



WORK ORDER PACKAGE

20432538 02

Quality Record

10/24/21 03:03 AM



2043253802

EWP Summary

WO Task/WR Nbr : 20432538 02

Facility: BNP

Performed By(Printed Name and Signature):JOHN GORE (JAGORE)
Date: 10/07/2021 16:13

Reviewed By(Printed Name and Signature): BARRY SELLERS (C73526)
Date: 10/10/2021 02:57

Document List

1. Duke_WorkOrderPackage_Rpt_B
2. WO INST.

PAS WORK INSTRUCTIONS

Facility	: BNP BRUNSWICK NUCLEAR PLANT	UNIT 2
Task Desc	: PREPARE AREAS & BLDGS FOR COLD WEATHER	
Tsk Priority	: 4 Tsk Planner : I76506	
UCR	: AAC :	
Task Status	: READY at 07/21/21 10:43 AM	

Work Order Package	
20432538	02
<u>PREDEFINED</u> <u>MAINTENANCE</u>	

Wo Desc : PREPARE VARIOUS LOCATIONS & BUILDINGS FOR COLD WEATHER
Wo Priority : 4 **WO Planner** : I76506
Frequency : 1YY **Due Date** : 20211003 **Late Date** : 20211104
Outage :



2043253802

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



20432538-02

ERAT Code : *NO_CODE

Task Requirements

<u>REQ(s)</u>	<u>Value(s)</u>	<u>Description</u>
ASSD	N	NO
EQ RELATED	N	NO
FIRE PROT	N	NO
FME LEVEL	E	FME EXCEPTION APPLIES
FUNC VERIF	N	NO RETEST IS REQUIRED
GL 89-10	N	
ISI CLASS	N	NOT APPLICABLE
Q-CLASS	D	NON-SAFETY, NO SPECIAL REQUIREMENTS
QC REQ	N	NO QC IS REQUIRED OR IS NOT APPLICABLE FOR NON-QA WORK

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<u>PREDEFINED MAINTENANCE</u>	

RETEST	N	NO RETEST IS REQUIRED
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)

HP ASSISTANCE WILL BE NEEDED TO TEST DETECTORS IN LOCKED HIGH RAD AREAS.

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PREDEFINED
MAINTENANCEClearance Tagging instructionsRP 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

Task Labor Hours Estimate

<u>Res</u>	<u>Staff</u>	<u>Hours</u>	<u>Total Estimated Hours</u>
ELEC08	2	65	130.0

<u>Fac</u>	<u>Crew</u>	<u>Description</u>	<u>Sch Date/Time</u>
BNP	IE1	Electrical 1	/ / 6:00 PM
BNP	SM1	BNP ROTATING SHIFT A- EMPCENTER PURPOSES ONLY	/ / 6:00 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>
AR	02391413		
AR	02393166		

Additional 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	SM2	40 4
20432538	02	***SQA Qualified Report, Commensurate with SWQL C***		09/14/21	02:43 PM	3

Facility	: BNP BRUNSWICK NUCLEAR PLANT	UNIT 2	Work Order Package			
Task Desc	: PREPARE AREAS & BLDGS FOR COLD WEATHER		20432538 02			
Tsk Priority	: 4 Tsk Planner : I76506		PREDEFINED			
UCR	: AAC :		MAINTENANCE			
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02	ELEC08	PREPARE AREAS & BLDGS FOR COLD WEATHER	BNP 2 8580 MIS 00001	PM	IE1	130
02	ELEC08	PREPARE AREAS & BLDGS FOR COLD WEATHER	BNP 2 8580 MIS 00001	PM	SM1	130
03	SCAF	S: BUILD A TENT AROUND STORM DRAIN BASIN PUMPS	BNP 2 8260 MIS 00001	OA	SCAF	36
04	SCAF	S: BUILD A TENT AROUND CASBCH LUBE PUMPS	BNP 2 8260 MIS 00001	OA	SCAF	36
05	SCAF	S: BUILD A TENT AROUND 2-WW-LIC-4234	BNP 2 6260 LC-00001	OA	SCAF	18
06	SCAF	S: BUILD A TENT AROUND 2-WW-LCV-4253	BNP 2 6260 LCV 00001	OA	SCAF	36

UNIT
2

Facility	: BNP BRUNSWICK NUCLEAR PLANT	UNIT 
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Work Order Package

20432538 02

PREDEFINED
MAINTENANCEDocumentReferenceInformationWork Order Standard

<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

Facility	: BNP BRUNSWICK NUCLEAR PLANT	UNIT 
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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

Facility	: BNP BRUNSWICK NUCLEAR PLANT	UNIT <u>2</u>
Task Desc	: PREPARE AREAS & BLDGS FOR COLD WEATHER	
Tsk Priority	: 4 Tsk Planner : I76506	
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20432538	02
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<u>MAINTENANCE</u>	


W/O-Task: 20432538-02 [BNP]
PREPARE AREAS & BLDGS FOR COLD WEATHER

RWP:	2016	Dose Est:	4
Alara:			


W/O-Task: 20432538-02 [BNP]
PREPARE AREAS & BLDGS FOR COLD WEATHER

RWP:	2016	Dose Est:	4
Alara:			


W/O-Task: 20432538-02 [BNP]
PREPARE AREAS & BLDGS FOR COLD WEATHER

RWP:	2016	Dose Est:	4
Alara:			


W/O-Task: 20432538-02 [BNP]
PREPARE AREAS & BLDGS FOR COLD WEATHER

RWP:		Dose Est:	4
Alara:			


W/O-Task: 20432538-02 [BNP]
PREPARE AREAS & BLDGS FOR COLD WEATHER

RWP:	2016	Dose Est:	4
Alara:			


W/O-Task: 20432538-02 [BNP]
PREPARE AREAS & BLDGS FOR COLD WEATHER

RWP:		Dose Est:	4
Alara:			

WORK ORDER TASK INSTRUCTIONS (TPW) Prepare areas & buildings for cold weather	MWO 10605820 / PMID-RQ27468-09
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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..... ☐

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..... ☒

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:

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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)



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.



Tag equipment: "FOR USE FOR SLC FOR COLD WEATHER BILL – DO NOT REMOVE".



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



Note 1

* **Verify** operation of heater.....

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.....

DN

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



U/A/B

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: TPW Shop inside of RCA ☐ /

Stage (1) Fostoria 15KW / 480VAC 3Ø @ 18A (or equivalent) forced air heater for U/2 Battery Rooms in a satellite Location TPW Shop inside of RCA ☐ /

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

Verify operation of heaters..... ☐ /

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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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. ☒

Note 1

*

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:

Cold is in the room, being used on
Pony Rack

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. ☒

Note 1

* **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 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 ☒

Note 1

* **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. ☒ NA 96

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. ☒ NA 96

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). /

- **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 /

- **Verify** the control switch 1-VA-CS-5328 on the back of the heater unit is in the "HEATER" position. /

- **Verify** setpoint on 1-AOG-BLDG-SW-CONT-THRMST is returned to 36 degree and control switch is in "AUTO". /

- **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) /

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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:

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..... ☒

Note 1

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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..... ☒ NA 95

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

Note 2

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..... ☒ DN

Initiate a W/R to repair or replace if Heat Trace is not working..... ☒ A/A 021

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 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..... ☒

A tent will be needed for this installation..... ☒

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..... ☒

Note 1 * **Verify** operation of heater.....

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

NOTE

A tent will be needed for this installation. ☒

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)

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

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:

SAMA Diesels no longer in service
No Heaters required.

6.13 Fire House

Stage a15KW forced air heater in fire house..... ☐ *N/A*

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:

Fire House has Central HVAC System.
Heaters not required

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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. Aux Boiler house

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. Clean Fab Shop (TPW)

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. ☒

Note 1

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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. ☒

Note 1

*

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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..... ☒ NA
- 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:

Staged inside MWT Building

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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.....	☒
A tent will be needed for this installation.....	☐

- 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:
Staged in Sheet Metal shop

6.20 TB MCP (Modular Chiller Plant) Chemical Storage Building

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

- 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. ☐

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: CHW chlookshike DATE 10 7 21

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)

Gordon Thompson	/	Gordon Thompson	/	
Daniel Morris	/	Daniel Morris	/	
David Tug	/	David Tug	/	
John Gore	/	John Gore	/	
	/		/	
	/		/	

Document Comments

Comment Type: WO Completion

Completed per work order instructions and procedure.

Tech John Gore

N

supervisor review complete. release to records.

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