



WORK ORDER PACKAGE

20361693 02

Quality Record

11/10/20 03:12 AM



2036169302

EWP Summary

WO Task/WR Nbr : 20361693 02

Facility: BNP

Performed By(Printed Name and Signature):DANIEL THOMPSON (172326)
Date: 10/27/2020 14:53

Reviewed By(Printed Name and Signature): PHILIP LEWIS (195942)
Date: 10/27/2020 21:41

Document List

1. Duke_WorkOrderPackage_Rpt_B
2. WO INST.

PAS WORK INSTRUCTIONS

Facility	: BNP BRUNSWICK NUCLEAR PLANT	UNIT
Task Desc	: PREPARE AREAS & BLDGS FOR COLD WEATHER	2
Tsk Priority	: 4	Tsk Planner : DEFAULTB
UCR	: AAC	
Task Status	: WORKING at 10/05/20 3:42 PM	

Work Order Package

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PREDEFINED
MAINTENANCE

Wo Desc : PREPARE VARIOUS LOCATIONS & BUILDINGS FOR COLD WEATHER



2036169302

Wo Priority : 4 WO Planner : I76506
 Frequency : 1YY Due Date : 20201013 Late Date : 20201104
 Outage :

Work Order Task Work Against

Facility : BNP Unit : 2 System : 8580
 Equipment : MIS 00001 Component :
 Equip List : Cat ID : UTC :
 Equip Name : FILE FOR MISCELLANEOUS I&C, ELECTRICAL & MECH.... MAINT NOT ASSC.
 Location : VARIOUS
 Equip Tag : 2-MSS-MIS
 EDB Loc : Bldg : Rm :
 Task Pri : 4 UCR : AAC Outage :
 Def Tag : Location :
 %: 100 OU:BN02 Resp: E245 Process: BELECPM Proj/Act: /

Critical Characteristics

Work Release : WRO Released By: I20461 Released Date: 09/10/2020



20361693-02

ERAT Code : *NO_CODE

Task Requirements

REQ(s)	Value(s)	Description
Q-CLASS	D	NON-SAFETY, NO SPECIAL REQUIREMENTS
QC REQ	N	NO QC IS REQUIRED OR IS NOT APPLICABLE FOR NON-QA WORK
FUNC VERIF	N	NO RETEST IS REQUIRED
RETEST	N	NO RETEST IS REQUIRED
FME LEVEL	H	HOUSEKEEPING
ASSD	N	NO
EQ RELATED	N	NO
FIRE PROT	N	NO

2

20361693 02 ***SQA Qualified Report, Commensurate with SWQL C*** 10/14/20 01:47 PM 1

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<u>PREDEFINED MAINTENANCE</u>



GL 89-10	N	
ISI CLASS	N	NOT APPLICABLE
RRIL	N	NOT CALIBRATED INSTR
SCAFLD REQ	Y	
SECURITY	N	N/A SECURITY SYSTEM
VR	N	NOT APPLICABLE
WRKRELEASE	OPS	OPERATIONS

Task Attributes

<u>Attribute</u>	<u>Value(s)</u>	<u>Description</u>
DOSE-EST	4	
RWP NUMBER	2016	
RWP TYPE	Y	YES-RADIATION WORK PERMIT IS REQUIRED
SEC	WR	WINTER READINESS

Task Instructions

SUMMARY: PREPARE VARIOUS BUILDINGS FOR COLD WEATHER PER THE FOLLOWING
WORK INSTRUCTIONS . SCHEDULE PRIOR TO COLD WEATHER
AND PMRQ 3713-01.
TEMPORARY POWER INSTALLED UNDER PMRQ 27468-12.

*** SEE ATTACHED (OLE) WORK INSTRUCTIONS ***

(PM MODEL # 10605820-02)

Facility	: BNP BRUNSWICK NUCLEAR PLANT	UNIT 2
Task Desc	: PREPARE AREAS & BLDGS FOR COLD WEATHER	
Tsk Priority	: 4 Tsk Planner : DEFAULTB	
UCR	: AAC :	
Task Status	: WORKING at 10/05/20 3:42 PM	

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MAINTENANCE**Clearance Tagging instructions****RP Information**

<u>Attribute Name</u>	<u>Code Value</u>	<u>Code Descr</u>
ALARA PKG		
DOSE-EST	4	4
RWP NUMBER	2016	2016
RWP TYPE	Y	YES-RADIATION WORK PERMIT IS REQUIRED

RP Comments

Task dose estimate = 4 MREM.

***** End - RP Information/Instructions *****

***** Begin - RP Information/Instructions *****

Task Labor Hours Estimate

<u>Res</u>	<u>Staff</u>	<u>Hours</u>	<u>Total Estimated Hours</u>
ELEC08	2	80	160.0

<u>Fac</u>	<u>Crew</u>	<u>Description</u>	<u>Sch Date/Time</u>
BNP	IE1	ELECTRICAL CREW	/ / 3:00 PM
BNP	TPW	DO NOT USE	/ / 3:00 PM

Nuclear Information and Cross Reference

Contain Closure	: N	Train	:	A Mode	:	ER Classification	: R
Contain Integrity	:	PMID	: 00027468	PM RQ	: 09	Model WO	: 10605820
Rework Indicator	: N	Rework Comments	:				

Cross Reference

<u>Type</u>	<u>Number</u>	<u>Sub Nbr</u>	<u>Description</u>
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Facility	: BNP BRUNSWICK NUCLEAR PLANT	<div>UNIT</div> <div>2</div>
Task Desc	: PREPARE AREAS & BLDGS FOR COLD WEATHER	
Tsk Priority	: 4 Tsk Planner : DEFAULTB	
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MAINTENANCEAdditional Task Listings

<u>Tsk</u>	<u>Craft</u>	<u>Work Order Task Listing</u>	<u>Work Against</u>	<u>Type</u>	<u>Crew</u>	<u>Hours</u>
01	MECH	(M), 2-MSS-MIS, ANNUAL COLD WEATHER PREPARATION.	BNP 2 8580 MIS 00001	PM	FIN2	40
01	MECH	(M), 2-MSS-MIS, ANNUAL COLD WEATHER PREPARATION.	BNP 2 8580 MIS 00001	PM	SM1	40
01	MECH	(M), 2-MSS-MIS, ANNUAL COLD WEATHER PREPARATION.	BNP 2 8580 MIS 00001	PM	SM2	40
02	ELEC08	PREPARE AREAS & BLDGS FOR COLD WEATHER	BNP 2 8580 MIS 00001	PM	IE1	160
02	ELEC08	PREPARE AREAS & BLDGS FOR COLD WEATHER	BNP 2 8580 MIS 00001	PM	TPW	160
03	SCAF	S: BUILD A TENT AROUND STORM DRAIN BASIN PUMPS	BNP 2 8260 MIS 00001	OA	SCAF	16
04	SCAF	S: BUILD A TENT AROUND CASBCH LUBE PUMPS	BNP 2 8260 MIS 00001	OA	SCAF	24
05	SCAF	S: BUILD A TENT AROUND 2-WW-LIC-4234	BNP 2 6260 LC- 00001	OA	SCAF	16
06	SCAF	S: BUILD A TENT AROUND 2-WW-LCV-4253	BNP 2 6260 LCV 00001	OA	SCAF	16

UNIT
2

Facility	: BNP BRUNSWICK NUCLEAR PLANT	<div>UNIT</div> <div>2</div>
Task Desc	: PREPARE AREAS & BLDGS FOR COLD WEATHER	
Tsk Priority	: 4 Tsk Planner : DEFAULTB	
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<u>Fac.</u>	<u>Number</u>	<u>Title</u>	<u>Print</u>	<u>Document Link</u>
BNP	WKREADY	WORK READINESS REVIEW	N	
BNP	WO INST.	PAS WORK INSTRUCTIONS	Y	

References/Document Information

<u>Fac</u>	<u>Type/Subtype</u>	<u>Number</u>	<u>Sheet</u>	<u>Title/Desc</u>	<u>Print</u>
BNP	DRAW CWD	LL-90046 SHP205		VENTILATION AIR SECTION -P-	
BNP	DRAW CWD	LL-90046 SHP206		VENTILATION AIR SECTION -P-	
BNP	DRAW ISO	FSP-02198 SH0058		CST FLEX CONNECTION YARD PIPING COMPOSITE PLAN PIPING LINE ISOMETRIC	
BNP	DRAW ISO	FSP-02198 SH0061		PIPING-LINE ISOMETRIC CST FLEX CONNECTION YARD PIPING COMPOSITE PLAN	
BNP	DRAW IWD	F-36085		U.1 MISC. HEATERS OTERCONN. WIRING DIAG.	
BNP	DRAW MMC	F-04158		COUNTY WATER STORAGE TANK COMPOSITE PIPING	
BNP	DRAW PID	D-02040 SH0001A		CONDENSATE DEMINERALIZED WATER TRANSFER SYSTEMS PIPING DIAGRAM	
BNP	DRAW PID	D-02040 SH0001B		CONDENSATE & DEMINERALIZED WATER TRANSFER SYSTEMS PIPING DIAGRAM	
BNP	DRAW PID	F-04044		COUNTY WATER SUPPLY SYSTEM PIPING DIAGRAM	
NGD	APRC MN	AD-HS-ALL-0110		ELECTRICAL SAFETY	
NGD	APRC OP	AD-OP-ALL-0204		PLANT STATUS CONTROL	
NGD	FAD MN	CSD-MN-ALL-		FLEET TECHNICAL FUNDAMENTALS HANDBOOK	
NGD	PROC MN	TE-MN-ALL-0800		INSTALLATION, CONTROL, AND REMOVAL OF TEMPORARY POWER	

EDMS Folder Document Information

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EDB Documents

<u>Fac</u>	<u>Type</u>	<u>SubType</u>	<u>Number</u>	<u>Sheet</u>	<u>Reference</u>
BNP	EDAT	EDBU	EC 0000075122		
BNP	EDAT	EDBU	EC 0000076151-000		

eFolder Documents

UNIT
2

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1.0 PURPOSE AND SCOPE

Prepare various buildings for cold weather per the following work instructions.

For temporary power required for this PM task see PMRQ 27468-12.

2.0 PRECAUTIONS AND LIMITATIONS

Reference TE-MN-ALL-0800 as needed for electrical safety and arc flash protection..... ☐ ✓

Storage of combustible material is not allowed in the separation zones. Separation zone restrictions are enforced when the applicable unit is in modes 1, 2, or 3. ☐ ✓

Transient combustible material is allowed in the zones when work is in progress, material is not left unattended, and the material is removed when the responsible worker exits the separation zone. Reference AD-EG-ALL-1520, as needed for info. ☐ ✓

Reference 0AI-119 for using drop cords – all 120VAC drop cords must be equipped with GFCI protection. ☐ ✓

120VAC Heaters plugged into a convenience receptacle, must be equipped with a GFCI plug unless the receptacle is GFCI protected, or a GFCI protected drop cord is used..... ☐ ✓

Do not install radiant/infrared type heaters at SLC area (Reference AR 663151 and 734334-04) ☐ ✓

For **Minimum Separation Distance** Reference AD-EG-ALL-1523 (Table 1) for temporary Force air Heaters installed in the power block..... ☐ ✓

3.0 SPECIAL INSTRUCTIONS

LOCATION: VARIOUS BUILDINGS, SEE INSTRUCTIONS.

Work instructions may be performed in any logical sequence, as needed as long as all steps are performed. ☐ ✓

If needed, coordinate with system engineer and/or Operations to resolve any conflicts..... ☐ ✓

Temporary heat trace for instrument lines should be “Self-Regulating” type Raychem 8BTv1 (or equivalent) unless otherwise stated. ☐ ✓

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3.0 SPECIAL INSTRUCTIONS (continued)

Temporary heat trace for Eye wash / safety showers should be "Self-Regulating" type Raychem 3BTV1 (or equivalent) unless directed otherwise by the I&E supervisor. ☐ ✓

Some Heaters are stored in RMCSB. Heaters for Intake Screens are in the cold weather storage building near the Stack. Contact IE1 for assistance with locating heaters. Additional heaters will need to be obtained by M/R if needed. Contact Planner if additional heaters are needed. ☐ ✓

The cloud point for the No. 2 diesel fuel oil used at BNP is calculated to be 23°F. At this temperature, crystals can form which can blind the fuel filters for operating equipment. Due to their relatively small volume, the Fire Pump Fuel Oil Tank and SAMA diesel fuel oil tanks require sheltering and Supplementary heating at 25°F to maintain operability. To avoid admission of these crystals to the 4-day Diesel Generator Tanks, the fill lines are isolated at 25°F. Engineering has determined that the 7-day tank will remain operable at this temperature due to its large volume and the tendency for the crystals to re-dissolve once admitted to the 4-day tank if tank filling becomes necessary. ☐ ✓

Per Pete Dorosko: supplemental heaters on OTV spray coolers and TB inlet plenum. Operating experience has demonstrated that supplement heating is not needed. There is enough warm air from the turbine deck even when outside temperatures are in the low teens. ☐ ✓

The clearance between the heat blower and stored materials shall be maintained at all times and in accordance with the clearances shown on the approval agency label or at least 3 feet (0.9m) in all directions. ☐ ✓

Temp power for equipment installed by the PM is performed by PMRQ 27468-12 ☐ ✓

Equipment can be installed in any order as long as all equipment is installed. ☐ ✓

4.0 EXPECTED ALARMS AND IMPACTS

None

5.0 PREREQUISITES

Ensure equipment is proper tagged, barricaded for safety, and protected from foreign material while in storage. ☐ ✓

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5.0 PREREQUISITES (continued)

Coordinate work with, Operations, temporary power crew, scaffold crew, and mechanics as needed..... ☐ ✓

Prior to entering the RCA, check with HP desk at the single point access also, review radiological survey information and / or contact the area HP for current radiological conditions and any other necessary requirements. ☐ ✓

6.0 WORK INSTRUCTIONS

NOTE

This PM is in support of site preparation for cold weather, equipment staged or installed should remain in place during cold weather months. It will be removed in spring by PMRQ 27468-10. ☐ ✓

Thermometer placement is performed by the AO, contact the WCC if thermometers are not in place in areas where temporary heaters are installed. ☐ ✓

For Minimum Separation Distance Reference AD-EG-ALL-1523 (Table 1) for temporary Force air Heaters installed in the power block. ☐ ✓

Install temporary heating (high capacity blowers, lamps, etc.) installed at the following locations as indicated. ☐ ✓

6.1 U1 Reactor Building

See operator rounds in eSOMS.

6.1.1 SLC Pump area

CAUTION

Do not install radiant/infrared type heaters at SLC area (Reference AR 663151 and 734334-04) ☐ ✓

Minimum separation distance from SLC equipment for Force Air Heaters is 3'-0" horizontal, 4'-0" vertical (NCR 02091736) ☐ ✓

Stage (1) Fostoria 15KW / 480VAC 3Ø @ 18A (or equivalent) forced air heaters at SLC pump area..... ☐ ✓

Ensure temp power equipment is in place as needed to support installations, if not, contact the TEMP PWR group. ☐ ✓

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6.1.1 SLC Pump area (continued)

- Tag** equipment: "FOR USE FOR SLC FOR COLD WEATHER BILL – DO NOT REMOVE". ☐ ✓
- Ensure** equipment is tagged with contact information. ☐ ✓
- Verify** operation of heater. *Checked heater in Fab Shop* ☐ *JG*

6.1.2 U/1 80' Supply Fan Room

(Reference: Drawing D-25030 Sh 2 and D-02058 Sh 3A).

- Verify** heat trace is in place on U/1 80' supply fan room piping as follows: ☐ ✓
- 1-WW-210-2-J-4 to valve 1-WW-V214 ☐ ✓
 - 1-DW-312-1-L-1 to valve 1-DW-V289 ☐ ✓
 - 1-DW-311-1-L-1 to valve 1-DW-V288 ☐ ✓
 - 1-FP-237-2-J-2 to valve 1-FP-V1007 and 1-FP-V350 ☐ ✓
- Install** drop cord(s) for heat trace and route to outlet or temp power route as needed. *Took in one drop Cord* ☐ ✓
- Ensure** cords do not pose a trip or safety hazard. ☐ ✓
- Connect** Heat Trace to power source and **verify** operation. ☐ *JG*
- Initiate** a W/R to replace Heat Trace if not working. ☐ *NA*

Record comments and actions taken concerning above installation:

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6.2 U2 Reactor Building

6.2.1 SLC Pump area

CAUTION	
Do not install radiant/infrared type heaters at SLC area (Reference AR 663151 and 734334-04)	<input type="checkbox"/> ✓
Minimum separation distance from SLC equipment for Force Air Heaters is 3'-0" horizontal, 4'-0" vertical (NCR 02091736)	<input type="checkbox"/> ✓

- Stage** (1) Fostoria 15KW / 480VAC 3Ø @ 18A (or equivalent) forced air heaters at SLC pump area..... ☐ ✓
- Ensure** temp power equipment is in place as needed to support installations, if not, contact the TEMP PWR group. ☐ ✓
- Tag** equipment: "FOR USE FOR SLC FOR COLD WEATHER BILL – DO NOT REMOVE". ☐ ✓
- Ensure** equipment is tagged with contact information..... ☐ ✓
- Verify** operation of heater..... *checked heater in Fed Shop* ☐ ✓ *JG*

6.2.2 U/2 80' Supply Fan Room

(Reference: Drawing D-02530 Sh 2 and D-02058 Sh 3A).

- Verify** heat trace is in place on U/2 80' supply fan room piping as follows:..... ☐ ✓
- 2-WW-210-2-J-4 to valve 2-WW-V214..... ☐ ✓
 - 2-DW-312-1-L-1 to valve 2-DW-V289..... ☐ ✓
 - 2-DW-311-1-L-1 to valve 2-DW-V288..... ☐ ✓
 - 2-FP-237-2-J-2 to valve 2-FP-V1007 and 2-FP-V350..... ☐ ✓
- Install** drop cord(s) for heat trace and route to outlet or temp power route as needed..... ☐ ✓
- Ensure** cords do not pose a trip or safety hazard. ☐ ✓
- Connect** Heat Trace to power source and **verify** operation..... ☐ ✓ *JG*
- Initiate** a W/R to replace Heat Trace if not working..... ☐ NA
- Record** comments and actions taken concerning above installation:

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6.2.2 U/2 80' Supply Fan Room (continued)

6.3 Battery Rooms

NOTE

Usually requested by OPS in extended periods of cold weather ☐ ✓

This equipment will be staged in an approved satellite location outside of the Control Building; heaters and cables should be tagged and staged in the same satellite location, and dedicated only for this purpose, coordinate storage location with temp power group. ☐ ✓

Stage (1) Fostoria 15KW / 480VAC 3Ø @ 18A (or equivalent) forced air heaters for U/1 Battery Rooms in a satellite location: RCA TEMP POWER FAB SHOP 2ND Floor ☐ ✓

Stage (1) Fostoria 15KW / 480VAC 3Ø @ 18A (or equivalent) forced air heater for U/2 Battery Rooms in a satellite Location RCA TEMP POWER FAB SHOP 2ND Floor ☐ ✓

Ensure temp power equipment is in place as needed to support installations, if not, contact the TEMP PWR group ☐ ✓

Verify operation of heaters..... not ☐ ✓

Ensure there is a 480V splitter available for U/1 side. ☐ ✓

Ensure there is enough cable staged to run heaters from TEMP PWR supply to the applicable battery rooms. ☐ ✓

Tag equipment: "FOR USE IN BATTERY ROOMS FOR COLD WEATHER BILL – DO NOT REMOVE" ☐ ✓

ALSO tag equipment with a warning that says: "PRESSURE SEAL WORK PERMIT, FIRE BARRIER PERMIT, AND CONTINUOUS FIRE WATCH REQUIRED BEFORE USING EQUIPMENT IN THE BATTERY ROOMS" ☐ ✓

Ensure staging area is barricaded and tagged with contact information. ☐ ✓

Record comments and actions taken concerning above installation:

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Equipment staged in RCA Temporary Power fab shop on upper

6.4 70' Control Building

- Install** one forced air heaters in 70' Control Building HVAC room, near Air Compressors. ☒
- Use** Fostoria, 15KW 480VAC 3Ø @ 18 amps (or equivalent) heaters, if available. ☒
- Ensure** temp power request is in place as needed to support installations, if not, contact the TEMP PWR group. ☒
- Verify** operation of heater. ☒
- Ensure** there is enough cable staged to run heaters from outlet 2-M12 to each side of the HVAC room. ☒
- Tag** equipment and cables: "FOR USE IN 70' CTRL BLDG HVAC RM FOR COLD WEATHER BILL – DO NOT REMOVE". ☒
- Ensure** equipment is tagged with contact information. ☒

Record comments and actions taken concerning above installation:

6.5 Service Water Building

- Install** (1) forced air heater in SW Bldg; (UNIT 1) on 4' ☒
- Use** Fostoria 15KW / 480VAC 3Ø @ 18A (or equivalent) heater. ☒
- Install** (2) forced air heaters in SW Bldg; (UNIT 2) on 20' ☒
- Use** Fostoria, 18KW, 208VAC 3Ø @ 50 amps (or equivalent) heaters. (Temp Pwr rack with transformer required), if available. ☒

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6.5 Service Water Building (continued)

NOTE

Particular attention shall be given to the hose reel station on the 4' elevation and the hose reel stations and sprinkler system on the 20' elevation of the Service Water Building. The 18KW heaters on 20' can be set for 12KW if loading needs to be reduced. ☐

Ensure temp power request is in place as needed to support installations, if not, contact the TEMP PWR group. ☐

Verify operation of heaters. ☒

Ensure there is enough cable staged to run heaters from outlet 1-MR5(U/1 4') and 2-MR5(U/2 20') to each required area of the SW bldg. ☒

Tag equipment: "FOR USE IN SW BLDG FOR COLD WEATHER BILL – DO NOT REMOVE". ☒

Ensure equipment is tagged with contact information. ☒

Record comments and actions taken concerning above installation:

6.6 CWIP Intake Structure

6.6.1 Traveling screens, indicators, and tubing

Verify there are (at least 12) 15KW (minimum) working force air heaters in the cold weather storage bldg. (1 for each CW / SW traveling screen). ☒

Tag heaters "FOR USE ON TRVL SCRNS FOR COLD WEATHER BILL – DO NOT REMOVE". ☒

Verify heat trace is in place on $\frac{3}{4}$ " screen wash header instrument pipe to FISH WASH Header Pressure Indicators, 1-SCW-PI-286-1 1-SCW-PI-286-1A, 2-SCW-PI-286-1A, 2-SCW-PI-286-1A ☒

Verify Heat Trace is working. ☒

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6.6.1 Traveling screens, indicators, and tubing (continued)

- Initiate** a W/R to repair or replace if Heat Trace is not working. ☒ /
- Ensure** cords connecting HT do not pose a trip or safety hazard. ☒ /
- Tag** cords "FOR USE ON TRVL SCRNS FOR COLD WEATHER BILL – DO NOT REMOVE". ☒ /

6.6.2 Sodium Hypochlorite transmitters and tubing

- Verify** heat trace is in place on the 1/2" instrument tubing from the discharge pipe to discharge pressure gauges and pressure transmitters on each CWIP. ☒ /
- Run** drop cords for heat trace on CWIP Sodium Hypochlorite tubing. ☒ /
- Ensure** cords do not pose a trip or safety hazard. ☒ /
- Connect** Heat Trace to power source. ☒ /
- Verify** operation. ☒ /
- Initiate** a W/R to replace or replace if Heat Trace is not working. ☒ N/A
- Ensure** temp power request is in place as needed to support CWIP area installations, if not, contact the TEMP PWR group. ☒ /

6.7 Stores Warehouse

NOTE

This heater will be set up at south column near rollup door when needed. It can be staged at any convenient location in store warehouse, as long a stores personnel are made aware of the staging location. ☒ /

- Stage** (1) forced air heater at Stores Warehouse and an area designated by Stores supervisor (or designee). ☒ /
- Use** Fostoria 15KW / 480VAC 3Ø @ 18A (or equivalent) heater ☒ /
- Tag** heater "FOR USE IN STORES FOR COLD WEATHER BILL – DO NOT REMOVE". ☒ /

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Ensure temp power request is in place as needed to support heater in Stores area installations, if not, contact the TEMP PWR group..... ☐ ✓

Record comments and actions taken concerning above installations:

6.8 AOG Building

Stage 15KW forced air heater on AOG bldg roof for CAC tank..... ☐ ✓

Ensure temp power request is in place as needed to support installations, if not, contact the TEMP PWR group..... ☐ ✓

NOTE




The following requirements were moved from PMRQ 5849 per PMR 478739, to this PM..... ☐ ✓

Check permanent heaters located in CAD room and southwest airlock as follows:..... ☐ ✓

- **Inspect and clean** the CAD room fire hose station heater (NODE "H0J"); using small brush or compressed air. ☐ ✓
- **Verify** the thermostat 1-AOG-BLDG-SW-CONT-THRMST is set at 36 degrees Fahrenheit in panel (REF. F-36085, LL-90046 SHT. P206). ☐ JG
- **Verify** operability of the heater, place the control switch (1-VA-CS-5328) in the "AUTO" position, and adjust the thermostat (set to 36 degree F) by raising the temperature setpoint using a small flat screwdriver ☐ JG
- **Verify** the control switch 1-VA-CS-5328 on the back of the heater unit is in the "HEATER" position. ☐ JG
- **Verify** setpoint on 1-AOG-BLDG-SW-CONT-THRMST is returned to 36 degree and control switch is in "AUTO". ☐ JG
- **Inspect and clean** the AOG BLDG. S.W. fire hose station heater using small brush or compressed air. ☐ ✓
- **Verify** the thermostat is set at 36 degrees Fahrenheit in panel "HOP" for the AOG BLDG. S.W. fire hose station heater. (ref. F-36085, LL-90046 sht. P205) ☐ JG

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6.8 AOG Building (continued)

- **Verify** operability of the heater, place the control switch (1-VA-CS-5329) in the "AUTO" position, and adjust the thermostat (set to 36 degree F) using appropriate tools. 
- **Verify** the control switch 1-VA-CS-5329 on the back of the heater unit is in the "HEATER" position. 
- **Verify** setpoint of 1-AOG-BLDG-SW-CONT-THRMST is returned to 36 degree and control switch is in "AUTO" 

Record comments and actions taken concerning above installations:

PUT STAGING TAG ON HEATER! FOR USE FOR CAC TANK
COLD WEATHER BILL - DO NOT REMOVE

6.9 Make Up Water Treatment Building

- Install** forced air heater in the MWT near the Fire Pump. ☐ 
- Use** Fostoria, 30KW 480VAC 3Ø @ 36 amps (or equivalent) heater, if available. ☐ 
- Ensure** temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☐ 
- Verify** operation of heater..... 
- Tag** equipment: "FOR USE ON FIRE PUMP FOR COLD WEATHER BILL - DO NOT REMOVE". ☐ 
- Ensure** equipment is tagged with contact information..... ☐ 

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6.9.1 MWT Eye Wash/Safety Shower (continued)

NOTE

The lines below need temporary heat trace, however EDB show lines have permanent heat trace. Located near 2A Demin Water Transfer Pump @ MWT..... ☐ /

If not traced or if heat trace is not working then a W/R needs to be initiated..... ☐ /

Check heat trace instrument lines on 2-MUD-PT-1153..... ☐ /

Check heat trace instrument lines on 2-MUD-PI-1153-1..... ☐ /

6.9.1 MWT Eye Wash/Safety Shower

NOTE

Only use enough heat trace to keep Eye Wash/Safety Shower above freezing.
Excessive amounts of Heat Trace could cause water to be too hot for safe use..... ☐ /

Verify heat trace is in place on the Eye Wash/Safety Shower. ☐ /

Run drop cords for heat trace on Eye Wash/Safety Shower. ☐ /

Ensure cords do not pose a trip or safety hazard. ☐ /

Connect Heat Trace to power source. ☐ /

Verify heat trace is working..... ☐ /

Initiate a W/R to repair or replace if Heat Trace is not working..... ☐ /

Ensure equipment is tagged with contact information..... ☐ /

Record comments and actions taken concerning above installations:

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6.10 Diesel Fire Pump Fuel Oil Tank

Install forced air heater in Diesel Engine Fire Pump Fuel Oil Tank Room. ☐ ✓

Use Salamander, 30KW 480VAC 3Ø @ 36 amps (or equivalent) heater, If used 15kw available. ☐ ✓

Ensure temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☐ ✓

Verify operation of heater..... ☐ ✓

Tag equipment: "FOR USE ON FIRE PUMP FOR COLD WEATHER BILL – DO NOT REMOVE". ☐ ✓

Ensure equipment is tagged with contact information..... ☐ ✓

Record comments and actions taken concerning above installations:

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6.12 SAMA Diesels (continued)

6.11 Storm Drain Basin Pump Area

NOTE	
Usually requested by OPS in periods of cold weather.....	<input checked="" type="checkbox"/>
A tent will be needed for this installation.....	<input checked="" type="checkbox"/>

Install forced air heater at the Storm Drain Basin Pump area. ☒

Use (1) Fostoria 15KW / 480VAC 3Ø @ 18A heater, if available, ☒

Ensure temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☒

Verify operation of heater..... nae

Tag equipment: "FOR USE FOR STORM DRAIN PUMPS FOR COLD WEATHER BILL – DO NOT REMOVE". ☒

Ensure equipment is tagged with contact information..... ☒

Record comments and actions taken concerning above installations:

6.12 SAMA Diesels *Per Supervision this is no longer in use and will not require*

NOTE	
A tent will be needed for this installation.	<input type="checkbox"/>

Install (2) forced air heater at the SAMA DIESELS fuel tank area. ☐

• **Ensure** (1) heater is at each SAMA DIESEL fuel tank..... ☐

Use Fostoria, 15KW, 480VAC 3Ø @ 18 amps (or equivalent) heaters, if available ☐

Assist scaffold builders with erection of tent around SAMA DG's as needed..... ☐

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6.12 SAMA Diesels (continued)

** SEE NOTE PAGE 14*

Ensure temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☐

Verify operation of heater.....

Tag equipment: "FOR USE FOR SAMA DIESELS FOR COLD WEATHER BILL – DO NOT REMOVE". ☐

Ensure equipment is tagged with contact information..... ☐

Record comments and actions taken concerning above installations:

6.13 ~~Fire House~~

Stage a15KW forced air heater in fire house..... ☐

Ensure temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☐

Ensure there is enough cable staged to run heater from TEMP PWR rack. ☐

Verify operation of heater.....

Tag equipment: "FOR USE IN FIRE HOUSE FOR COLD WEATHER BILL – DO NOT REMOVE". ☐

Record comments and actions taken concerning above installations:

** Per Supervision the Fire House has it's own HVAC Unit and no
Longer requires Cold Weather Bill equipment.*

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6.15 Diesel Generator Building (continued)

6.14 Diesel Fuel Oil 4 Day Tank Fill Station

NOTE

Engineering has determined that the 7-day tank will remain operable at this temperature due to its large volume and the tendency for the crystals to redissolve once admitted to the 4-day tank if tank filling becomes necessary. ☐ ✓

Equipment should be staged in the Aux Boiler House if possible. If not, a satellite location can be used with concurrence of the WCC/SRO. ☐ ✓

Windbreak (installed by mechanics) required for this installation. ☐ ✓

Obtain a forced air heater for the DIESEL FUEL OIL 4 Day Tank Fill Station. ☐ /

Use Salamander, 30KW 480VAC 3Ø @ 36 amps (or equivalent) heater, if available, ☐ /

Ensure temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☐ /

Verify operation of heater..... ☐ /

Tag equipment: "FOR USE ON DIESEL FUEL OIL FILL STATION FOR COLD WEATHER BILL – DO NOT REMOVE". ☐ /

Record staging location of heater. C-1km on North Side of TPW Mini Fab Shop

Ensure equipment is tagged with contact information..... ☐ /

Record comments and actions taken concerning above installations:

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6.15 Diesel Generator Building

NOTE

Equipment should be staged in the DG 50' area if possible. If not, a satellite location can be used with concurrence of the WCC/SRO. ☐ /

Obtain a 15KW forced air heater for use at DIESEL BLDG 50' fire hose station. ☐ /

Ensure temp power is in place as needed to support installations, if not, contact the TEMP PWR group. ☐ /

Ensure there is enough cable staged to run heater from hose station area to TEMP PWR supply. ☐ /

Verify operation of heater. ☐ /

Tag equipment: "FOR USE ON DG BLDG 50' FIRE HOSE STATION AREA FOR COLD WEATHER BILL – DO NOT REMOVE". ☐ /

Record staging location of heater. Given North Side of TPW Mini Fab Shop

Ensure equipment is tagged with contact information. ☐ /

Record comments and actions taken concerning above installations:

6.16 Warehouse "H" Deluge Valve House

Install 500 watt quartz light. ☐ ✓

Relamp fixture if reusing an old light. ☐ ✓

Mount light in a safe and secure manner. ☐ ✓

Verify operation of light. ☐ ✓

Ensure installation does not pose a trip or safety hazard. ☐ ✓

Ensure equipment is tagged with contact information. ☐ ✓

Record comments and actions taken concerning above installations:

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6.18.2 CWOD Lube Water System (continued)

6.17 Low Level Warehouse Deluge Valve House

Install a 15KW forced air heater in the LOW LEVEL Warehouse Deluge Valve House. ☐ ✓

Ensure temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☐ ✓

Verify operation of heater..... ☐ ✓

Tag equipment: "FOR USE IN LLW WAREHOUSE FOR COLD WEATHER BILL – DO NOT REMOVE". ☐ ✓

Ensure equipment is tagged with contact information..... ☐ ✓

Record comments and actions taken concerning above installations:

6.18 Caswell Beach

6.18.1 Deluge Valve House

Install 500 watt quartz light. ☐ ✓

Relamp fixture if reusing an old light. ☐ ✓

Mount light in a safe and secure manner. ☐ ✓

Verify operation of light. ☐ ✓

Ensure installation does not pose a trip or safety hazard ☐ ✓

Ensure equipment is tagged with contact information. ☐ ✓

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6.18.2 CWOD Lube Water System

NOTE

Equipment should be staged in the Equipment Building if possible. If not, a satellite location can be used with concurrence of the WCC/SRO. ☐ /

Tent or Wind blocking screens required. ☐ /

Obtain a 15KW forced air heater for use at CWOD Lube Water pumps. ☐ /

Ensure temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☐ /

Ensure there is enough cable staged to run heater from pump area to TEMP PWR rack. ☐ /

Verify operation of heater..... ☐ /

Tag equipment: "FOR USE ON CWOD LUBE WATER PUMP AREA FOR COLD WEATHER BILL – DO NOT REMOVE"..... ☐ /

Ensure equipment is tagged with contact information..... ☐ /

6.18.3 CWOD Lube Water Header Pressure Indicators

Verify heat trace is in place on the CWOD LW Header Pressure Indicators Instrument Lines leading to pressure switch enclosure. (ref. D-02051 sh 1 & 2.)..... ☐ /

• 1-CW-PS-1131 ☐ /

• 1-CW-PS-1132..... ☐ /

• 2-CW-PS-1131..... ☐ /

• 2-CW-PS-1132 ☐ /

Run drop cords for heat trace..... ☐ /

Ensure cord do not pose a trip or safety hazard. ☐ /

Connect Heat Trace to power source. ☐ /

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6.18.3 CWOD Lube Water Header Pressure Indicators (continued)

- Verify** operation..... ☒
- Initiate** a W/R to repair or replace if Heat Trace is not working..... ☒
- Ensure** equipment is tagged with contact information..... ☒

6.19 County Water Tank

6.19.1 2-WW-LIC-4234

NOTE

- Usually requested by OPS in periods of cold weather..... ☒
- A tent will be needed for this installation..... ☒

- Install** forced air heater at 2-WW-LIC-4234. ☒
- Use** (1) Fostoria 15KW / 480VAC 3Ø @ 18A heater, if available, ☒
- Ensure** temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☒
- Verify** operation of heater..... ☒
- Tag** equipment: "FOR USE FOR 2-WW-LIC-4234 FOR COLD WEATHER BILL – DO NOT REMOVE". ☒
- Ensure** equipment is tagged with contact information..... ☒

Record comments and actions taken concerning above installations:

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6.20 TB MCP (Modular Chiller Plant) Chemical Storage Building
(continued)

6.19.2 2-WW-LCV-4253

NOTE	
Usually requested by OPS in periods of cold weather.....	<input type="checkbox"/> ✓
A tent will be needed for this installation.....	<input type="checkbox"/> ✓

- Install** forced air heater at 2-WW-LCV-4253. ☐ ✓
- Use** (1) Fostoria 15KW / 480VAC 3Ø @ 18A heater, if available, ☐ ✓
- Ensure** temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☐ ✓
- Verify** operation of heater..... ☐ ✓
- Tag** equipment: "FOR USE FOR 2-WW-LCV-4253 FOR COLD WEATHER BILL – DO NOT REMOVE". ☐ ✓
- Ensure** equipment is tagged with contact information..... ☐ ✓

Record comments and actions taken concerning above installations:

6.20 TB MCP (Modular Chiller Plant) Chemical Storage Building

NOTE	
Usually requested by OPS in periods of cold weather.....	<input type="checkbox"/> ✓
A tent will be needed for this installation.....	<input type="checkbox"/> ✓

- Install** heater in TB MCP Chemical Storage Building..... ☐ ✓
- Use** small space heater Cat ID 9220187159, ☐ ✓
- Ensure** temp power is in place as needed to support installations, if not, contact the TEMP PWR group..... ☐ ✓
- Verify** operation of heater..... ☐ ✓
- Tag** equipment: "FOR USE FOR TB MCP CHEMICAL STORAGE BUILDING FOR COLD WEATHER BILL – DO NOT REMOVE". ☐ ✓

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**6.20 TB MCP (Modular Chiller Plant) Chemical Storage Building
(continued)**

Ensure equipment is tagged with contact information..... ☐ /

Record comments and actions taken concerning above installations:

6.21 CST to valve 2-CO-V5171 / 1-CO-V5172

Verify heat trace is in place on line between 2-CO-V5171 and CST
(Reference: Drawing FSP-02198 Sh 61) ☐ /

Verify heat trace is in place on line between 1-CO-V5172 and CST
(Reference: Drawing FSP-02198 SH0058)..... ☐ /

Install drop cord(s) for heat trace and route to outlet or temp power route
as needed..... ☐ /

Ensure cords do not pose a trip or safety hazard. ☐ /

Connect Heat Trace to power source and **verify** operation..... ☐ /

Initiate a W/R to replace Heat Trace if not working..... ☐ /

Record comments and actions taken concerning above installation:

6.22 Notifications and SRO verification

Notify Planner if additional instructions are needed and assistance with
parts and materials. ☐ N/A

Notify WCC/SRO preparation for cold weather is complete and request
his/her review and sign-off below: ☐ ✓

• **WCC/SRO (or cognizant designee):**

◇ **Review** all areas where Supplemental Heat that was installed
or staged by this task as documented above. ☐ ✓

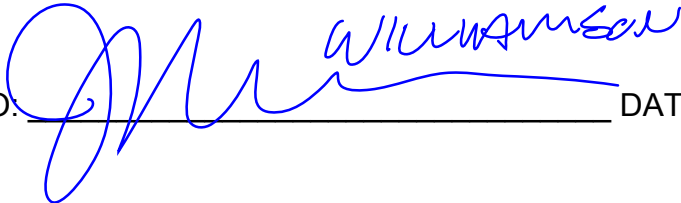
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6.22 Notifications and SRO verification (continued)

- ◇ **Review** staging areas for Supplemental Heat equipment with I&E technician(s) and ensure areas are acceptable and comply with plant procedures. ☒
- ◇ **I&E has been notified** of any deficiencies or discrepancies that do not meet the requirements of eSOMS or other plant procedures and any deficiencies or discrepancies have been corrected. ☒

NOTE

It is suggested that the WCC/SRO distribute information about temporary heaters and heater staging areas so that the appropriate Operation's personnel will be aware that heaters are in place and / or staged as needed. ☒

WCC/SRO:  DATE 10 27 2020

7.0 FOLLOW-UP ACTIONS

- Notify** supervisor of any discrepancies. ☒
- Initiate** a work request any repair damaged equipment. ☒

8.0 RECORDS

Individuals Initialing or Place Keeping Within Instructions, Record Name and Initials Below

Name (Printed/Signature)	Initials (Written)
<u>ME Fullwood</u> / <u>ME Fullwood</u>	<u>mf</u>
<u>Gordon Thompson</u> / <u>Gordon Thompson</u>	<u>GT</u>
_____ / _____	_____
_____ / _____	_____
<u>John Gore</u> / <u>John Gore</u>	<u>JG</u>

Document Comments

Comment Type: Quality Control

Supervisor Review Complete Released to Records

Comment Type: WO Completion

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***** End of Quality Record *****