leak rate value recorded on provided Control Room Log sheet.** **2. Leak Rate recorded on Status Board.**
Evaluator Cue:	**The E-SOMS logs are currently not available. Use the provided Control Room Log sheet.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: No**	**SP-36-082, step 6.1.1.i** **If Mass Balance leakrate calculation indicates that leakage from Reactor Coolant System is negative OR leakrate is greater than 0.2 gpm, THEN GO TO Step 6.3.**
Standard:	**Go to Step 6.3**
Evaluator Note:	**This item is also addressed on Data Sheet 1.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-036-JP03A, Perform a Reactor Coolant System Leak Rate Check, Rev. C

Performance Step: 11 **Critical: No**	**SP-36-082, step 6.3.1** **If Reactor Coolant System leakrate is determined to be negative, THEN PERFORM the following:**
Standard:	**Step is Not Applicable.**
Evaluator Note:	**Leak rate has positive value.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: Yes**	**SP-36-082, step 6.3.2** **If Reactor Coolant System leakrate is determined to be greater than 0.2 gpm, THEN an investigation and evaluation shall be started within 4 hours of the indication.**
Standard:	**CRS notified the investigation and evaluation of leak is required to be started within 4 hours.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: **When CRS is notified of leak status and actions, CUE: This completes this JPM.**

Stop Time: _____

INFORMATION SHEET

	Start Data	End Data
VCT Temperature	115	116.0
VCT Pressure	20.2	18.0
VCT Level	24.8	21.6
Przr Temperature	653.7	653.3
Przr Pressure	2235.5	2233.3
Przr Level	46.9	46.5
Reactor Coolant Avg Temperature	571.9	571.6
Reactor Makeup Water	0.0	116.0
Boric Acid	0.0	5.2
Atmospheric Pressure	14.7	14.7

RO-036-JP03A, Perform a Reactor Coolant System Leak Rate Check, Rev. C

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator to any At-Power Power IC, then perform the following:

1. Ensure the BOP 1 PPCS is at TOP Level Display page. (MAIN MENU)
2. On RO 1 PPCS, go to ON DEMAND RCS LEAKAGE page and enter the values from the INFORMATION SHEET above.
3. Enter Meter Override for Containment humidity to 10.3%.
4. Ensure Control Room Log sheet available at central desk.
5. Ensure Status Board is updated with RCS leak rate = 0.119 gpm

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
N/A	N/A	N/A	N/A

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	**AO-41517**	**CNTMT Humidity 5-95%**	N/A	N/A	**5.9**	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A

TURNOVER SHEET

INITIAL CONDITIONS:

You are the Reactor Operator.

INITIATING CUES (IF APPLICABLE):

The Unit Supervisor directs you to perform a RCS leak rate check using the PPCS in accordance with SP-36-082, Reactor Coolant System Leak Rate Check.

RO-036-JP03A, Perform a Reactor Coolant System Leak Rate Check, Rev. C
ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service**

JPM NUMBER: **RO-46A-JP04A** **REV.** **A**

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **46A0030401 / Respond to PPCS Program Malfunction**

K/A NUMBERS: **2.2.12 RO value 3.0 / SRO value 3.4**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [**X**] Other: [ ]

Lab: [ ]

Time for Completion: **12** Minutes Time Critical: **No**

Alternate Path / Faulted: **Yes**

TASK APPLICABILITY: **RO, SRO**

Additional signatures may be added as needed.

Developed by: _____
Instructor Date

Validated by: _____
Validation Instructor Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

JPM Number: RO-46A-JP04A

JPM Title: Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

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

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

JPM BRIEFING/TURNOVER
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.* ***Read to Examinee:*** You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

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

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**

   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) 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:

1. You are the Reactor Operator.
2. The Control Rod Supervision process on PPCS is NOT functioning.
3. A-CP-46, Abnormal Plant Process Computer System, has been entered and actions required are in progress for the condition.
4. Due to grid perturbations, a load change from 100% to the current power level was completed 30 minutes ago.

INITIATING CUES (IF APPLICABLE):

The Unit Supervisor directs you to complete the actions of A-CP-46 step 4.6.3.

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

JPM PERFORMANCE INFORMATION

Required Materials: **A-CP-46, Rev. AW, Data Sheet #1.**

General References: **Technical Specification 3.10.e**

Task Standards: **A-CP-46 Data Sheet #1 Complete and Tech Spec LCO identified for Control Rod G11.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**Refer to A-CP-46, Step 4.6.3.a and Data Sheet 1.**
Standard:	**Refer to A-CP-46, Step 4.6.3.a.** **Refer to Data Sheet 1**
Evaluator Note:	**Provide operator with separate DATA SHEET #1 when use is noted. (See Attached Sheet)**
Evaluator Cue:	**If required, acknowledge as Unit Supervisor: Step 4.6.3 references Tech Spec 3.10.i and Tech Spec Table 4.1-1.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

Performance Step: 2 **Critical: No**	**Data Sheet 1** **Record Step Counter value for Control Bank A, Group 1.**
Standard:	**Record "226" in the matrix blank for CBA-1, STEP CTR.**
Evaluator Note:	**The order in which the items are addressed is not important. This JPM list the items in the same order as Data Sheet 1.** **Individual Rod Position Indication recording begins at Performance Step 11.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 3 **Critical: No**	**Data Sheet 1** **Record Step Counter value for Control Bank A, Group 2.**
Standard:	**Record "226" in the matrix blank for CBA-2, STEP CTR.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 4 **Critical: No**	**Data Sheet 1** **Record Step Counter value for Control Bank B Group 1.**
Standard:	**Record "226" in the matrix blank for CBB-1, STEP CTR.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

Performance Step: 5	**Data Sheet 1**
Critical: No	**Record Step Counter value for Control Bank C, Group 1.**
Standard:	**Record "226" in the matrix blank for CBC-1, STEP CTR.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 6	**Data Sheet 1**
Critical: No	**Record Step Counter value for Control Bank C, Group 2.**
Standard:	**Record "226" in the matrix blank for CBC-2, STEP CTR.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 7	**Data Sheet 1**
Critical: No	**Record Step Counter value for Control Bank D Group 1.**
Standard:	**Record "177" in the matrix blank for CBD-1, STEP CTR.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8	**Data Sheet 1**
Critical: No	**Record Step Counter value for Shutdown Bank A Group 1.**
Standard:	**Record "226" in the matrix blank for SBA-1, STEP CTR.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

Performance Step: 9	**Data Sheet 1**
Critical: No	**Record Step Counter value for Shutdown Bank A Group 2.**
Standard:	**Record "226" in the matrix blank for SBA-2, STEP CTR.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10	**Data Sheet 1**
Critical: No	**Record Step Counter value for Shutdown Bank B Group 1.**
Standard:	**Record "226" in the matrix blank for SBB-1, STEP CTR.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11	**Data Sheet 1**
Critical: No	**Record RPI values for Control Bank A Group 1.**
Standard:	**Record value between "220 - 230" in the matrix blank for each CBA-1 rod in matrix under RPI and:** **1. L6.** **2. B8.** **3. F2.** **4. H12.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

Performance Step: 12	**Data Sheet 1**
Critical: No	**Record RPI values for Control Bank A Group 2.**
Standard:	**Record value between "220 - 230" in the matrix blank for each CBA-2 rod in matrix under RPI and:** **1. H2.** **2. F12.** **3. B6.** **4. L8.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13	**Data Sheet 1**
Critical: No	**Record RPI values for Control Bank B Group 1.**
Standard:	**Record value between "220 - 230" in the matrix blank for each CBB-1 rod in matrix under RPI and:** **1. F6.** **2. F8.** **3. H8.** **4. H6.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14	**Data Sheet 1**
Critical: No	**Record RPI values for Control Bank C Group 1.**
Standard:	**Record value between "220 - 230" in the matrix blank for each CBC-1 rod in matrix under RPI and:** **1. J4.** **2. D10.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

Performance Step: 15	**Data Sheet 1**
Critical: No	**Record RPI values for Control Bank C Group 2.**
Standard:	**Record value between "220 - 230" in the matrix blank for each CBA-1 rod in matrix under RPI and:** **1. D4.** **2. G7.** **3. J10.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 16	**Data Sheet 1**
Critical: Yes	**Record RPI values for Control Bank D Group 1.**
Standard:	**Record value between "175 - 180" in the matrix blank for the following CBD-1 rods in matrix under RPI and:** **1. G3.** **2. C7.** **3. K7.** **Record value between "190 – 200" in the matrix for CBD rod G11 under RPI.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

Performance Step: 17 **Critical: Yes**	**Rod G11 fails to meet acceptance criteria: ≥85% Full Power: 12 steps form bank step counter (TS 3.10.e.1).**
Standard:	**Notify CRS that Control Bank D rod G11 does not meet the acceptance criteria for alignment (TS 3.10.e.1).**
Evaluator Note:	**The operator may report this immediately or may wait until the completion of the surveillance (Data Sheet 1) and review of Acceptance Criteria.** **Operator may also include information "See A-CRD-49 for corrective actions", which is identified on Data Sheet 1.**
Evaluator Cue:	**Acknowledge report. If required, direct continuing with the remainder of Data Sheet #1.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 18 **Critical: No**	**Data Sheet 1** **Record RPI values for Shutdown Bank A Group 1.**
Standard:	**Record value between "220 - 230" in the matrix blank for each SBA-1 rod in matrix under RPI and:** **1. E3.** **2. I11.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

Performance Step: 19 **Critical: No**	**Data Sheet 1** **Record RPI values for Shutdown Bank A Group 2.**
Standard:	**Record value between "220 - 230" in the matrix blank for each SBA-2 rod in matrix under RPI and:** **1. C9.** **2. K5.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 20 **Critical: No**	**Data Sheet 1** **Record RPI values for Shutdown Bank B Group 1.**
Standard:	**Record value between "220 - 230" in the matrix blank for each SBB-1 rod in matrix under RPI and:** **1. C5.** **2. K9.** **3. E11.** **4. I3.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 21 **Critical: No**	**Record Maximum Deviation based on Acceptance Criteria information**
Standard:	**Record "12' in MAX DEVIATION matrix.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

Performance Step: 22 **Critical: No**	**TIME, POWER and INITIALS blocks.**
Standard:	**Records current time, "current power level" and initials in the matrix for the completion of Data Sheet #1.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: **When Data Sheet #1 is returned to the CRS or operator notes that Data Sheet 1 will be attached to SP-87-125 (Shift Surveillance): This completes this JPM.**

Stop Time: _____

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator to IC-14, 85% BOC equilibrium Xenon, then perform the following:

1. Go to RUN.
2. Place the Control Rod Bank Selector switch to MAN position
3. Insert override for the rod control alarm TLA-1 (47033-11) and TLA-9 (47033-24)
4. Adjust turbine load by tapping the RAISE VLP and adjusting Reference Control until indicated reactor power is between 86 and 87%.
5. Adjust RCS boron concentration (dilution) to match Tave-Tref. [~ 5 ppm]
6. Position the Lift Coil Disconnect Switches for Control Bank D rods G3, C7 and K7 to DISCONNECT.
7. Place the Control Rod Bank Selector switch to CBD position.
8. Perform the following actions concurrently:
   a. Withdraw control rod G11 until Control Bank D Group 1 Step Position (step counter) reads **196**.
   b. Adjust RCS boron concentration (boration) using the Remote Function to maintain Tave-Tref. [~ 1 ppm]
9. Ensure plant conditions are stable.
10. Position the Lift Coil Disconnect Switches for Control Bank D rods G3, C7 and K7 to CONNECT.
11. Reset the Control Bank D Group 1 Position (step counter) to **177** using the DOWN pushbutton.
12. Reset Bank D P/A converter using Remote Function, and then delete the Remote Function.
13. Reset affected Bank Position on PPCS:
    a. PPCS Functions, Operator Entry, Rod Bank Position Update
    b. Enter **177** for Control Bank D in NEW POSITION.
    c. Click APPLY.
14. Place Control Rod Bank Selector switch to AUTO position.
15. Acknowledge PPCS alarms and ensure all PPCS Displays set to page other than ALARM SUMMARY.

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
N/A	N/A	N/A	N/A

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
Preload	DO-47033-0101	TLA-1 Rod Supervision Alarm	N/A	N/A	OFF	N/A
Preload	DO-47033-0204	TLA-9 Core Exit TC Tilt Alarm	N/A	N/A	OFF	N/A

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
5 & 8.b	RC119	Set RCS, PZR, VCT to Same Boron Concentration	As necessary starting from 1573	N/A
12	RD107	Control Bank D P-A Converter	177	N/A

TURNOVER SHEET

INITIAL CONDITIONS:

1. You are the Reactor Operator.
2. The Control Rod Supervision process on PPCS is NOT functioning.
3. A-CP-46, Abnormal Plant Process Computer System, has been entered and actions required are in progress for the condition.
4. Due to grid perturbations, a load change from 100% to 87% power was completed 30 minutes ago.

INITIATING CUES (IF APPLICABLE):

The Unit Supervisor directs you to complete the actions of A-CP-46 step 4.6.3.

RO-033-JP05C, Record Individual Rod Positions with Control Rod Supervision Program (PPCS) Out of Service, Rev. A

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☐	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8. Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12. Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Review a Gas Decay Tank Discharge Permit**

JPM NUMBER: **SO-119-JP01A** **REV.** **A**

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **1190010102/ Direct Discharge of Radiological Gaseous Waste**

K/A NUMBERS: **2.3.6 RO value 2.1 / SRO value 3.1**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [X] Perform: [ ]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [ ]

Simulator: [**X**] Other: [ ]

Lab: [ ]

Time for Completion: **8** Minutes Time Critical: **No**

Alternate Path / Faulted: **No**

TASK APPLICABILITY: **SRO**

Additional signatures may be added as needed.

Developed by: _____

Instructor Date

Validated by: _____

Validation Instructor Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____

Training Supervisor Date

SO-119-JP01A, Review a Gas Decay Tank Discharge Permit, Rev. A

JPM Number: SO-119-JP01A

JPM Title: Review a Gas Decay Tank Discharge Permit

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

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

JPM BRIEFING/TURNOVER
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.* ***Read to Examinee:*** You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

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

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) 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 Shift Manager.

The plant is in INTERMEDIATE SHUTDOWN.

A Gas Decay Tank Discharge Permit was received from HP.

The RO has completed the PRIOR TO DISCHARGE section of the Gas Decay Tank.

INITIATING CUES (IF APPLICABLE):

Review the Gas Decay Tank Discharge Permit for Authorization to Start.

SO-119-JP01A, Review a Gas Decay Tank Discharge Permit, Rev. A

JPM PERFORMANCE INFORMATION

Required Materials: **SP-32B-116, Rev. X, Attachment D with Top section completed, and PRIOR TO DISCHARGE information complete through Authorization to Start.**

General References: **None**

Task Standards: **Attachment E SP-32B-116, reviewed and determined unacceptable to sign until the second Aux Bldg. Exhaust Fan and ventilation is aligned and operating.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**Refer to Gas Decay Tank Discharge Permit.**
Standard:	**Refer to Gas Decay Tank Discharge Permit.**
Evaluator Note:	**The Gas Decay Tank Purge Discharge Permit (Attachment A SP-32B-116 and supporting information) were provided to the operator with the Initial Cue sheet.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

SO-119-JP01A, Review a Gas Decay Tank Discharge Permit, Rev. A

Performance Step: 2 **Critical: No**	**Review the Upper section of Gas Decay Tank Discharge Permit.**
Standard:	**Blanks and signatures reviewed as complete.**
Evaluator Note:	**This portion of the Permit identifies that the Total Gas Activity of the Gas Decay Tank exceeds the value of 1.0 E-2 μCi/cc.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 3 **Critical: No**	**Review Radiation Monitor information on Gas Decay Tank Discharge Permit.**
Standard:	**Determine data for RM-13 and RM-14 background indication and source check reading are recorded under "Prior to Discharge" section of the Gas Decay Tank Discharge Permit.**
Evaluator Note:	**The radiation monitor values and/or background readings as recorded on the Radiation Monitor plaques may be checked.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

SO-119-JP01A, Review a Gas Decay Tank Discharge Permit, Rev. A

Performance Step: 4 **Critical: Yes**	**Review Aux Bldg. Vent System lineup on Gas Decay Tank Discharge Permit.**
Standard:	**Determine BOTH Aux Bldg Ventilation Trains are required for release (and only one is currently running).**
Evaluator Note:	**Operator may check indication for Aux Bldg. Ventilation System on Control Panel (AUX BLDG VENT). This will show only Train A Aux Bldg Vent and Train A SFP Exhaust in service. For this release, Train B SFB Exhaust and then Train B Aux Bldg Exhaust Fan would need to be started.**
Evaluator Cue:	**If required, Continue review of remaining items on permit.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 5 **Critical: No**	**Check Meteorological Data from PPCS is attached to Gas Decay Tank Discharge Permit.**
Standard:	**Check Operations – Protected, Group 9 printout attached to Gas Decay Tank Discharge Permit.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Performance Step: 6 **Critical: Yes**	**Authorization to Start (Shift Manager) and Time/Date blank on Gas Decay Tank Discharge Permit.**
Standard:	**Authorization to Start (Shift Manager) left unsigned.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Terminating Cues: **When review of Gas Decay Tank Discharge Permit complete, CUE: This completes this JPM.**

Stop Time: _____

SO-119-JP01A, Review a Gas Decay Tank Discharge Permit, Rev. A

SIMULATOR SET UP:

Simulator Setup Instructions:
If necessary, reset the simulator to any Shutdown IC, then perform the following:

NOTE: This JPM is set to be run with setup conditions of JPM A.1R RO-033-JP05C, Perform Independent Verification of SI Valve Lineup.

1. Update Radiation Monitor NORMAL READINGS plaques to current background values.
2. Ensure PPCS is at TOP Level Display page. (MAIN MENU)
3. Ensure only one train of Aux Bldg Vent running. (Train A)

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
N/A	N/A	N/A	N/A

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A

TURNOVER SHEET

INITIAL CONDITIONS:

You are the Shift Manager.

The plant is in INTERMEDIATE SHUTDOWN.

A Gas Decay Tank Discharge Permit was received from HP.

The RO has completed the PRIOR TO DISCHARGE section of the Gas Decay Tank.

INITIATING CUES (IF APPLICABLE):

Review the Gas Decay Tank Discharge Permit for Authorization to Start.

SO-119-JP01A, Review a Gas Decay Tank Discharge Permit, Rev. A
ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)

	JOB PERFORMANCE MEASURE (JPM)

SITE: **KNPP**

TASK TITLE: **Classify Emergency Event - Earthquake**

JPM NUMBER: **SO-119-JP03J** **REV.** **B**

RELATED PRA INFORMATION: **N/A**

TASK NUMBERS: **1190030502**

K/A NUMBERS: **2.4.41 SRO 4.1**

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [ ] Perform: [X]

EVALUATION LOCATION: In-Plant: [ ] Control Room: [X]

Simulator: [X] Other: [ ]

Lab: [ ]

Time for Completion: 15 Minutes Time Critical: YES

Alternate Path / Faulted: NO

TASK APPLICABILITY: SRO

Additional signatures may be added as needed.

Developed by:	**Stephen Johnson**	**10/19/05**
	Instructor	Date
Validated by:	Bill Kirkpatrick	10/19/05
	Validation Instructor (See JPM Validation Checklist, Attachment 1)	Date
Approved by:	Dave Fitzwater	
	Training Supervisor	Date

JPM Number: **SO-119-JP03J**

JPM Title: **Classify Emergency Event - Earthquake**

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

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

JPM BRIEFING/TURNOVER

Add required site specific JPM briefing material here:
i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.

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

Read to Examinee:

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

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

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

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

THIS JPM IS TIME CRITICAL. YOU HAVE 15 MINUTES TO COMPLETE THE TASK.

INITIAL CONDITIONS:

- An accident has occurred at the plant.
- You are the Shift Manager
- The plant had been operating at 100% steady-state power prior to the event.
- The initiating event was an earthquake:
  - SEISMIC TROUBLE (47023-K) alarmed with SER 330 and SER331 actuated.
  - RR159 panel has TRIGGER and OBE lights lit.
  - Reports indicate that movement was felt in all areas of the plant.
  - U of W Milwaukee has confirmed a seismic event located in Lake Michigan approximately 3 miles from Point Beach NPP.

- One minute following the first shock, lockouts were received for the MAT (Generator), RAT and the TAT.
  - The reactor tripped on loss of RxCPs.
  - All required blackout loads for Bus 5 and Bus 6 started.

- Immediately following the trip, indication on R-15, Air Ejector Exhaust Monitor began to rise
  - TLA-15 RMS ABOVE NORMAL went into alarm for PPCS point G00015.
  - The recorder has shown that R-15 indication is currently stabilized at 1.43E+5 cpm.

- Two minutes later a fire alarm was received; **DSL GEN RM IB FIRE**
  - Diesel Generator B was subsequently shutdown, but the fire continues to burn in the area.
  - The Fire Brigade has responded and is currently containing the fire.
  - The call went out to Kewaunee Fire Department to respond.

- At five minutes after the event, Forebay level was noted to rise to 93% (L09075A)
  - At ten minutes after the event and currently Forebay level indicates 40%
  - CW PUMPS LOW LOW LEVEL TRIP (47051-M) and FOREBAY LEVEL LOW (47051-N) SER 278 and SER 279 are in alarm.
  - SW HEADER PRESSURE LOW (47051-P) is actuated with Train A header pressure indicating 75 psig.

- Also at five minutes following the event, SI was manually actuated.
  - Przr level rapidly fell off-scale low
  - Przr pressure dropped
  - Containment pressure began to rise
  - Containment Radiation monitors R-2 and R-7 began a rapid rise.

- Current parameters read:
  - SI injection flow – 340 gpm
  - SW Header A pressure – 75 psig
  - RCS pressure – 700 psig
  - Highest CET reading – 500ºF
  - RVLIS level 100%
  - Containment pressure – 12 psig
  - R-2 – 4.7E+4 mr/hr
  - R-7 – 2.5E+4 mr/hr
  - R-15 – 1.43E+5 cpm

INITIATING CUES (IF APPLICABLE):

- You are to classify the event based on current and historic information.

JPM PERFORMANCE INFORMATION

Required Materials: **Table 2-1 EPIP-AD-02, Rev. AL**

General References: **EPIP-AD-02, Rev. AL**

Task Standards: **The event is classified as a Chart C of EPIP-AD-02.**

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical No**	Refer to EPIP-AD-02, Emergency Class Determination.
Standard:	Refer to EPIP-AD-02.
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Performance Step: 2 **Critical C**	Determine the highest level of Emergency Classification for event.
Standard:	Determine classification is SITE EMERGENCY from Chart C.
Instructor Note	Other classifications include: • ALERT – Chart A(1) • UNUSUAL EVENT – Chart D • UNUSUAL EVENT – Chart E • ALERT – Chart K • ALERT – Chart M
Performance:	**SATISFACTORY** _____ **UNSATISFACTORY** _____
Comments:	_____

Terminating Cues:

Stop Time: _____

SO-119-JP03J Rev. B

TURNOVER SHEET

THIS JPM IS TIME CRITICAL. YOU HAVE 15 MINUTES TO COMPLETE THE TASK.

INITIAL CONDITIONS:

- An accident has occurred at the plant.
- You are the Shift Manager
- The plant had been operating at 100% steady-state power prior to the event.
- The initiating event was an earthquake:
  - SEISMIC TROUBLE (47023-K) alarmed with SER 330 and SER331 actuated.
  - RR159 panel has TRIGGER and OBE lights lit.
  - Reports indicate that movement was felt in all areas of the plant.
  - U of W Milwaukee has confirmed a seismic event located in Lake Michigan approximately 3 miles from Point Beach NPP.
- One minute following the first shock, lockouts were received for the MAT (Generator), RAT and the TAT.
  - The reactor tripped on loss of RxCPs.
  - All required blackout loads for Bus 5 and Bus 6 started.
- Immediately following the trip, indication on R-15, Air Ejector Exhaust Monitor began to rise
  - TLA-15 RMS ABOVE NORMAL went into alarm for PPCS point G00015.
  - The recorder has shown that R-15 indication is currently stabilized at 1.43E+5 cpm.
- Two minutes later a fire alarm was received; **DSL GEN RM IB FIRE**
  - Diesel Generator B was subsequently shutdown, but the fire continues to burn in the area.
  - The Fire Brigade has responded and is currently containing the fire.
  - The call went out to Kewaunee Fire Department to respond.
- At five minutes after the event, Forebay level was noted to rise to 93% (L09075A)
  - At ten minutes after the event and currently Forebay level indicates 40%
  - CW PUMPS LOW LOW LEVEL TRIP (47051-M) and FOREBAY LEVEL LOW (47051-N) SER 278 and SER 279 are in alarm.
  - SW HEADER PRESSURE LOW (47051-P) is actuated with Train A header pressure indicating 75 psig.
- Also at five minutes following the event, SI was manually actuated
  - Przr level rapidly fell off-scale low
  - Przr pressure dropped
  - Containment pressure began to rise
  - Containment Radiation monitors R-2 and R-7 began a rapid rise.
- Current parameters read:
  - SI injection flow – 340 gpm
  - SW Header A pressure – 75 psig
  - RCS pressure – 700 psig
  - Highest CET reading – 500ºF
  - RVLIS level 100%
  - Containment pressure – 12 psig
  - R-2 – 4.7E+4 mr/hr
  - R-7 – 2.5E+4 mr/hr
  - R-15 – 1.43E+5 cpm

INITIATING CUES:

You are to classify the event based on current and historic information.

SO-119-JP03J, Classify Emergency Event - Earthquake, Rev. B

ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS	YES	NO	N/A
1. Are all items on the signature page filled in correctly?	☒	☐	☐
2. Has the JPM been reviewed and validated by SMEs?	☒	☐	☐
3. Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☒
4. Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☒	☐	☐
5. Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☒	☐	☐
6. Has the completion time been established based on validation data or incumbent experience?	☒	☐	☐
7. If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☒
8. Is the Licensee level appropriate for the task being evaluated if required?	☒	☐	☐
9. Is the K/A appropriate to the task and to the licensee level if required?	☒	☐	☐
10. Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☒	☐	☐
11. Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☒
12. Are all references identified, current, accurate, and available to the trainee?	☒	☐	☐
13. Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☒	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

JOB PERFORMANCE MEASURE (JPM)

SITE: **Kewaunee Power Station**

JPM TITLE: **Shift Staffing Evaluation – Reduced Crew Due To Weather**

JPM NUMBER: **SO-119-JP19A** **REV.** **A**

RELATED PRA INFORMATION: **N/A**

TASK NUMBER(S) / TASK TITLE(S): **1190190302 / Apply Technical Specifications During Plant Operations.**
1190060502 / Conduct Shift Relief and Turnover.

K/A NUMBERS: **2.1.4, RO value 2.3 / SRO value 3.4**
2.1.10, RO value 2.7 / SRO value 3.9

APPLICABLE METHOD OF TESTING:

Discussion: [ ] Simulate/walkthrough: [X] Perform: [ ]

EVALUATION LOCATION:

In-Plant:	[ ]	Control Room:	[ ]
Simulator:	[**X**]	Other: Classroom	[X]
Lab:	[ ]		

Time for Completion: **15** Minutes Time Critical: **No**

Alternate Path / Faulted: **No**

TASK APPLICABILITY: **SRO**

Additional signatures may be added as needed.

Developed by: _____
Instructor Date

Validated by: _____
Validation Instructor Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

SO-119-JP19A, Shift Staffing Evaluation – Reduced Crew Due To Weather, Rev. A

JPM Number: SO-119-JP19A

JPM Title: Shift Staffing Evaluation – Reduced Crew Due To Weather

Examinee: _____ **Evaluator:** _____

Job Title: _____ **Date:** _____

Start Time _____ **Finish Time** _____

PERFORMANCE RESULTS: **SAT:** ☐ **UNSAT:** ☐

COMMENTS/FEEDBACK: (Comments shall be made for any steps graded unsatisfactory).

EVALUATOR'S SIGNATURE: _____

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

SO-119-JP19A, Shift Staffing Evaluation – Reduced Crew Due To Weather, Rev. A

JPM BRIEFING/TURNOVER
Add required site specific JPM briefing material here: *i.e., This section is read once for the entire package of JPMs. It is not required to review this section for every JPM being performed in the package. The initial conditions and initiating cue(s)/tasks to be performed should be read and then provided to the examinee.* *If this JPM is performed on the simulator, the JPM administrator should only give cues that are not indicated on the simulator. If simulator indication is sufficient to indicate the completion of a step, the JPM administrator should not have to give a cue to the trainee to continue the evolution.* ***Read to Examinee:*** You may use any approved reference materials normally available including logs. Make all written reports, oral reports, and log entries as if the evolution is actually being performed. EOP Immediate Actions are required to be performed from memory. After completing immediate action steps without using the procedure, you may then use any approved reference materials.

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

Note to Instructor:

1. **Human Performance attributes should be visible. The student may use obvious STAR and or request Peer Checks.**
2. **If peer checks are requested, the Instructor should reply – "Peer Check Acknowledged". The instructor will acknowledge use of the human performance tool and not validate the proper component manipulation.**
   This should be explained to the student at this time.

I will explain the initial conditions, which step(s) 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 Shift Manager.

The plant is operating at 100% power.

Turnover has been completed, but the oncoming Unit Supervisor has not shown up.

The on-duty shift staffing was at the minimum staffing requirement.

The one hour after turnover, the Unit Supervisor (held over) becomes incapacitated and CANNOT perform his duties.

Callout indicates that the replacement individual CANNOT make it to the site for 3 hours due to a severe snowstorm in the area.

INITIATING CUES (IF APPLICABLE):

How and why does this affect the plant?

SO-119-JP19A, Shift Staffing Evaluation – Reduced Crew Due To Weather, Rev. A

JPM PERFORMANCE INFORMATION

Required Materials: KPS Technical Specification, Section 6.2.b, Amendment No. 162
NAD-03.30, Rev. C, Sect. 5.2

General References: None

Task Standards: Determine plant operation may continue with less than on-duty shift complement for greater than 2 hours due to severe weather.

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e. the examinee looks or asks for the indication).

NOTE: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step shall result in failure of this JPM.

Performance Step: 1 **Critical: No**	**Refer to Technical Specification, Section 6.2.**
Standard:	**Refer to Technical Specification 6.2.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: Yes**	**Review 6.2.b. 1 and 6.2.b.2. – One shift Manager (SRO) is required and an additional SRO is required when above COLD SHUTDOWN.**
Standard:	**Determine minimum Shift Complement is not met.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

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Performance Step: 3 **Critical: Yes**	**Review 6.2.3. – In the event one of the shift members becomes incapacitated due to illness or injury… reactor operations may continue with reduced complement until replacement arrives. In all but severe weather conditions, a replacement is required within 2 hours.**
Standard:	**Determine continued operation is allowed over 2 hours since severe weather conditions exist.**
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	

Terminating Cues: **When review of shift complement requirements is complete and operator identifies the condition for operation, CUE: This completes this JPM.**

Stop Time: _____

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SIMULATOR SET UP:

Simulator Setup Instructions:

1. None

EVENT NUMBER	EVENT FILE NAME	EVENT LOGIC STATEMENT	EVENT WORD DESCRIPTION
N/A	N/A	N/A	N/A

SIMULATOR MALFUNCTIONS:

TIME	MALFUNCTION No.	MALFUNCTION TITLE	ET	DELAY	f. SERV	RAMP	I. SEV.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR OVERRIDES;

TIME	OVERRIDE ID.	OVERRIDE DESCRIPTION	ET	DELAY	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A	N/A	N/A

SIMULATOR REMOTE FUNCTIONS:

TIME	REMOTE FUNCTION NO.	REMOTE FUNCTION TITLE	VALUE	RAMP
N/A	N/A	N/A	N/A	N/A

TURNOVER SHEET

INITIAL CONDITIONS:

You are the Shift Manager.

The plant is operating at 100% power.

Turnover has been completed, but the oncoming Unit Supervisor has not shown up.

The on-duty shift staffing was at the minimum staffing requirement.

The one hour after turnover, the Unit Supervisor (held over) becomes incapacitated and CANNOT perform his duties.

Callout indicates that the replacement individual CANNOT make it to the site for 3 hours due to a severe snowstorm in the area.

INITIATING CUES (IF APPLICABLE):

How and why does this affect the plant?

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ATTACHMENT 1

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

ALL STEPS IN THIS CHECKLIST ARE TO BE PERFORMED UPON INITIAL VALIDATION AND PRIOR TO USE.

REVIEW STATEMENTS		YES	NO	N/A
1.	Are all items on the signature page filled in correctly?	☐	☐	☐
2.	Has the JPM been reviewed and validated by SMEs?	☐	☐	☐
3.	Can the required conditions for the JPM be appropriately established in the simulator if required?	☐	☐	☐
4.	Does the performance steps accurately reflect trainee's actions in accordance with plant procedures?	☐	☐	☐
5.	Is the standard for each performance item specific as to what controls, indications and ranges are required to evaluate if the trainee properly performed the step?	☐	☐	☐
6.	Has the completion time been established based on validation data or incumbent experience?	☐	☐	☐
7.	If the task is time critical, is the time critical portion based upon actual task performance requirements?	☐	☐	☐
8.	Is the Licensee level appropriate for the task being evaluated if required?	☐	☐	☐
9.	Is the K/A appropriate to the task and to the licensee level if required?	☐	☐	☐
10.	Have the performance steps been identified and typed (Critical / Sequence / Time Critical) appropriately?	☐	☐	☐
11.	Have all special tools and equipment needed to perform the task been identified and made available to the trainee?	☐	☐	☐
12.	Are all references identified, current, accurate, and available to the trainee?	☐	☐	☐
13.	Have all required cues (as anticipated) been identified for the evaluator to assist task completion?	☐	☐	☐

All questions/statements must be answered "YES" or the JPM is not valid for use. If all questions/statements are answered "YES" then the JPM is considered valid and can be performed as written. The individual(s) performing the validation shall sign and date this form.

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

_____ _____
Validation Personnel /Date Validation Personnel/Date

Historical Record: (Optional)