OCONEE NUCLEAR STATION  Cold Weather Protection  Revision No.  016
Revision No.
2. 10.13.21
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Date(s) Performed Work Order/Task Number (WO#)
10-6-21 to 10/19/21  COMPLETION
COMPLETION
Yes NA Checklists and/or blanks initialed, signed, dated, or filled in NA, as appropriate? Yes NA Required attachments included?
☐ Yes ☐ NA Charts, graphs, data sheets, etc. attached, dated, identified, and marked?
☐ Yes ☐ NA Calibrated Test Equipment, if used, checked out/in and referenced to this procedure? ☐ Yes ☐ NA Procedure requirements met?
77 °C 1D
* Printed Name and Signature Ryan Collas  Procedure Completion Approved  * Printed Name and Signature  Date  10.13.2/  Date  10/18/2/
Procedure Completion Approved * Printed Name and Signature  Date  10/18/21
Remarks (attach additional pages, if necessary)
JUC-Jenny W Collier But 6th Clark  R-Rya-Collis M. Rudy Rudder RS-Robert Shaw
P-Rya-Collies ph. Rudy Rudder RS-Robert Shaw
K-Ky-Collis AL MUNIMON R5-ROBERT Staw
IMPORTANT: Do NOT mark on barcodes.  Printed Date: *10/6/21*
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Revision No.: *016*
Procedure No : *PT/0/4/0110/017*
Procedure No.: *PT/0/A/0110/017*

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#### **Cold Weather Protection**

#### 1. Purpose

Ensure the readiness of cold weather equipment and systems for safe reliable operation of the units during cold weather months.

#### 2. References

- 2.1 AD-WC-ALL-0203 (Seasonal Readiness)
- 2.2 AD-EG-ALL-1523 (Temporary Ignition Source Control)
- 2.3 NCR 01807762 ONS Cold Weather Preps not Completed
- 2.4 NCR 01833188 Freeze Protection Issue due to pipe trench to U3 Turbine Building
- 2.5 NCR 02167927 Failure of Temporary skid at CNS due to freezing of drain line
- 2.6 NCR 02171058 Spill containments outside the PA were not drained

#### 3. Time Required

- 3.1 Enclosure 13.1 (Aligning Site Systems For Cold Weather)
  - 3.1.1 Manpower Two Operators
  - 3.1.2 Time 2 weeks
  - 3.1.3 Frequency Annually (October)
- 3.2 Enclosure 13.2 (Verification of Site Systems During Cold Weather)
  - 3.2.1 Manpower Two Operators
  - 3.2.2 Time 1 week
  - 3.2.3 Frequency Monthly (November, December, January, February, and March)

### 4. Prerequisite Tests

Nøne

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## 5. Test Equipment Required

5.1 <u>IF</u> performing Enclosure 13.2 (Verification of Site Systems During Cold Weather), the following items are needed:

5.1/1 Handheld remote reading pyrometer (infrared sensing with laser pointer)

5.12 Master Key #6000

### 6. Limits And Precautions

Installation of portable electric heaters to provide supplemental heat to an area should comply with AD-EG-ALL-1523 (Temporary Ignition Source Control).

### 7. Required Station Status

None

### 8. Prerequisite System Conditions

None

#### 9. Test Method

Systems are aligned for cold weather conditions in October. Monthly, proper system operation for cold weather conditions is verified and degraded equipment is identified.

## 10. Data Required

None

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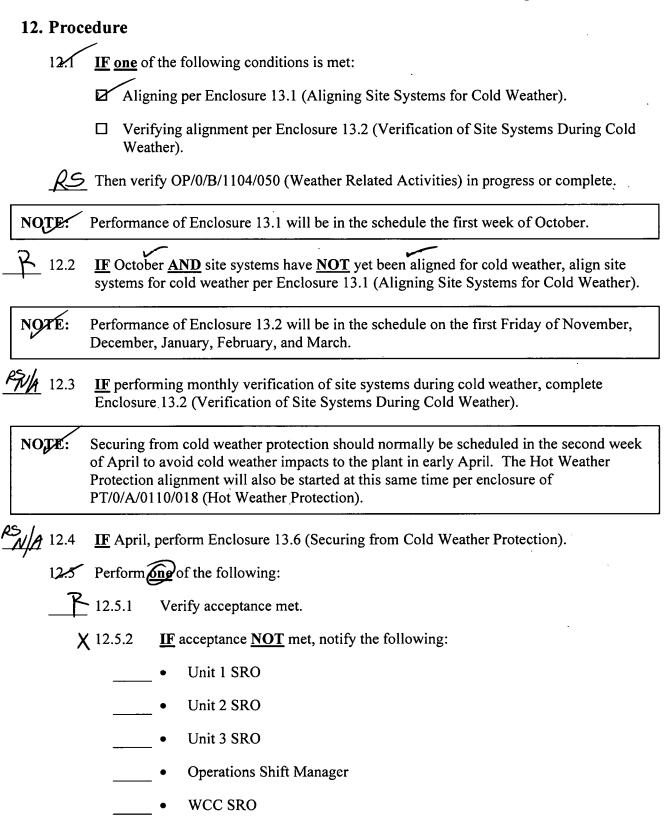
## 11. Acceptance Criteria

14.1 One of the following are met:

111.1 All steps have been completed.

- 11.1.2 <u>IF all</u> steps have not been completed, <u>all</u> the following have been met:
  - A. Uncompleted steps have been N/A'ed with OSM approval.
  - B. Equipment problems associated with uncompleted steps are documented on WCC SRO Turnover Sheet under "Cold Weather Protection Equipment Issues" with applicable degraded equipment ID, associated W/R's and/or W/O numbers, and associated NCRs.
  - C. Equipment problems associated with uncompleted steps are documented and evaluated in NCR for acceptability by Engineering and Site Management.

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## 13. Enclósures

<b>1</b> 3.1	Aligning Site Systems For Cold Weather
13.2	Verification of Site Systems During Cold Weather
13.3	ESV Cold Weather Breaker Checklist
13.4	SSF Duct Heater Cold Weather Breaker Checklist
13.5	AWC System Cold Weather Breaker Checklist
13.6	Securing from Cold Weather Protection

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10-6-21

## 1. Limits and Precautions

1.1 Installation of portable electric heaters to provide supplemental heat to an area should comply with AD-EG-ALL-1523 (Temporary Ignition Source Control).

#### 2. Procedure

2.	2. Procedure		
NC	)ŢÆ:	Major steps may be performed in any order.	
my C	2/1)	<u>IF AT ANY TIME</u> the conditions of any of the following major steps are <u>NOT</u> met, perform the following:	
		Notify WCC SRO and affected CR SRO.	
NC	TE:	Normally a weather related equipment issue is assigned as an E2 Priority work request, however, the OSM should make this determination.	
•		<ul> <li>Issue a Priority work request to have the issue resolved.</li> <li>Issue a NCR.</li> </ul>	
	~ W	<ul> <li>Document (discrepancies and deficiencies) equipment ID, associated WR/WOs, and associated NCRs on WCC SRO Turnover Sheet under the header "Cold Weather Protection Equipment Issues".</li> </ul>	
RS	2.2	Notify Radwaste Control Room that Site Systems are being aligned for Cold Weather.	
		Person Notified Date	
RS	2.3	Notify Chemistry to begin Chemistry Cold Weather Protection Rounds per Chemistry Manual Section 4.14.	
		Steve D Dew port 10/6/21 Person Notified Date	
25	2.4	Notify Lee Steam Station to implement Cold Weather protection.	
		Miched Weather ald 10/6/21 Person Notified Date	
RS	2.5	Notify Keowee Hydro Station to implement Cold Weather protection.	
		Person Notified Date	

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NOTE:

Special consideration should be given to raise PCB gas pressure to prevent severe cold temperatures from causing a reduction in gas pressure which could cause a vulnerability to automatic actuation or lockout.

RS 2.6 Notify Switchyard Coordinator to perform the following:

Walk down all switchyard components.

Ensure any proactive measures required in response for approaching cold weather are in place.

PHIL STONE 10421
Person Notified Date

Notify Site Services to ensure any spill containments outside the Protected Area have been drained as required to for freezing temperatures. {Ref 2.6}

Ville JACKSON 10/6/21
Person Notified Date

2.8 Place NOTE on each Unit's Turnover Sheet as follows:

Do <u>NOT</u> delete computer point O1D2298 (BWST Instrument Htr & SSF ASW Heat Trace) from ALARM.

Do <u>NOT</u> delete computer point O2D2298 (BWST Instrument Htr & SSF ASW Heat Trace) from ALARM.

• Do <u>NOT</u> delete computer point O3D2298 (BWST Instrument Htr & SSF ASW Heat Trace) from ALARM.

2.9 Verify Plant Heating is in service on Unit 1 as follows:

2.9.1 Verify 1PG-5 indicates > 15 psig. (T-3 Col Fb16, on gaugeboard)

2/10 Verify Plant Heating is in service on Unit 2 as follows:

2.10.1 Verify 2PG-5 indicates > 15 psig. (T-3 Col Fa39, on gaugeboard)

Verify Plant Heating is in service on Unit 3 as follows:

2.11.1 Verify 3PG-5 indicates > 15 psig. (T-3 Col F55 near Unit 3 MTOT)

Re- Rob Custer'

John Gillespite

John Sawyer

BM- Brod McDuffee

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Perform the following: NO' Model Work Order should be scheduled to perform the Annual Plant Heating Checklist to coordinate with cold weather activities. **DW** 2.12.1 Perform Plant Heating System Annual Valve Checklist enclosure of OP/0/A/1104/037 (Plant Heating). Perform the following: Perform one of the following: Verify AHU 1-9 Plant Heating regulator inlet piping temperature is greater than ambient temperature. ☐ IF AHU 1-9 is removed from service, align AHU 1-9 per cold weather removal enclosure of OP/0/A/1104/041 (Auxiliary Building Ventilation). Perform one of the following: Verify AHU 1-10 Plant Heating regulator inlet piping temperature is greater than ambient temperature. IF AHU 1-10 is removed from service, align AHU 1-10 per cold weather removal enclosure of OP/0/A/1104/041 (Auxiliary Building Ventilation). Perform one of the following: Verify AHU 1-15 Plant Heating regulator inlet piping temperature is greater than ambient temperature. ☐ IF AHU 1-15 is removed from service, align AHU 1-15 per cold

N.W.

Perform one of the following:

Ventilation).

☐ Verify AHU 2-16 Plant Heating regulator inlet piping temperature is greater than ambient temperature.

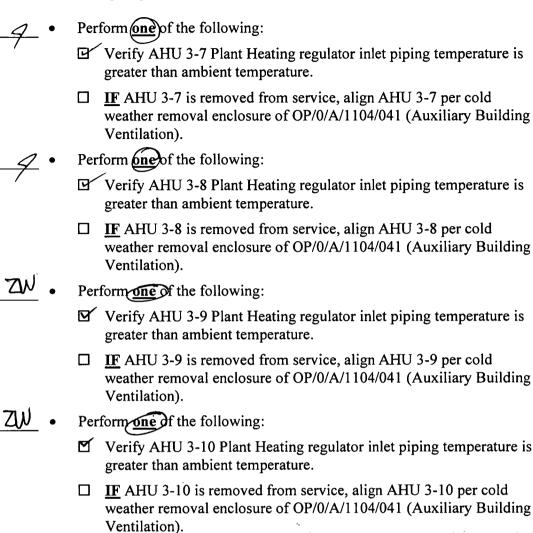
weather removal enclosure of OP/0/A/1104/041 (Auxiliary Building

IF AHU 2-16 is removed from service, align AHU 2-16 per cold weather removal enclosure of OP/0/A/1104/041 (Auxiliary Building Ventilation). Ph Isolated ρε ωρ #20208876/20208878

9- Joeny Mose

ZW: Zachary Whitworth

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**Enclosure 13.1** 

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PS / 2.13  PS / 2.14	IF Unit 1 Purge is operating, ensure Unit 1 Purge Inlet Steam is valved in per Unit 1 RB Purge Inlet Steam Operation enclosure of OP/0/A/1104/037 (Plant Heating).
RS 14 2.14	<b>IF</b> Unit 2 Purge is operating, ensure Unit 2 Purge Inlet Steam is valved in per Unit 2 RB Purge Inlet Steam Operation enclosure of OP/0/A/1104/037 (Plant Heating).
N/A 2.15	<b>IF</b> Unit 3 Purge is operating, ensure Unit 3 Purge Inlet Steam is valved in per Unit 3 RB Purge Inlet Steam Operation enclosure of OP/0/A/1104/037 (Plant Heating).
<u>でご</u> 2.16	Ensure Turbine Building Rollup Doors aligned for Cold Weather per OP/0/A/1106/041 (Turbine Building Ventilation).
<u>03</u> 2.17	Ensure Turbine Building Dampers aligned for Cold Weather per OP/0/A/1106/041 (Turbine Building Ventilation).
<u>1</u> 2.18	Ensure B1T/B2T Blockhouse fans aligned for cold weather per OP/0/A/1106/041 (Turbine Building Ventilation).
14 (2.19 14 (2.20	Ensure CT-4 Blockhouse fans aligned for cold weather per OP/0/A/1106/041 (Turbine Building Ventilation).
, ,	Ensure 3B1T/3B2T Blockhouse fans aligned for cold weather per OP/0/A/1106/041 (Turbine Building Ventilation).
<u></u> 2.21	Perform Enclosure 13.3 (ESV Cold Weather Breaker Checklist).
2.22	Ensure ESV Building Rollup Doors closed.
<b>1</b> 2.23	Ensure ESV Building Ventilation aligned for Cold Weather per OP/1/A/1104/051 (ESV System).

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Perform one of the following:

JRA

2.24.1

Verify Unit 1 BWST Trench Covers are in place.

/ 2.24.2

IF Unit 1 BWST Trench Covers are NOT in place, perform the following:

NOTE:

Normally a weather related equipment issue is assigned as an E2 Priority work request, however, the OSM should make this determination.

A A

A. Issue a Priority Work Request to ensure Unit 1 BWST Trench Covers are put in place.

**√//**//B.

<u>WHEN</u> Unit 1 BWST Trench Covers are in place, verify Unit 1 BWST Trench Covers in place.

2.28

Perform of the following:

JAA

2.25.1

Verify Unit 1 BWST level impulse lines and cabinets have insulation and cabinet doors properly in place.

N/A 2.25.2

IF Unit 1 BWST level impulse lines and cabinets have insulation and cabinet deors NOT properly in place, perform the following:

NOTE:

Normally a weather related equipment issue is assigned as an E2 Priority work request, however, the OSM should make this determination.

A. مرابع

Issue a Priority Work Request to ensure Unit 1 BWST level impulse lines and cabinets have insulation and cabinet doors properly put in place.

 $\frac{\sqrt{A}}{B}$ .

<u>WHEN</u> Unit 1 BWST level impulse lines and cabinets have insulation and cabinet doors properly in place respectively, verify Unit 1 BWST level impulse lines and cabinets have insulation and cabinet doors properly in place.

JA- John R Adams

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2.26 Perform one of the following:

2.26/1

Verify Unit 2 BWST Trench Covers are in place.

M2.26.2

IF Unit 2 BWST Trench Covers are NOT in place, perform the following:

**NOTE:** Normally a weather related equipment issue is assigned as an E2 Priority work request, however, the OSM should make this determination.

A. Issue a Priority Work Request to ensure Unit 2 BWST Trench Covers are put in place.

B. <u>WHEN</u> Unit 2 BWST Trench Covers are in place, verify Unit 2 BWST Trench Covers are in place.

221 Perform one of the following:

**GW** 2.27/1

Verify Unit 2 BWST level impulse lines and cabinets have insulation and cabinet doors properly in place.

2.27.2 doors NOT properly in place, perform the following:

**NOTE:** Normally a weather related equipment issue is assigned as an E2 Priority work request, however, the OSM should make this determination.

A. Issue a Priority Work Request to ensure Unit 2 BWST level impulse lines and cabinets have insulation and cabinet doors properly put in place.

<u>WHEN</u> Unit 2 BWST level impulse lines and cabinets have insulation and cabinet doors properly in place respectively, verify Unit 2 BWST level impulse lines and cabinets have insulation and cabinet doors properly in place.

GHC GHClara

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28 Perform one of the following:

∼ 2.28.1 Verify Unit 3 BWST Trench Covers are in place.

2.28 IF Unit 3 BWST Trench Covers are NOT in place, perform the following:

NOTE: Normally a weather related equipment issue is assigned as an E2 Priority work request, however, the OSM should make this determination.

A. Issue a Priority Work Request to ensure Unit BWST Trench Covers are put in place.

B. WHEN Unit 3 BWST Trench Covers are in place, verify Unit 3 BWST. Trench Covers are in place.

2.29 Perform one of the following:

Verify Unit 3 BWST level impulse lines and cabinets have insulation and cabinet doors properly in place.

2.29.2 IF Unit 3 BWST level impulse lines and cabinets have insulation and cabinet doors NOT properly in place, perform the following:

NOTE: Normally a weather related equipment issue is assigned as an E2 Priority work request, however, the OSM should make this determination.

A. Issue a Priority Work Request to ensure Unit 3 BWST level impulse lines and cabinets have insulation and cabinet doors properly put in place.

WHEN Unit 3 BWST level impulse lines and cabinets have insulation and cabinet doors properly in place respectively, verify Unit 3 BWST level impulse lines and cabinets have insulation and cabinet doors properly in place.

2.30 Perform Enclosure 13.4 (SSF Duct Heater Cold Weather Breaker Checklist).

2.31 Perform Enclosure 13.5 (AWC System Cold Weather Breaker Checklist).

2.32 Ensure CT-5 Mulsifyre valve enclosure heaters have power available.

mh- nike Hazer

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A. CHESHAYNES

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## Enclosure 13.1 Aligning Site Systems For Cold Weather

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NOTE:	Master Key 6000 is needed to open EWST Base door.
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At the base of the EWST, perform the following:

-2.33.1 Notify Security that they will receive the EWST Base door alarm due to entry.

2.33.2 In EWST Panelboard, ensure Breaker #1 is ON.

2.33.3 Verify digital indication on Chromalox Temperature Controller indicates > 40 °F. (OHTCIEWST 1)

At the EWST level control system building, perform the following:

2.34.1 Ensure strip heater and fan have power available as follows:

A. Ensure closed Panelboard MW Breaker #9 (Air Compressor Heater).

Blow down air compressor tank per OP/0/A/1104/011 (High Pressure Service Water).

2.35 Ensure the 230 KV Switchyard Blockhouse heaters have power available as follows: (230 KV Swyd)

Ensure closed Panelboard SPA Breaker #8 (Battery Room SY-1 Heater).

Ensure closed Panelboard SPB Breaker #5 (Battery Room SY-2 Heater).

2.36 Ensure the 525 KV Switchyard Blockhouse heaters have power available as follows: (525 KV Swyd)

Ensure closed Panelboard SLPC Breaker #7 (Lighting 500 Watts and HTR 1000 Watts).

Ensure closed Panelboard SLPC Breaker #9 (Lighting 500 Watts and HTR 1000 Watts).

Ensure closed Panelboard SLPD Breaker #3 (Lighting 500 Watts and HTR 1000 Watts).

Ensure closed Panelboard SLPD Breaker #5 (Lighting 500 Watts and HTR 1000 Watts).

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## Enclosure 13.1 Aligning Site Systems For Cold Weather

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NOTE:

SSF Ventilation and HVAC alignments are contained in appropriate enclosures of OP/0/A/1600/002 (Standby Shutdown Facility Heating, Ventilation, and Air Conditioning System Operation (HVAC)).

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Verify the following for SSF Ventilating and Air Conditioning Systems:

4

SSF Summer Ventilation in Auto Mode of operation.

- SSF On-Line Ventilation in Auto Mode of operation.
- SSF Engine Ventilation in Auto Mode of operation.
  - SSF Air Conditioning System in operation.

NOTÆ:

TB Exhaust Fans are seasonally aligned per the schedule by a model work order task. Completed procedure or work order task can be used to verify this step.

2.38 Verify TB Exhaust Fans are aligned per the appropriate seasonal enclosure of OP/0/A/1106/041 (Turbine Building Ventilation)

 $\overline{\mathbb{M}}$ 

2.39 Verify Auxiliary Building Rollup Doors closed per verification enclosure of OP/0/A/1104/041 (Auxiliary Building Ventilation).

N

- Perform a general area walkdown of the following areas to evaluate that trench covers are properly in place: {Ref 2.4}
  - Machine shop, warehouse, and water treatment buildings at north end of turbine building
  - Outside of Turbine Building east side
  - Outside of Turbine Building south end to outside of Radwaste Building
  - Outside of PSW Building and associated trenches
  - Outside of ESV Building
  - Outside of Auxiliary Building west side

JWC 2.41

<u>IF</u> installed, ensure any temporary equipment that supports plant operation will not be adversely affected by cold and/or freezing weather. {Ref 2.5}

2.42

Perform **(ne)** of the following:

DW/RS 2.42.1

Verify TBSMT status board indicates TBSMT skid not in use and hoses are drained.

<u>IF</u> TBSMT is in use, then add note to AO turnover sheet as follows: "TBSMT flow should not be isolated > 4 hours without draining the header and hoses to avoid freeze concerns during cold weather conditions (outside air temperature < 35 °F)".

Es- Evenut Addy

DW/RS - Dorne Williams (Dee) by Robert Shaw (occumenter)

X-KEVIN SORROWS

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Have Radwaste perform the following cold weather activities for the Radwaste Facility {formerly CSM 4.14}:

Padurete

2.43.1 Ensure Radwaste Facility Rollup Doors closed as follows:

- Electrical Room
- ✓ Hallway
- ✓ Truck Bay

DZ Radwaste 2

2.43.2 Ensure Radwaste Facility outer doors closed.

2.**42.3** Per

Perform one of the following:

Radwaste

- A. Ensure outside steam trench covers in place
- B. Ensure trench opening is covered in RWF Room 106.

Radwaste

Perform the following:

PL Radwaste

- A. Check Radwaste turnover for RWF Steam Header status.
- B. IF steam is isolated in the Radwaste Facility, perform the following:
  - L. Ensure OFF the following: (Rooms 105, 219, and 241)

• HV-1

Radwaste

HV-2

• HV-3

AL HV-4

12 • HV-5

NAP 2

IF any HV units are not OFF, notify Radwaste Supervisor or Staff.

DL - Perrick LaBoone