RO Reference Handouts
[Includes Steam Tables]

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

TABLE A (PG 1 OF 1)

DETERMINATION OF EFFECTIVE RCS COOLING METHODS

1 REFER TO OU-AP-104 ATTACHMENT 1, SHUTDOWN SAFETY EQUIPMENT STATUS CHECKLIST FOR ESTABLISHING PRIORITIES:

COOLING METHOD	MODE 4	MODE 5			MODE 6		
		RCS is intact[5]	RCS not intact[5]	RCS is adverse[3]	REFUEL FLOODED	ALL OTHER STATUS	RCS is adverse[3]
Steam SGs ATTACHMENT B (Page 27)	**4 yes**	**4 yes**	N/A	N/A	N/A	N/A	N/A
Bleed & Feed ATTACHMENT C (Page 35)	yes	yes	yes	yes	yes	yes	yes
Cavity-Pool ATTACHMENT D (Page 58)	N/A	N/A	N/A	N/A	yes	N/A	N/A
SI Hot Leg ATTACHMENT E (Page 61)	N/A	N/A	yes	**1 YES**	N/A	yes	**1 YES**
Accum Inject ATTACHMENT F (Page 67)	yes	yes	yes	yes	yes	yes	yes
Gravity Feed ATTACHMENT G (Page 71)	N/A	N/A	**2 yes**	N/A	N/A	**2 yes**	N/A

1. SI pump hot leg injection must be initiated as the primary recovery method. Other methods may be used in conjunction with ATTACHMENT E but not in place of it.
2. May be effective if RCS bleed path is at the hot leg elevation or through the reactor head conoseals.
3. The RCS is ADVERSE if ALL of the following exist:
   a. The RCS has a cold leg opening AND
   b. The reactor vessel head is NOT removed AND
   c. ALL RCS loops are blocked (loop stops closed or hot leg nozzle dams are installed)
4. Steaming Intact/Non-isolated SGs is the preferred heat removal method if the RCS is intact AND loops are NOT isolated.
5. The RCS is intact if PZR PORV(s), 1RY045, or reactor head vents are open but can be isolated.

-END-

Exelon Generation **BRAIDWOOD STATION**	PROCEDURE NO. **BwOP DG-11T2**	
	UNIT NO.	REVISION NO. **31**

PROCEDURE TITLE:

DIESEL GENERATOR OPERATING LOG

Rev	Summary	IR# / EC# (if applicable)
31	Added in the comments section “List any oil pads used during the run”.	PCRA 2454995-05
30	Added clarifying information to the caution on page 3 regarding cylinder differential temperatures.	PCRA 1624791-03
29	Added a note for use of alternate indication of crankcase pressure.	PCRA 1505775-03
28	Changed Turbo Inlet temp trip value from 1100°F to 1200°F in accordance with the vendor manual.	Crew Request
27	Added notes and steps to provide monitoring guidance during extended Diesel Generator runs.	PCRA 1288634-41
26	Replaced _VD01CA/B Running Check and made a separate check for fan D/P reading to reduce confusion.	PCRA 1230954-40 Crew Request
25	Replace _VD01CA/B Running Check with D/P Value from _PDI-VD044/45 to Allow Performance Trending	PCRA 1300135-02
24	Transposition error. Change Gen Stator #1 Temp Range to 160-220.	PCRA 01258952-02

DIESEL GENERATOR OPERATING LOG

Diesel Generator: _____
Date: _____
Diesel Generator Runtime prior to Start: _____

Operator: _____

NOTE

The "Expected Range" values listed are divided into two categories.

Parameters annotated with a (**) are considered seasonal or load dependent, and apply to an engine operating at 4950 - 5500 KW at constant load/speed for approximately one hour. For any (**) parameter outside the expected range at constant load/speed conditions, circle the parameter(s), NOTIFY the Shift Supervisor or System Engineering, and document in the Comments section at the end of this logsheet.

Parameters not marked with a (**) apply at all loads. Circle the parameter(s), NOTIFY the Shift Supervisor or System Engineering, and document in the Comments section at the end of this logsheet for any of these parameters outside the expected range.

Readings are to be taken 10 minutes after each power change if the power level will be held for at least 30 minutes during ramp up, every 30 minutes at constant load, and during ramp down if at same power level for greater than 30 minutes. If Engine is intended to run unloaded for an extended period of time, readings should be taken every 30 minutes.

During an extended Diesel run due to an emergency, the monitoring frequency may be relaxed to once per hour for the first 12 hours and every 4 hours thereafter (monitor more often if abnormal trends develop):

The set of parameters may be reduced to:

- Engine load (kW)
- Output frequency and Voltage
- Lubricating oil pressure and temperature
- Jacket water pressure, temperature and level
- Engine crankcase oil level

DIESEL GENERATOR OPERATING LOG

NOTE

_PI-DG030A/B is the normal indication for crankcase pressure. IF _PI-DG030A/B is reading outside of the normal -3" to +3" THEN _PI-DG131A/B (manometer) should be used as an alternate indication, and an IR written to document the readings being out of the expected range on _PI-DG030A/B.

		Expected Range	1	2	3	4	5	6	7	8
	Time									
	Operator Initials									
	Load (KW)									
PRESSURES	Jacket Water	6.5-12.0 PSIG								
	Fuel Oil	30-45 PSIG								
	Start Air Left Bank***	210-235 PSIG								
	Start Air Right Bank***	210-235 PSIG								
	Engine Lube Oil	45-60 PSIG								
	Turbo Lube Oil	33-40 PSIG								
	RB-Manifold**	30-45" HG								
	LB-Manifold**	30-45" HG								
	Turbo Dsch**	30-45" HG								
	Turbo Inlet**	N/A H_20								
	Crankcase**	-3" - +3"								

** Season/Load Dependent.

*** Refer to BwOP DG-1, Attachment A for the Expected Range for the Starting Air Receiver Pressures.

DIESEL GENERATOR OPERATING LOG

CAUTION

There are three cylinder exhaust temperature conditions that must be monitored at all load conditions.
If any of the cylinder exhaust temperature parameters are exceeded, notify the System Engineer and Mechanical Maintenance immediately. Also, immediately notify the Shift Manager for consideration of a Diesel Generator shutdown if it is NOT needed for emergency conditions.

1. MAXIMUM cylinder exhaust temperature is 1100°F. Temperature over this limit may indicate serious material overheating.

2. Differential temperature between any 2 cylinder exhaust temperatures must be < 200°F during full load, stable conditions. Differential temperatures over this limit may indicate serious cylinder imbalance. Cylinder-to-cylinder variations in exhaust temperature in excess of 200°F should be documented in an Issue Report as an abnormal condition and assessed by Engineering but the variation alone would not impact Engine Operability.

3. A DECREASE in ANY cylinder exhaust temperature of 160°F or more may indicate a valve train or fuel delivery failure.

4. High turbo and cylinder exhaust temperatures may be indicative of a blocked Diesel Generator exhaust stack. The Unit Supervisor should be notified of abnormal temperatures and an inspection made of Diesel Generator exhaust piping for blockage. If blockage is found, consideration should be given to shutdown of the Diesel Generator and manually rupture the rupture disk, then restart the diesel if needed.

If DG must run and a valve train or fuel delivery failure is suspected, then:

1. Monitor crankcase oil level (which will increase from fuel oil leaking by the cylinder) until the fuel rack is disconnected.

2. Immediately notify Mechanical Maintenance to disconnect fuel rack on the suspect cylinder.

DIESEL GENERATOR OPERATING LOG

CAUTION

Stator winding temperatures should not be greater than 160°F above ambient (i.e. room) temperature. Notify System Engineering immediately if this condition exists. Also, immediately notify the Shift Manager for consideration of a Diesel Generator shutdown if it is NOT needed for emergency conditions.

NOTE

Jacket water outlet temperature should normally be 0°F - 10°F higher than engine lube oil outlet temperature. If this is not the case, DETERMINE whether jacket water temperature is high or low at Local Control Panel, _PL07J/_PL08J.

If high, THROTTLE CLOSE _DG5059A/B, Jacket Water Cooler Bypass Valve.

If low, THROTTLE OPEN _DG5059A/B, Jacket Water Cooler Bypass Valve.

Document Valve Position changes in Comments Section.

If engine lube oil outlet temperature should exceed jacket water outlet temperature by more than 15°F with the engine running, notify the NSO and consider momentarily isolating _SX169A/B while monitoring jacket water outlet temperature.

DIESEL GENERATOR OPERATING LOG

The following temperature readings are taken from _UR-710A/B
_VR DG710 Recorder:

Channel	Parameter	Normal Value	1	2	3	4	5	6	7	8
1	Lube Oil Eng In	100 to 180 degrees								
2	Lube Oil Eng Out	100 to 180 degrees								
3	Jacket Wtr In	100 to 180 degrees								
4	Jacket Wtr Out	100 to 180 degrees								
5	Air Manifold Left	70 to 110 degrees								
6	Air Manifold Rt	70 to 110 degrees								
7	Gen Stator # 1	160 to 220 degrees								
8	Gen Stator # 2	160 to 220 degrees								
9	Gen Stator # 3	160 to 220 degrees								
10	Gen Stator # 4	160 to 220 degrees								
11	Gen Stator # 5	160 to 220 degrees								
12	Gen Stator # 6	160 to 220 degrees								
13	Lube Oil H2O Out	120 to 140 degrees								
14	Jkt H2O Cool Out	N/A								
15	Aftclr H2O Left	90 to 120 degrees								
16	Aftclr Out Right	90 to 120 degrees								
18	Cylinder 1 Right	600 to 1050 degrees								
19	Cylinder 2 Right	600 to 1050 degrees								
20	Cylinder 3 Right	600 to 1050 degrees								
21	Cylinder 4 Right	600 to 1050 degrees								
22	Cylinder 5 Right	600 to 1050 degrees								
23	Cylinder 6 Right	600 to 1050 degrees								
24	Cylinder 7 Right	600 to 1050 degrees								
25	Cylinder 8 Right	600 to 1050 degrees								

DIESEL GENERATOR OPERATING LOG

Channel	Parameter	Normal Value	1	2	3	4	5	6	7	8
26	Cylinder 9 Right	600 to 1050 degrees								
27	Cylinder 10 Right	600 to 1050 degrees								
28	Cylinder 1 Left	600 to 1050 degrees								
29	Cylinder 2 Left	600 to 1050 degrees								
30	Cylinder 3 Left	600 to 1050 degrees								
31	Cylinder 4 Left	600 to 1050 degrees								
32	Cylinder 5 Left	600 to 1050 degrees								
33	Cylinder 6 Left	600 to 1050 degrees								
34	Cylinder 7 Left	600 to 1050 degrees								
35	Cylinder 8 Left	600 to 1050 degrees								
36	Cylinder 9 Left	600 to 1050 degrees								
37	Cylinder 10 Left	600 to 1050 degrees								
N/A	High Cylinder Temp**	600°F-1050°F								
N/A	Low Cylinder Temp**	600°F-1050°F								
N/A	Cylinder ΔT (High - Low)	< 200°F ***								
38	Turbo In	600 to 1200 degrees								
39	Turbo Out	600 to 1100 degrees								
47	Right Receiver	200 to 240 psig								
48	Left Receiver	200 to 240 psig								

DIESEL GENERATOR OPERATING LOG

		Expected Range	1	2	3	4	5	6	7	8
	ENGINE SPEED	590-610 RPM								
AMPS	A PHASE (1)**	640-850 AMPS								
	B PHASE (2)**	640-850 AMPS								
	C PHASE (3)**	640-850 AMPS								
VOLTS	AB (1-2)	4100-4400 V								
	BC (2-3)	4100-4400 V								
	CA (3-1)	4100-4400 V								
	WATTS	0-6050 KW								
	VARS	≤1000 KVARS								
	FREQUENCY	59.5-60.5 HZ								

** Load Dependent

DIESEL GENERATOR OPERATING LOG

		Expected Range	1	2	3	4	5	6	7	8
ON ENGINE	PDS-DG083, FUEL OIL STRAINER DP	0-4.0 DIFF.								
	PDS-DG084, LUBE OIL FILTER DP	1.0-6.0 DIFF.								
	PDS-DG086, FUEL OIL FILTER DP	0-4.0 DIFF.								
	PI-DG117, JACKET WATER PRESSURE	6.5-12.0 PSIG								
	TI-DG118, JACKET WATER COOLER OUTLET TEMP **	45°F-100°F								
	TI-DG119, LUBE OIL COOLER WATER INLET TEMP **	65°F-120°F								
	TI-DG120, LUBE OIL COOLER WATER OUTLET TEMP **	115°F-140°F								
	TI-DG121, JACKET WATER COOLER INLET TEMP **	155°F-180°F								
	TI-DG122, JACKET WATER ENGINE OUTLET TEMP **	150°F-180°F								
	PI-DG123, ENGINE LUBE OIL PRESSURE	45-60 PSIG								
	PI-DG124, TURBO LUBE OIL PRESSURE	33-40 PSIG								
	TI-DG127, LUBE OIL ENGINE INLET TEMP**	110°F-155°F								
	TI-DG128, LUBE OIL ENGINE OUTLET TEMP **	150°F-175°F								
	TI-DG129, LUBE OIL COOLER OUTLET TEMP**	115°F-145°F								
	PI-DG130, FUEL OIL PRESSURE	27-40 PSIG								
	TI-DG132, RIGHT BANK AIR INTAKE TEMP **	80°F-110°F								
	TI-DG133, LEFT BANK AIR INTAKE TEMP **	80°F-110°F								
	PDI-DG134,TURBO LUBE OIL FILTER DP	1.0-8.0 DIFF.								

** Season/Load Dependent

DIESEL GENERATOR OPERATING LOG

	Expected Range	1	2	3	4	5	6	7	8
J.W. STANDPIPE LEVEL (YES OR NO)	YES = LEVEL VISIBLE IN SIGHTGLASS								
OVERSPEED GOVERNOR OIL LEVEL (YES OR NO)	YES = LEVEL VISIBLE IN SIGHTGLASS (NOTE 2)								
MAIN GOVERNOR OIL LEVEL (YES OR NO)	YES = LEVEL VISIBLE IN SIGHTGLASS (NOTE 2)								
CRANKCASE OIL LEVEL (nearest 1/4")	± 1" FROM BLUELINE								
DAY TANK LEVEL (TECH SPEC VALUE)	> 90% (U1) > 90% (U2)								
_VD01CA/B DG Rm Vent Supply Fan, RUNNING as required	YES = FAN RUNNING AND NOT TRIPPED								
_PDI-VD044/045, DG Rm Vent Supply Fan Differential Pressure	Variable								

NOTE 2: Visible in sightglass with engine running.

After Diesel Generator is shutdown, RECORD the following:

Generator Hours Reading (_PL07/08J): _____

DIESEL GENERATOR OPERATING LOG

NOTE

Specified manual trip parameters apply only during engine testing. If the diesel generator is monitored during plant emergency conditions, notify the unit NSO of abnormal conditions.

Parameter	Trip Value
Jacket Water Pressure	6 psig
Fuel Oil Pressure	0 psig
Engine Lube Oil Pressure	30 psig
Turbo Lube Oil Pressure	30 psig
Cylinder Temperature	1100°F
Turbo Inlet Temperature	1200°F
Turbo Outlet Temperature	1100°F
Lube Oil Outlet Temperature	185°F
Jacket Water Outlet Temperature	205°F
Air Manifold Temperature	160°F
Crankcase Overpressure	6" H_2O
Lube Oil Filter ΔP (PDS-DG084)	An increase of 2 psid or greater during the course of the run.

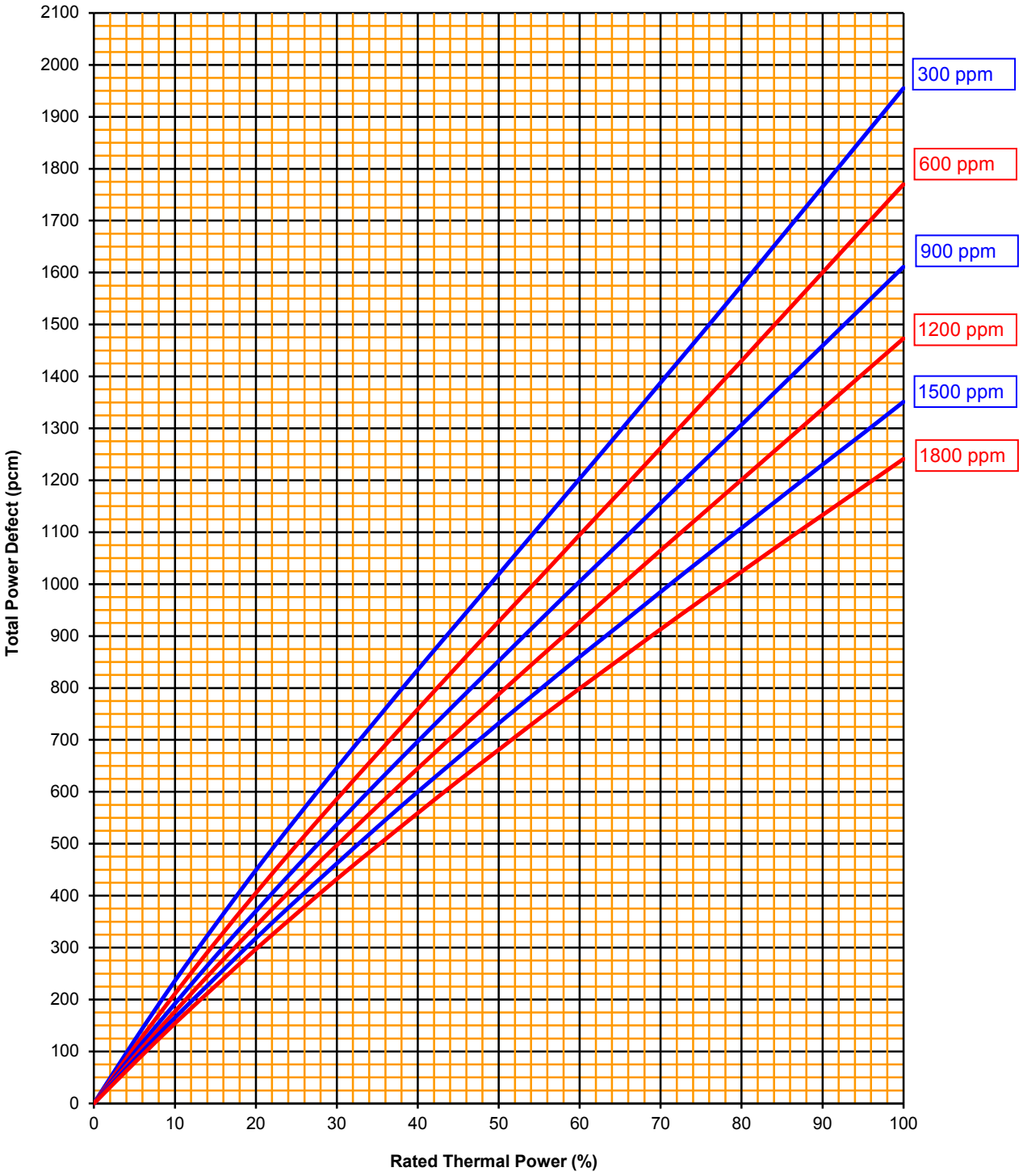
Comments: (New WRs written, IR written, Circled Out of Expected Range Readings, Questions on trends, List any oil pads used during the run, etc.)	Operator Initials	Sys Eng Review/Feedback (Performed by _____/_____)

Forward form to System Engineer.

(Final)

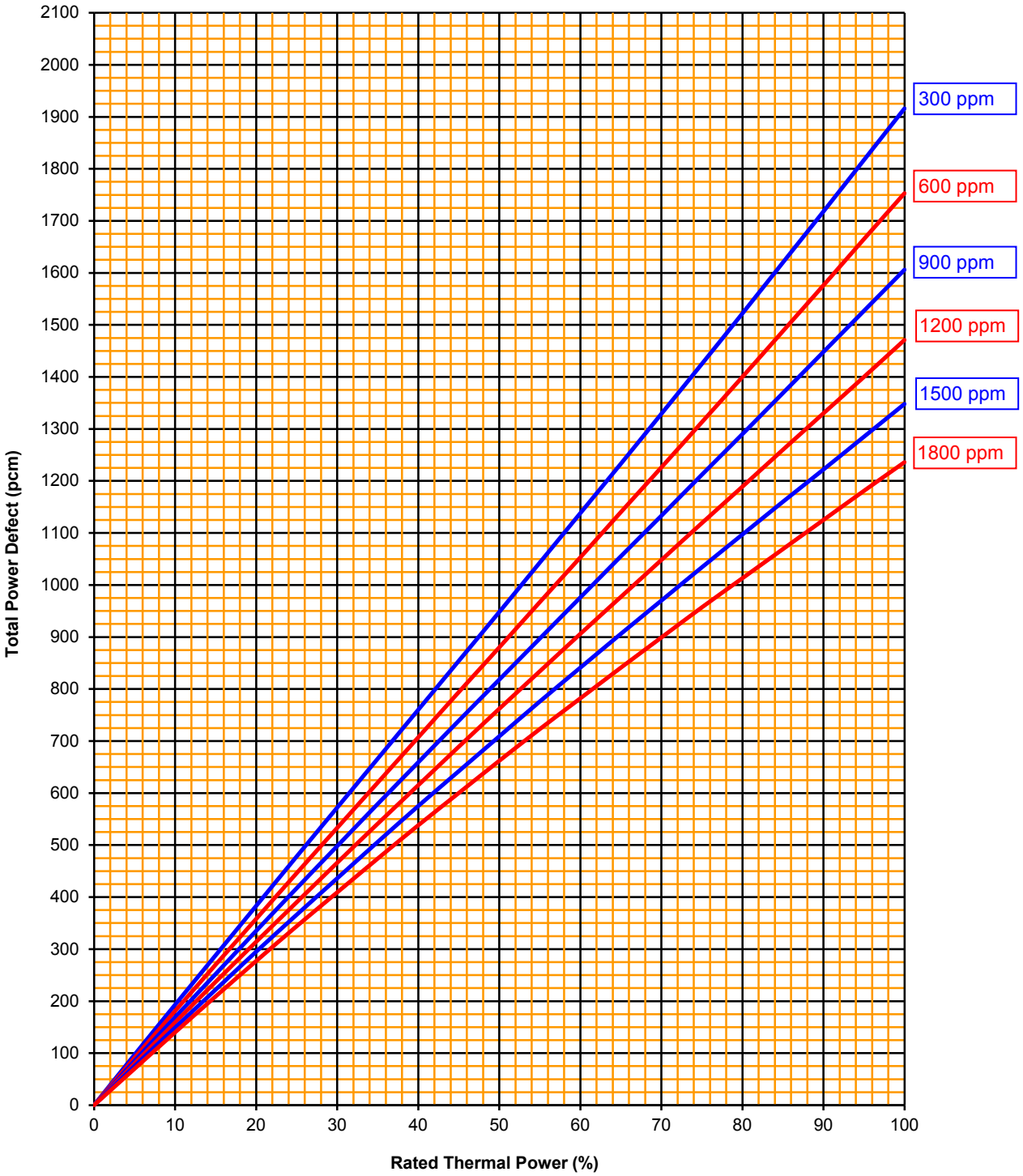
Braidwood Unit 1 Cycle 20

BOL Total Power Defect vs. Power Level
Burnup = 79.5 EFPH, Range = 0.0 - 1630.6 EFPH



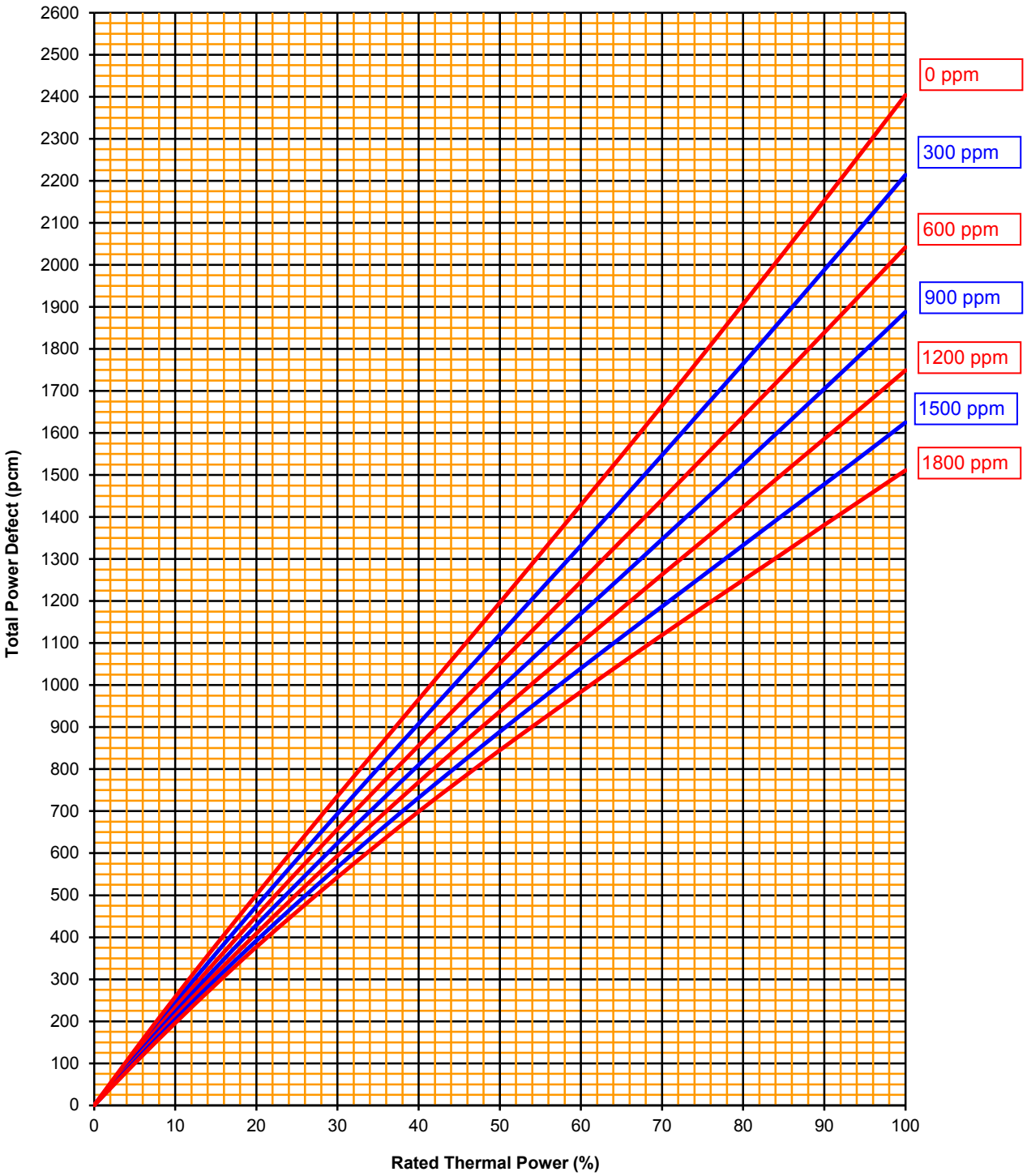
Braidwood Unit 1 Cycle 20

MRDS Total Power Defect vs. Power Level
Burnup = 3181.6 EFPH, Range = 1630.6 - 4772.4 EFPH



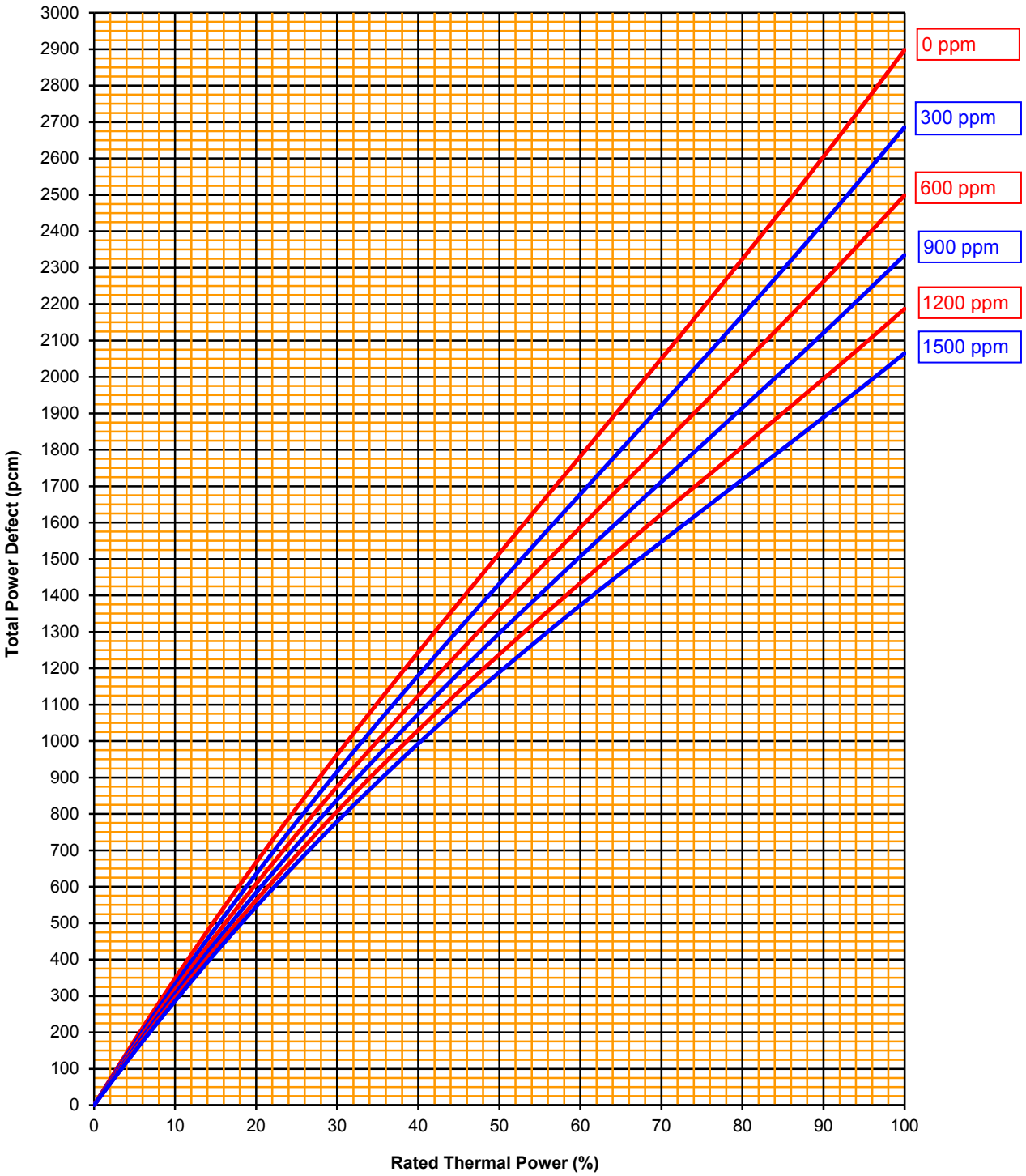
Braidwood Unit 1 Cycle 20

MOL Total Power Defect vs. Power Level
Burnup = 6363.1 EFPH, Range = 4772.4 - 9271.1 EFPH



Braidwood Unit 1 Cycle 20

EOL Total Power Defect vs. Power Level
Burnup = 12179.0 EFPH, Range = 9271.1 EFPH - EOL



SRO Reference Handouts

AAR
ODCM RADIOACTIVE EFFLUENT TECHNICAL STANDARDS
INSTRUMENTATION - GASEOUS EFFLUENT MONITORING
RETS OPERABILITY REQUIREMENT 12.2.2.A

IMMEDIATE **SPECIAL REPORT**

A. NOTIFICATION

Time/Date: _____ By: _____ Title: _____

Present Mode: _____ Applicable Mode(s): AT ALL TIMES

Initiating condition(s): _____
_____
_____
_____

_____ _____
Name of Shift Manager Notified Time/Date

Was an IR Written?	Related Work Request(s)		Related Clearance Orders	
☐ Yes ☐ No	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

B. ACTIONS

1. If conditions exist which may require Emergency Plan initiation, NOTIFY the Emergency Director for further evaluation.

2. COMPLETE, as required, the applicable AAR Action Chart(s), checking all charts to verify the most restrictive charts are followed (REFER to ODCM RETS Table 12.2-3).

3. Review, with the appropriate Unit NSO, the applicable Action Chart(s) and Attachment(s) (if any) used to address or satisfy the affected LCO or Administrative Action Requirement.

SRO: _____ _____

UNIT NSO: _____ _____
Time/Date Initials

AAR INDEX
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

> SIGN the applicable Action Chart(s) and Attachment(s) (if any) used to address or satisfy the affected Administrative Action Requirement. Multiple Action Charts may be selected if the actions apply to a single event. If more than one Action Chart is applicable, ENSURE the requirements of EACH are satisfied, exercising caution to ensure the time requirements of the more conservative chart are satisfied.

> All Action Charts and Attachments applicable to the event must be included in the AAR package. Unused Action Charts and Attachments may be discarded.

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION GASEOUS EFFLUENT MONITORING

ANY GASEOUS EFFLUENT MONITORING SYSTEM

START

_____

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.1	**Radioactive Gaseous Effluent Monitoring instrumentation channel Alarm/Trip setpoint less conservative than required.**

*** IMMEDIATELY** SUSPEND the release of radioactive gaseous effluents monitored by the affected channel.

_____ _____
TIME/DATE SRO

OR

*** IMMEDIATELY** DECLARE the channel inoperable and OBSERVE the applicable requirements of ODCM RETS Action Requirement 12.2.2.A.2 (Subsequent Action Charts of this procedure).

_____ _____
TIME/DATE SRO

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

U-1 PLANT VENT MONITORING SYSTEM

ODCM RETS ACTION #s 12.2.2.A.2 #36, 39 and 40	**1RE-PR028A, Particulate Sampler (1PA228)** **1RE-PR028B, Low Rng Noble Gas (1PB128)** **1RE-PR028C, Iodine Sampler (1PC328)** **1RE-PR028D, Hi Rng Noble Gas (1PB428)** **1FT-PR165 the 1PR28J sampler flow** **ANY INOPERABLE**

START

Notification (Time and Date from Page 1)

SUSPEND radioactive effluent releases via this pathway.

TIME/DATE SRO

OR

AND

When effluent releases are occurring via this pathway, Noble Gas grab samples are required once per 12 hours and analyzed within 24 hours (LOG in Attachment D).

TIME/DATE R.P. SUPERVISOR TIME/DATE SRO

AND

When effluent releases are occurring via this pathway, samples must be continuously collected with auxiliary sampling equipment as required in ODCM RETS Table 12.4-1.

TIME/DATE R.P. SUPERVISOR TIME/DATE SRO

When effluent releases are occurring via this pathway, the sample flowrate must be estimated every 4 hours (LOG in Attachment B).

TIME/DATE R.P. SUPERVISOR TIME/DATE SRO

RESTORE the monitor within 30 days.

TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

TIME/DATE SRO

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

U-1 PLANT VENT MONITORING SYSTEM

START

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.2 #36	**EFFLUENT Flow Rate measuring Device LOOP VA019 inoperable (Note 1)**

NOTE
Entry into 1BwOL TRM 3.3.i for 1PR30J is NOT required when the VA019 transmitter is declared INOPERABLE. The radiation monitor will automatically default to the spec condition for stack flowrate.

NOTE
The 1/2PR30J, Wide Range Gas Monitors (WRGMs) are the normal backups to the 1/2PR28J, Aux. Bldg. Vent Stack Effluent Rad Monitors.

OR

* **SUSPEND** radioactive effluent releases via this pathway.

_____ _____
TIME/DATE SRO

OR

When effluent releases are occurring via this pathway, the flow rate must be estimated every 4 hours (LOG in Attachment C).

_____ _____
TIME/DATE SRO

AND

RESTORE the monitor within 30 days.

_____ _____
TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

_____ _____
TIME/DATE SRO

Note 1: The tolerance of the VA019 Flow Loop is 15,000 SCFM (5% of 300,000 SCFM). Therefore, if actual flow is less than 15,000 SCFM, the VA019 indication may be 0 SCFM. The loop is still operable.

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

U-2 PLANT VENT MONITORING SYSTEM

ODCM RETS ACTION #s 12.2.2.A.2 #36, 39 and 40	**2RE-PR028A, Particulate Sampler (2PA228)** **2RE-PR028B, Low Rng Noble Gas (2PB128)** **2RE-PR028C, Iodine Sampler (2PC328)** **2RE-PR028D, Hi Rng Noble Gas (2PB428)** **2FT-PR165 the 2PR28J sampler flow** **ANY INOPERABLE**

START

Notification (Time and Date from Page 1)

OR

SUSPEND radioactive effluent releases via this pathway.

TIME/DATE SRO

AND

When effluent releases are occurring via this pathway, Noble Gas grab samples are required once per 12 hours and analyzed within 24 hours (LOG in Attachment D).

TIME/DATE R.P. SUPERVISOR TIME/DATE SRO

AND

When effluent releases are occurring via this pathway, samples must be continuously collected with auxiliary sampling equipment as required in ODCM RETS Table 12.4-1.

TIME/DATE R.P. SUPERVISOR TIME/DATE SRO

When effluent releases are occurring via this pathway, the sample flowrate must be estimated every 4 hours (LOG in Attachment B).

TIME/DATE SRO

OR

RESTORE the monitor within 30 days.

TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

TIME/DATE SRO

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

U-2 PLANT VENT MONITORING SYSTEM

START

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.2 #36	**EFFLUENT Flow Rate measuring Device LOOP VA020 inoperable (Note 1)**

NOTE
Entry into 2BwOL TRM 3.3.i for 2PR30J is NOT required when the VA020 transmitter is declared INOPERABLE. The radiation monitor will automatically default to the spec condition for stack flowrate.

NOTE
The 1/2PR30J, Wide Range Gas Monitors (WRGMs) are the normal backups to the 1/2PR28J, Aux. Bldg. Vent Stack Effluent Rad Monitors.

AND

OR

* **SUSPEND** radioactive effluent releases via this pathway.

_____ _____
TIME/DATE SRO

OR

When effluent releases are occurring via this pathway, the flow rate must be estimated every 4 hours (LOG in Attachment C).

_____ _____
TIME/DATE SRO

AND

OR

RESTORE the monitor within 30 days.

_____ _____
TIME/DATE SRO

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

_____ _____
TIME/DATE SRO

Note 1: The tolerance of the VA020 Flow Loop is 15,000 SCFM (5% of 300,000 SCFM). Therefore, if actual flow is less than 15,000 SCFM, the VA020 indication may be 0 SCFM. The loop is still operable.

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

GAS DECAY TANK SYSTEM

START

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.2 #35	**Noble Gas Activity monitors 0RE-PR002A (RM-11 0PA202) AND/OR 0RE-PR002B (RM-11 0PB102) inoperable**

*** SUSPEND** release of radioactive effluents via this pathway.

_____ _____
TIME/DATE SRO

OR

TERMINATE RELEASES at 14 days (Effluent releases may continue via this pathway for up to 14 days).

_____ _____
TIME/DATE SRO

AND

Prior to initiating a release, the following must be performed:
1) Two independent samples analyzed, and,
2) Two technically qualified Facility Staff members independently verify valving and release rate calculations.

_____ _____
TIME/DATE CHEM SUPERVISOR

_____ _____ _____ _____
TIME/DATE R.P. SUPERVISOR TIME/DATE SRO

AND

RESTORE the monitor within 14 days.

_____ _____
TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

_____ _____
TIME/DATE SRO

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

U-1 CONTAINMENT PURGE SYSTEM

START

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.2 #37	**Noble Gas Activity monitor 1RE-PR001B inoperable (RM-11 1PB101)**

*** SUSPEND** radioactive effluent releases via this pathway.

_____ _____
TIME/DATE SRO

OR

VERIFY real time monitoring of radioactive effluents released via this pathway.

_____ _____
TIME/DATE SRO

AND

RESTORE the monitor within 7 days.

_____ _____
TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

_____ _____
TIME/DATE SRO

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

U-1 CONTAINMENT PURGE SYSTEM

START

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.2 #40	**IODINE Sampler 1RE-PR001C inoperable (RM-11 1PC301)**

*** SUSPEND** radioactive effluent releases via this pathway.

_____ _____
TIME/DATE SRO

OR

When effluent releases are occurring via this pathway, samples must be continuously collected with auxiliary sampling equipment as required in ODCM RETS Table 12.4-1.

_____ _____ _____ _____
TIME/DATE R.P. SUPERVISOR TIME/DATE SRO

AND

RESTORE the monitor within 30 days.

_____ _____
TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

_____ _____
TIME/DATE SRO

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

U-1 CONTAINMENT PURGE SYSTEM

START

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.2 #40	**PARTICULATE Sampler 1RE-PR001A inoperable (RM-11 1PA201)**

*** SUSPEND** radioactive effluent releases via this pathway.

_____ _____
TIME/DATE SRO

OR

When effluent releases are occurring via this pathway, samples must be continuously collected with auxiliary sampling equipment as required in ODCM RETS Table 12.4-1.

_____ _____ _____ _____
TIME/DATE R.P. SUPERVISOR TIME/DATE SRO

AND

RESTORE the monitor within 30 days.

_____ _____
TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

_____ _____
TIME/DATE SRO

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

U-2 CONTAINMENT PURGE SYSTEM

START

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.2 #37	**Noble Gas Activity monitor 2RE-PR001B inoperable (RM-11 2PB101)**

*** SUSPEND** radioactive effluent releases via this pathway.

_____ _____
TIME/DATE SRO

OR

VERIFY real time monitoring of radioactive effluents released via this pathway.

_____ _____
TIME/DATE SRO

AND

RESTORE the monitor within 7 days.

_____ _____
TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

_____ _____
TIME/DATE SRO

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

U-2 CONTAINMENT PURGE SYSTEM

START

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.2 #40	**IODINE Sampler 2RE-PR001C inoperable (RM-11 2PC301)**

*** SUSPEND** radioactive effluent releases via this pathway.

_____ _____
TIME/DATE SRO

OR

When effluent releases are occurring via this pathway, samples must be continuously collected with auxiliary sampling equipment as required in ODCM RETS Table 12.4-1.

_____ _____ _____ _____
TIME/DATE R.P. SUPERVISOR TIME/DATE SRO

AND

RESTORE the monitor within 30 days.

_____ _____
TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

_____ _____
TIME/DATE SRO

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

U-2 CONTAINMENT PURGE SYSTEM

START

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.2 #40	**PARTICULATE Sampler 2RE-PR001A inoperable (RM-11 2PA201)**

*** SUSPEND** radioactive effluent releases via this pathway.

_____ _____
TIME/DATE SRO

OR

When effluent releases are occurring via this pathway, samples must be continuously collected with auxiliary sampling equipment as required in ODCM RETS Table 12.4-1.

_____ _____ _____ _____
TIME/DATE R.P. SUPERVISOR TIME/DATE SRO

AND

RESTORE the monitor within 30 days.

_____ _____
TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

_____ _____
TIME/DATE SRO

AAR ACTION CHART
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

COMPONENT COOLING WATER SYSTEM

START

_____

Notification (Time and Date from Page 1)

ODCM RETS ACTION NUMBER 12.2.2.A.2 #41	**CC monitor 0RE-PR009 (RM-11 0PS109) AND/OR _RE-PR009 (RM-11 _PS109) inoperable**

*** SUSPEND** radioactive effluent releases via this pathway.

_____ _____
TIME/DATE SRO

OR

When effluent releases are occurring via this pathway, grab samples (operating CC Pump discharge) are required to be collected and analyzed for radioactivity at a lower limit of detection of no more than 1 X 10 E-07 μci/ml once per 12 hours (LOG in Attachment E).

_____ _____ _____ _____
TIME/DATE CHEM PERSONNEL TIME/DATE SRO

AND

RESTORE the monitor within 30 days.

_____ _____
TIME/DATE SRO

OR

COMPLETE Attachment A, "Notification of AAR Reporting Requirement", to initiate preparation of Special Report.

_____ _____
TIME/DATE SRO

C. RESTORATION

1. For the Initiating Conditions specified in Subsection A (NOTIFICATION), an SRO shall determine the applicable surveillance procedures and/or other actions required to demonstrate RETS operability requirement restoration and LIST and/or CHECK those that apply:

   ☐ (CONTACT the Instrument Maintenance Department)

   ☐ 0BwOS 0.1-0 (0BwOSR 0.1-0) (Rad Monitor CHANNEL CHECK)

   ☐ 0BwOS 0.1-0 (0BwOSR 0.1-0) (Flow Instrument CHANNEL CHECK)

   ☐ _____

   ☐ _____

   ☐ _____

   ☐ _____

   ☐ WO(s): _____

   _____

   ☐ C/O(s): _____

   _____

   Remarks or additional requirements: _____

   _____

   _____

2. Once all of the above requirements have been satisfactorily completed (with Shift Manager concurrence if appropriate), RECORD the Time and Date the RETS operability requirement is met:

   _____ _____
   TIME/DATE MET SRO

C. 3. TERMINATE the Action Requirements and RETURN the affected Equipment/Unit to desired status. ENSURE all Action Charts/Attachments applicable to the event are signed into on the AAR INDEX and are included in the final package. Discard unused Action Charts/Attachments if desired.

SRO	_____	_____
UNIT NSO	_____	_____
	TIME/DATE	INITIALS
CHEM PERSONNEL $$	_____	_____
R.P. SUPERVISOR **	_____	_____
OPS SUPERVISOR **	_____	_____
(**IF APPLICABLE)	TIME/DATE	SIGNATURE

D. REVIEW

SHIFT MANAGER	_____	_____

AT number assigned to Special Report: _____

REG ASSURANCE SUPERVISOR ***	_____	_____
	TIME/DATE	SIGNATURE

$$ Required ONLY if Action Number 35 or 41 was entered.

*** Required only when a Special Request Report is required.

ATTACHMENT A
NOTIFICATION OF AAR REPORTING REQUIREMENT
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

UNIT# _____ ODCM RETS # 12.2.2.A

ENTERED LCO: _____
TIME/DATE

EXPLANATION pursuant to ODCM Section 12.6 due in the next Annual Radioactive Effluent Release Report.

INSTRUMENT AFFECTED:

☐ Noble Gas Activity monitor 0RE-PR002A
☐ Noble Gas Activity monitor 0RE-PR002B

High Range Noble Gas Activity monitor		☐ 1RE-PR028D	☐ 2RE-PR028D
Low Range Noble Gas Activity monitor		☐ 1RE-PR028B	☐ 2RE-PR028B
Iodine Sampler		☐ 1RE-PR028C	☐ 2RE-PR028C
Particulate Sampler		☐ 1RE-PR028C	☐ 2RE-PR028C
Effluent Flow rate measuring device		☐ Loop VA019	☐ Loop VA020
Sampler Flow rate measuring device		☐ 1FT-PR165	☐ 2FT-PR165
Noble Gas Activity monitor		☐ 1RE-PR001B	☐ 2RE-PR001B
Iodine Sampler		☐ 1RE-PR001C	☐ 2RE-PR001C
Particulate Sampler		☐ 1RE-PR001A	☐ 2RE-PR001A
Component Cooling monitor	☐ 0RE-PR009	☐ 1RE-PR009	☐ 2RE-PR009

REPORT TO CONTAIN/DESCRIBE:

Cause for Radioactive Gaseous Effluent Monitoring Instrumentation being inoperable for longer than allowed by the ODCM Radioactive Effluent Technical Standards.

Chemistry Dept. ODCM Specialist NOTIFIED of requirement for inclusion of this explanation in the next Annual Radioactive Effluent Release Report by forwarding a copy of this Attachment:

_____ _____
SRO TIME/DATE

REGULATORY ASSURANCE NOTIFIED of the requirement for inclusion of this explanation in the next Annual Radioactive Effluent Release Report by forwarding a copy of this Attachment:

_____ _____
SRO TIME/DATE

ATTACHMENT B
FLOW ESTIMATE LOG
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

INSTRUMENT AFFECTED: ☐ 1FT-PR165 ☐ 2FT-PR165 ODCM ACTIONS: _ Table 12.2-3, #36

ESTIMATE THE SAMPLE SYSTEM FLOW RATE ONCE PER **4** HOURS.

INITIAL PERFORMANCE DUE: _____
TIME/DATE

Flow Estimate Next Due	Flow Estimate Performed	Estimated Flow Rate	SRO Review (Fill in "Next Due" column)	Method of Determining Flow Rate
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
TIME/DATE	TIME/DATE		SRO	

(Attach additional copies of this page as required)

ATTACHMENT C
FLOW ESTIMATE LOG
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

INSTRUMENT AFFECTED: ☐ Loop VA019 ODCM ACTIONS: _ Table 12.2-3, #36
☐ Loop VA020

ESTIMATE THE SYSTEM EFFLUENT FLOW RATE ONCE PER **4** HOURS.

INITIAL PERFORMANCE DUE: _____
TIME/DATE

Flow Estimate Next Due	Flow Estimate Performed	Estimated Flow Rate	SRO Review (Fill in "Next Due" column)	Method of Determining Flow Rate
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
/	/			
TIME/DATE	TIME/DATE		SRO	

(Attach additional copies of this page as required)

ATTACHMENT D
GRAB SAMPLE LOG
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

INSTRUMENT AFFECTED: ☐ 1RE-PR028B ☐ 2RE-PR028B ODCM RETS ACTIONS: __Table 12.2-3, #39
☐ 1RE-PR028D ☐ 2RE-PR028D

SAMPLE PER ADMIN LIMIT ONCE EVERY 8 HOURS AND ANALYZE WITHIN 24 HOURS (RETS LIMIT ONCE EVERY 12 HOURS, ANALYZED WITHIN 24 HOURS) INITIAL PERFORMANCE DUE: _____ TIME/DATE

RECEIVED: _____ TIME/DATE _____ RP Representative HEADING INFORMATION CORRECT: _____ TIME/DATE _____ SRO

Effluent Grab Sample is Next Due: (Time Sample Taken +8 hrs)		Rad Tech Acknowledge Sample is Assigned		Time Sample Taken: (Fill in BOTH "Analysis Due" and "Next Due")		Analysis Due: (Time Sample taken +24 hrs)		Sample is Analyzed: (Actual analysis time)		Are sample results acceptable? (Yes/No)**	SRO Notified of the Sample Results:		Name of SRO Notified:	COMMENTS:
										☐ Y ☐ N				
										☐ Y ☐ N				
										☐ Y ☐ N				
										☐ Y ☐ N				
										☐ Y ☐ N				
										☐ Y ☐ N				
										☐ Y ☐ N				
										☐ Y ☐ N				
										☐ Y ☐ N				
										☐ Y ☐ N				
										☐ Y ☐ N				
										☐ Y ☐ N				
Time/Date	RPSS	Time/Date	RT	Time/Date	RPSS	Time/Date	RPSS	Time/Date	RPSS		Time/Date	RPSS		

(Attach additional copies of this page as required.)

** The sample analysis results do NOT indicate the potential for exceeding the limits of ODCM RETS Operability Requirement 12.4.1.A. Isotopic results for 1(2)RE-PR028B should be below 6.06E-4 μCi/cc not including naturally occurring radionuclides. Isotopic results for 1(2)RE-PR028D should be below 6.06E-3 μCi/cc not including naturally occurring radionuclides.

ATTACHMENT E
GRAB SAMPLE LOG
ODCM RETS - INSTRUMENTATION - GASEOUS EFFLUENT MONITORING

INSTRUMENT AFFECTED: ☐ 0RE-PR009 ☐ 1RE-PR009 ☐ 2RE-PR009 ODCM RETS ACTIONS: _ Table 12.2-3, #41

SAMPLE AND ANALYZE OPERATING CC PUMP DISCHARGE RADIOACTIVITY AT A LOWER LIMIT OF DETECTION OF NO MORE THAN 1 X 10 E-07 μci/ml ONCE PER **12** HOURS.

INITIAL PERFORMANCE DUE: _____
TIME/DATE

RECEIVED: _____ _____
TIME/DATE Chem Personnel (CP)

HEADING INFORMATION CORRECT: _____ _____
TIME/DATE SRO

Sample is Taken and Analyzed:		Are sample results acceptable? (Yes/No)**	SRO Notified of Out of Spec Results:		Name of SRO Notified of Out of Spec Results:
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
		☐ Y ☐ N			
Time/Date	(CP)		Time/Date	(CP)	Name of SRO Notified

(Attach additional copies of this page as required.)

** The sample analysis results do NOT indicate the potential for exceeding the limits of ODCM RETS Operability Requirement 12.4.1.A.

GOCAR
REQUIRED COMPENSATORY MEASURES ACTION RESPONSE
CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS

1 HOUR

A. NOTIFICATION

Present MODE: • Unit 1: _____ • Unit 2: _____	Applicable MODE(s):	Whenever equipment is required to be OPERABLE
Initiating Event(s): _____		
Safety Function Determination (SFD) Performed?		☒ **N/A**
Does this inoperability invalidate any previous SFD?		☐ YES ☐ NO
Name of Shift Manager notified:		TIME/DATE:
Was an Issue written? ☐ YES ☐ NO ☐ Planned Maintenance		
Related Work Requests or Work Orders:		
☐ WR _____ ☐ WO _____ ☐ WR _____ ☐ WO _____ ☐ WR _____ ☐ WO _____		
RELATED C/O(s): _____ _____ _____ _____ _____ _____		
SRO signature:	TIME/DATE:	
Unit NSO signature:	TIME/DATE:	

B. SAFETY FUNCTION DETERMINATION PROGRAM REQUIREMENTS

Safety Function Determination Not Applicable.

C. ACTIONS

1. IF conditions exist which may require Emergency Plan initiation, NOTIFY the Station Director for further evaluation.

2. COMPLETE, as required, the applicable GOCAR Action Chart(s), checking all conditions to verify all applicable conditions are entered and followed.

GOCAR INDEX
CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS

- SIGN the applicable Action Chart(s) and Attachment(s) (if any) used to address or satisfy the affected Required Compensatory Measures. Multiple Action Charts may be selected if the actions apply to a single event. If more than one Action Chart is applicable, ENSURE the requirements of EACH are satisfied, exercising caution to ensure the time requirements of the more conservative chart are satisfied.

- All Action Charts and Attachments applicable to the event must be included in the GOCAR package. Unused Action Charts and Attachments may be discarded.

GOCAR ACTION CHART
CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS

CONDITION	REQUIRED ACTION	COMPLETION TIME	ACTION MET
A. One or more of the required CO_2 systems inoperable. _____/_____ Time Date _____ SRO	A.1 ENTER the Condition referenced in Attachment A for the inoperable CO_2 system.	Immediately	_____/_____ Time/Date SRO

GOCAR ACTION CHART
CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS

CONDITION	REQUIRED ACTION	COMPLETION TIME	ACTION MET
B. As required by Required Action A.1 and referenced in Attachment A. Zones Affected: ☐ 1S-43 ☐ 2S-43 _____/_____ Time Date _____ SRO	B.1 ESTABLISH a continuous fire watch. <u>AND</u> B.2. VERIFY backup fire suppression equipment available. <u>AND</u> B.3.1 RESTORE the required CO_2 suppression equipment to available. <u>OR</u> B.3.2 INITIATE an ISSUE to document repairs/corrective actions.	1 hour 1 hour 72 hours 72 hours	_____/_____ Time/Date SRO _____/_____ Time/Date SRO _____/_____ Time/Date SRO _____/_____ Time/Date SRO

GOCAR ACTION CHART
CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS

CONDITION	REQUIRED ACTION	COMPLETION TIME	ACTION MET
C. As required by Required Action A.1 and referenced in Attachment A. Zones Affected: ☐ 2S-47 _____/_____ Time Date _____ SRO	C.1.1 ESTABLISH a continuous fire watch. <u>AND</u> C.1.2 VERIFY backup fire suppression equipment available. <u>OR</u> C.2.1 VERIFY automatic fire detection instrumentation is available. <u>AND</u> C.2.2 ESTABLISH fire wrap in the zone is available. <u>AND</u> C.2.3 ESTABLISH an hourly fire watch. <u>AND</u> C.3.1 RESTORE the required CO_2 systems to available. <u>OR</u> C.3.2 INITIATE an ISSUE to document repairs/corrective actions.	1 hour 1 hour 1 hour 1 hour 72 hours 72 hours	_____/_____ Time/Date SRO _____/_____ Time/Date SRO _____/_____ Time/Date SRO _____/_____ Time/Date SRO _____/_____ Time/Date SRO _____/_____ Time/Date SRO

GOCAR ACTION CHART
CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS

CONDITION	REQUIRED ACTION	COMPLETION TIME	ACTION MET
D. As required by Required Action A.1 and referenced in Attachment A. Zones Affected: ☐ 1S-37 ☐ 1S-38 ☐ 1S-39 ☐ 1S-40 ☐ 1S-41 ☐ 1S-42 ☐ 1S-44 ☐ 1S-45 ☐ 1S-46 ☐ 1S-47 ☐ 2S-37 ☐ 2S-38 ☐ 2S-39 ☐ 2S-40 ☐ 2S-41 ☐ 2S-42 ☐ 2S-44 ☐ 2S-45 ☐ 2S-46 _____/_____ Time Date _____ SRO	D.1.1 ESTABLISH an hourly fire watch. (Circle zones) 1S-37 / 2S-37 1S-38 / 2S-38 1S-39 / 2S-39 1S-40 / 2S-40 1S-41 / 2S-41 1S-42 / 2S-42 1S-44 / 2S-44 1S-45 / 2S-45 1S-46 / 2S-46 1S-47 OR D.1.2 VERIFY automatic fire detection instrumentation available. (Circle zones) 1S-37 / 2S-37 1S-38 / 2S-38 1S-44 / 2S-44 1S-45 / 2S-45 1S-46 / 2S-46 1S-47 AND D.2.1 RESTORE the required CO_2 systems to available. OR D.2.2 INITIATE an ISSUE to document repairs/corrective actions.	1 hour 1 hour 5 weeks 5 weeks	_____/_____ Time/Date SRO _____/_____ Time/Date SRO _____/_____ Time/Date SRO _____/_____ Time/Date SRO

C. RESTORATION

1. For the Initiating Conditions specified in Subsection A (NOTIFICATION), an SRO shall determine the applicable surveillance procedures and/or other actions required to demonstrate restoration and LIST and/or CHECK those that apply:

☑ Contact Fire Marshal
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____
☐ _____
☐ WO(s) _____
_____
☐ C/O(s) _____
_____

Remarks or additional requirements: _____
_____
_____

2. Once all of the above requirements have been satisfactorily completed (with Shift Manager concurrence if appropriate), RECORD the Time and Date the Requirements for Availability are met:

_____ _____
TIME/DATE MET SRO

3. TERMINATE the Required Compensatory Measures and RETURN the affected Equipment/Unit to desired status. ENSURE all Action Charts/Attachments applicable to the event are signed into on the GOCAR INDEX and are included in the final package. Discard unused Action Charts/Attachments if desired.

SRO _____ _____
TIME/DATE SIGNATURE

Name of Fire Watch Supervisor Notified _____

D. REVIEW

Shift Manager _____ _____

FIRE MARSHALL _____ _____
TIME/DATE SIGNATURE

ATTACHMENT A

CO_2 SYSTEMS

SYSTEM #	FIRE ZONE	AREA PROTECTED	CONDITION
1S-37	9.1-1	1B Diesel Generator Room	D
1S-38	9.2-1	1A Diesel Generator Room	D
1S-39	9.4-1	1B Diesel Generator Day Tank Room*	D
1S-40	9.3-1	1A Diesel Generator Day Tank Room*	D
1S-41	11.4A-1	1B AF Pump Room*	D
1S-42	11.4A-1	1B AF Pump Day Tank Room*	D
1S-43	3.2A-1	Lower Cable Spreading Room	B
1S-44	3.2B-1	Lower Cable Spreading Room	D
1S-45	3.2C-1	Lower Cable Spreading Room	D
1S-46	3.2D-1	Lower Cable Spreading Room	D
1S-47	3.1-1	Unit 1 Electric Cable Tunnel	D
2S-37	9.1-2	2B Diesel Generator Room	D
2S-38	9.2-2	2A Diesel Generator Room	D
2S-39	9.4-2	2B Diesel Generator Day Tank Room*	D
2S-40	9.3-2	2A Diesel Generator Day Tank Room*	D
2S-41	11.4A-2	2B AF Pump Room*	D
2S-42	11.4A-2	2B AF Pump Day Tank Room*	D
2S-43	3.2A-2	Lower Cable Spreading Room	B
2S-44	3.2B-2	Lower Cable Spreading Room	D
2S-45	3.2C-2	Lower Cable Spreading Room	D
2S-46	3.2D-2	Lower Cable Spreading Room	D
2S-47	3.1-2	Unit 2 Electric Cable Tunnel	C

* Automatic Detection is **NOT** available

EXELON NUCLEAR

EMERGENCY ACTION LEVELS FOR BRAIDWOOD STATION