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## **DOCKET NO. 52485**

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<b>§ PUBLIC UTILITY COMMISSION</b>
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# SOUTHWESTERN PUBLIC SERVICE COMPANY'S RESPONSE TO COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION QUESTION NOS. 2-1 THROUGH 2-6

(Filename: SPSRespStaff2nd.doc; Total Pages: 20)

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#### **DOCKET NO. 52485**

APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE OF

PUBLIC SERVICE COMPANY FOR §

AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS

## SOUTHWESTERN PUBLIC SERVICE COMPANY'S RESPONSE TO COMMISSION STAFF'S SECOND REQUEST FOR INFORMATION QUESTION NOS. 2-1 AND 2-6

Southwestern Public Service Company ("SPS") files this response to the Public Utility Commission of Texas Staff's ("Staff") Second Request for Information, Question Nos. 2-1 and 2-6 SPS has provided notice, by email, to all parties that SPS's Responses to Staff's Second Request for Information and accompanying exhibits (excluding voluminous and exhibits provided pursuant to the protective order) have been filed with the Commission and are available for download from the Commission's Interchange website.

## I. WRITTEN RESPONSES

SPS's written responses to Staff's Second Request for Information are attached and incorporated by reference. Each response is stated on or attached to a separate page on which the request has been restated. SPS's responses are made in the spirit of cooperation without waiving SPS's right to contest the admissibility of any of these matters at hearing. In accordance with 16 Tex. Admin. Code § 22.144(c)(2)(A) ("TAC"), each response lists the preparer or person under whose direct supervision the response was prepared and any sponsoring witness. When SPS provides certain information sought by the request while objecting to the provision of other information, it does so without prejudice to its objection in the interests of narrowing discovery disputes under 16 TAC § 22.144(d)(5). Pursuant to 16 TAC § 22.144(c)(2)(F), SPS stipulates that its responses may be treated by all parties as if they were made under oath.

#### II. INSPECTIONS.

If responsive documents are more than 100 pages but less than eight linear feet in length, the response will indicate that the attachment is voluminous ("(V)") and, pursuant to 16 TAC § 22.144(h)(2), the exhibit will be made available for inspection at SPS's voluminous room at 600 Congress Avenue, Suite 2000, Austin, Texas 78701; telephone number (512) 721-2700. Voluminous exhibits will also be provided on SPS's file sharing platform.

If a response or the responsive documents are provided pursuant to the protective order in this docket, the response will indicate that it or the attachment is either confidential ("CONF") or highly Sensitive ("HS") as appropriate under the protective order. Access to Confidential and Highly Sensitive materials will be available on SPS's file sharing platform to all parties that have signed and filed the certification under the protective order entered in this docket. Confidential and Highly Sensitive responsive documents will also be made available for inspection at SPS's voluminous room, unless they form a part of a response that exceeds eight linear feet in length; then they will be available at their usual repository in accordance with the following paragraph. Please call in advance for an appointment to ensure that there is sufficient space to accommodate your inspection.

If responsive documents exceed eight linear feet in length, the response will indicate that the attachment is subject to the FREIGHT CAR DOCTRINE, and, pursuant to 16 TAC § 22.144(h)(3), the attachment will be available for inspection at its usual repository, SPS's offices in Amarillo, Texas, unless otherwise indicated. SPS requests that parties wishing to inspect this material provide at least 48-hour notice of their intent by contacting Mark A. Santos at Coffin Renner L.L.P. PC, 1011 West 31st Street, Austin, Texas 78705; telephone number (512) 879-0900; facsimile transmission number (512) 879-0912; email address mark.santos@crtxlaw.com. Inspections will be scheduled to accommodate all requests with as little inconvenience to the requesting party and to SPS's operations as possible.

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Respectfully submitted

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**ATTORNEYS FOR** SOUTHWESTERN PUBLIC SERVICE COMPANY

#### RESPONSES

## **QUESTION NO. Staff 2-1:**

Please explain how SPS plans to handle cold weather critical components including any component that is susceptible to freezing, the occurrence of which is likely to lead to unit trip, derate, or failure to start.

#### **RESPONSE:**

As part of the requirements of the Winter Preparation Checklist called out in ESO 6.605 Seasonal Readiness – Winter Preparation Policy, many tasks are required to protect the unit and equipment from extreme cold temperatures. Those requirements are called out in Section 4 of the policy. Please refer to Exhibit SPS-Staff 2-1, for the applicable policy.

## **QUESTION NO. Staff 2-2:**

Please explain how SPS plans to utilize weather emergency preparation measures including measures that support the function of a facility in extreme weather conditions, including weatherization, fuel security, staffing plans, operational readiness, and structural preparations.

#### **RESPONSE:**

As part of the requirements of the Winter Preparation Checklist called out in ESO 6.605 Seasonal Readiness – Winter Preparation Policy, many tasks are required to protect the unit and equipment from extreme cold temperatures. Those requirements are called out in Section 4 of the policy. Please refer to SPS's response to Staff Question No. 2-1.

## **QUESTION NO. Staff 2-3:**

Please explain how SPS plans for all preparations necessary to ensure the sustained operation of all-weather critical components during extreme weather conditions, such as chemicals, auxiliary fuels, and other materials, and personnel required to operate the resource.

## **RESPONSE:**

As part of the requirements of the Winter Preparation Checklist called out in ESO 6.605 Seasonal Readiness – Winter Preparation Policy, many tasks are required to protect the unit and equipment from extreme cold temperatures. Those requirements are called out in Section 4 of the policy. Please refer to SPS's response to Staff Question No. 2-1.

## **QUESTION NO. Staff 2-4**

Please explain how SPS plans for installation of adequate wind breaks for items susceptible to outages or derates caused by wind; enclosure of sensors for extreme weather critical components; inspection of thermal insulation for damage or degradation and repair of any damaged or degraded insulation; confirmation of the operability of instrument air moisture prevention systems; maintenance of freeze protection components for all equipment, including fuel delivery systems, the failure of which could cause an outage or derate, and establishment of a schedule for testing of such freeze protection components on an ongoing monthly basis; and the installation of monitoring systems for extreme weather critical components, including circuitry providing freeze protection or preventing instrument air moisture.

#### **RESPONSE:**

As part of the requirements of the Winter Preparation Checklist called out in ESO 6.605 Seasonal Readiness – Winter Preparation Policy, many tasks are required to protect the unit and equipment from extreme cold temperatures. Those requirements are called out in Section 4 of the policy. Please refer to SPS's response to Staff Question No. 2-1.

## **QUESTION NO. Staff 2-5:**

Please explain the provision of training on extreme weather preparations to operational personnel; and [sic]

## **RESPONSE:**

As required in the policy ESO 6.605 Seasonal Readiness – Winter Preparation Policy, plant management will "provide generating unit-specific training to plant personnel responsible for operations and maintenance. At a minimum, the training should include the following areas: the plant's cold weather preparedness plan, additional operator rounds checks for cold weather, past severe cold weather lessons learned, discussion of potential areas of cold weather risks, communication protocols during severe weather." Please refer to Exhibit SPS-Staff 2-1.

## **QUESTION NO. Staff 2-6:**

Please explain SPS's determination of minimum and maximum design temperature, minimum or maximum operating temperature, and other operating limitations based on temperature, precipitation, humidity, wind speed, and wind direction.

#### **RESPONSE:**

SPS does not have specific minimum and maximum design temperature requirements for its existing fleet of units

Xcel Energy generation first documented a cold weather preparedness plan in 2012. However, SPS has been implementing mitigation strategies for cold weather events for at least two decades. These mitigation activities proved effective during the 2011 cold weather event and resulted in a strong performance by the SPS generation fleet.

The design of SPS's units have proven to be adequate to perform in severe weather events throughout the life of the plants. SPS plants performed well during the February 2021 event. The vast majority of the derates/outages, during the February 2021 event, were caused by force majeure curtailments of firm fuel supply agreements. Throughout the February 2021 event SPS was able to meet power supply commitments.

To further SPS's commitment to cold weather preparedness and to document the design of future units in SPS's system, a requirement has been included for all new facilities to have temperature design limitations clearly defined during engineering of the facility. This requirement is in section 3.3 of the policy ESO 6.605 Seasonal Readiness – Winter Preparation Policy. Please refer to Exhibit SPS-Staff 2-1.

## **CERTIFICATE OF SERVICE**

I certify that, unless otherwise ordered by the presiding officer, notice of the filing of this document was provided to all parties of record via electronic mail on October 11, 2021, in accordance with the Order Suspending Rules, issued in Project No. 50664.

Mark A. Santos

Seasonal Readiness Policy Docket No. 52485

<b>② Xcel</b> Energy <sup>∞</sup>		ESO 6.605
Energy S	upply Operations	Revision: 4.0
TITLE:	Seasonal Readiness - Winter Preparation Policy	Page 1 of 9

## 1.0 PURPOSE

This policy establishes the requirements and management expectations associated with the proper protection necessary for periods of cold weather throughout the Energy Supply Operations (ESO) facilities.

## 2.0 APPLICABILITY

All Energy Supply Operations personnel and support departments performing work at Xcel Energy generating facilities.

## 3.0 RESPONSIBILITIES

- 3.1 Plant Management (Plant Director/Manager, Department Managers) shall be responsible for the following:
  - 3.1.1 Assign roles supporting this policy and establish the Winter Preparation Checklists at their plant (Use Appendix A or ESO 6.605A01).
  - 3.1.2 Review policy annually and begin implementation of the Winter Preparation Checklist (See Appendix A or ESO 6.605A01) prior to the cold weather season, on or before September 1st of each year, complete by October 31st each year, and follow Section 5.0 for record filing.
    - 3.1.2.1 The wind farms utilize traveling contractors to perform semiannual maintenance including winterization activities of the turbines. This may result in completion later than October 31<sup>st</sup> in some cases.
  - 3.1.3 Ensure the freeze protection equipment is kept in operable condition.
  - 3.1.4 Provide generating unit-specific training on winter weather preparations and past cold weather lessons learned to plant maintenance or operations personnel responsible for implementing the facility cold weather preparedness plan.
- 3.2 Commercial Operations shall be responsible for the following:
  - 3.2.1 Review generator normal fuel supply and delivery contracts and verify adequacy of alternate fuel inventory for plants with fuel switching capability.
  - 3.2.2 Request testing of units with fuel switching capability using the alternate fuel source. Following the instructions in this document: Fuel Oil Testing (EFS-2.803P)
  - 3.2.3 Consider periodic starting and equipment warm up prior to actual dispatch. This allows for reliable operations and response to unexpected contingencies. Following the Emergency Procedures Spreadsheets for each Operating Company
  - 3.2.4 Work with the plants to evaluate and implement extended start times as needed for generation assets during cold events.
  - 3.2.5 Consider minimum operating temperatures during cold weather events.

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Managers, NERC Compliance		Electronic Approval on File
Consultants		• •
Effective Date: 04/1/2012	Revision Date: 09/13/2021	Approved Date:09/13/2021

Seasonal Readiness Policy Docket No. 52485

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- 3.3 Energy Supply Projects shall be responsible for the following:
  - 3.3.1 Determine the generating equipment and facility temperature design limitations for new facilities.
- 3.4 Performance Optimization shall be responsible for the following:
  - 3.4.1 Provide forecasts (Green Sheets) to Commercial Operations of real power capability for each generating unit taking into account limitations due to winter or summer ambient temperatures. Any changes in NDC ratings for affected plants shall be reflected in the PCI communication system with Commercial Operations.
  - 3.4.2 Establish for each generating unit a minimum:
    - 3.4.2.1 design temperature; or
    - 3.4.2.2 historical operating temperature; or
    - 3.4.2.3 current cold weather performance temperature determined by an engineering analysis
- 3.5 Reliability and Standard Compliance shall provide updates to this policy from the NERC Guideline Generator Unit Winter Weather Readiness guidelines or other documents.
- 3.6 Environmental Services will coordinate all environmental agency correspondence and requests to include documentation and reporting of environmental related activities and any enforcement discretion needed for emergency conditions.

#### 4.0 REQUIREMENTS

- 4.1 The Winter Preparation Checklist includes the recommendations in the FERC/NERC report on Outages and Curtailments during the Southwest Cold Weather Event of February 1-5, 2011 report as well as recommendations from other industry reports. As a minimum, the items shall be reviewed and completed, where applicable, for the previous winter season. Items that are deemed Not Applicable (NA) shall be justified in the notes column of the checklist. Plant management should perform the following:
  - 4.1.1 Review the previous winter events, issues, or cold weather critical component failures; this should include a review of open work orders in the work management system for corrective maintenance items that could affect plant operation and reliability in winter weather and ensure they are completed prior to the onset of the winter season.
  - 4.1.2 Provide generating unit-specific training to plant personnel responsible for operations and maintenance. At a minimum, the training should include the following areas: the plant's cold weather preparedness plan, additional operator rounds checks for cold weather, past severe cold weather lessons learned, discussion of potential areas of cold weather risks, communication protocols during severe weather.

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Seasonal Readiness Policy

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- 4.1.3 Verify the heat trace functionality and ensure circuits have not tripped. Establish plan to reverify monthly during winter months.
- 4.1.4 Verify and visually inspect the insulation quality for piping that will contain water and if frozen would immediately jeopardize the availability of the unit.
- 4.1.5 Verify and visually inspect the insulation quality for instrumentation systems, instrument sensing lines and control valves.
- 4.1.6 Add additional insulation to exposed components where needed.
- 4.1.7 Verify the alternate fuel storage capacity (inventory) and validate with Commercial Operations that inventory levels are adequate for upcoming winter for units with fuel switching capability. (Plants with Alternate Fuel Capability Only)
- 4.1.8 Verify black start unit(s) availability during extreme cold weather. (Black Start Units Only)
- 4.1.9 Review inventory for adequate emergency supplies and stock of food, as applicable to potentially include things like: Extension cords, Portable generators, Insulation material and fleece blankets, Electrical heat trace, Heat guns, Plastic rolls, Heat lamps and portable heaters, Copper instrumentation tubing, Propane heaters and propane bottles, Handheld welding torches, Heat lamps as applicable etc.
- 4.1.10 Prepare for temporary heating needs, including locations for fuel storage and style of heater and heating requirements. Acquire, test, and install portable heaters as necessary.
- 4.1.11 Acquire and install tarps, temporary shelters, or wind breaks around sensitive equipment areas.
- 4.1.12 Test the backup emergency generators and verify adequate fuel in inventory.
- 4.1.13 Review temporary lodging availability for personnel in the event of inclement weather.
- 4.1.14 Drain water from nonessential systems (i.e., non-critical service water lines)
- 4.1.15 Allow essential and unprotected water lines drip.
- 4.1.16 Schedule additional personnel, as needed, during periods of Severe Winter Weather Events.
- 4.1.17 Inspect and maintain instrument air moisture prevention systems as needed.
- 4.1.18 Ensure portable air compressors are available to provide backup dry instrument air in remote areas as needed.
- 4.2 Maintenance Plans (MP's) shall be written to have work orders issued every September to activate and verify the operating condition of the freeze protection equipment.

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- 4.3 Perform pre-cold weather checks on cold-sensitive components of circuit breakers (ex. generator breaker).
- 4.4 Monitor/inspect circuits providing freeze protection to ensure their operating integrity, especially those with ground fault interrupters (GFIs), to ensure they have not tripped.
- 4.5 If there is no room thermostat, place thermometers in rooms containing equipment sensitive to cold temperatures and monitor in order to be able to take action when temperatures approach the equipment's design limits.
- 4.6 Consider installing monitoring equipment for cold weather components, including circuitry providing freeze protection or preventing instrument air moisture where appropriate.
- 4.7 Enclose sensors for cold weather components where possible.
- 4.8 Keep auxiliary boilers on hot standby where applicable.
- 4.9 Periodically inspect and maintain winter weather protection.
- 4.10 Before and during a Severe Winter Weather Event, communicate with all personnel about changing conditions and potential areas of concern to heighten awareness around safe and reliable operations. Encourage plant staff to look for areas at risk due to winter conditions and bring up opportunities to improve readiness and response.
- 4.11 Before a Severe Winter Weather Event, should initiate plant specific Operator rounds to periodically inspect cold weather critical components, monitor temperature readings, ensure doors are closed, inspect insulation, evaluate icing, inspect circuitry for heat trace and other components providing freeze protection etc.
- 4.12 Freeze protection equipment should be inspected after the winter season
- 4.13 Following each winter, conduct an evaluation of the effectiveness of the winter weather preparation procedure and incorporate lessons learned and best practices.

## 5.0 REQUIRED RECORDS

- 5.1 The completed Work Management Work Orders and the signed completed checklists are to be retained on-site or in SAP.
- 5.2 Plants shall place their completed Plant Winter Preparations Checklists in Documentum in the appropriate regional plant folder. Retention time is six years.

#### 6.0 REFERENCES & DEFINITIONS

6.1 Definitions

Severe Winter Weather Event - Any time an Extreme Weather Alert for cold weather is issued by Commercial Operations.

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#### 6.2 References

Energy Supply Operations Policy ESO 6.100, Operations Standard Operating Procedures

Energy Supply Operations Policy ESO SPS 6.10 Emergency Operations Plan Policy

Fuel Supply Policy EFS 2.801P Fuel Supply Emergency Reporting

Requirements Procedure (Natural Gas and Fuel Oil)

Fuel Supply Policy EFS 2.803P Fuel Oil Testing

Environmental Policy and Services Policy ENV 8.407 Removal of

**Environmental Constraints** 

Technical Services Policy EPR 5.701G01Circuit Breaker Maintenance Guideline

FERC/NERC Report on Outages and Curtailments during the Southwest Cold

Weather Event of February 1-5, 2011, pages 197-209

Lessons Learned from Southwest Cold Weather Event

Lesson Learned Preparing Circuit Breakers for Cold Weather Operation

Lesson Learned Cold Weather Operation of SF<sub>6</sub> Circuit Breakers

NERC Reliability Guideline - Generating Unit Weather Readiness-Current **Industry Practices** 

2019 FERC and NERC Staff Report - The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018

2012 Quanta Technology Report on Extreme Weather Preparedness Best **Practices** 

#### 7.0 **REVISION HISTORY**

Date	Revision Number	Change
09/13/2021	4.0	<ul> <li>Section 3.1.2 - Added winter prep checklist completion due date</li> <li>Section 3.1.4 - Added training requirement per new</li> </ul>
		<ul> <li>NERC Standards</li> <li>Section 3.2 – Consolidated and added Commercial Operations responsibilities</li> <li>Sections 3.3 and 3.4 – Added minimum design and operating temperature requirements for Projects and Performance Optimization per new NERC Requirements</li> </ul>
		<ul> <li>Section 3.6 – Added Environmental Services requirements</li> <li>Section 4 – Overhaul of section 4 to cover training requirements, enhanced monitoring of freeze</li> </ul>

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		protection equipment, address recommendations in 2012 Quanta Tech Report.
04/30/2021	3.2	<ul> <li>Added "Seasonal Readiness" to Title</li> </ul>
11/19/2020	3.1	<ul> <li>Section 6.2 – Added NERC Lesson Learned – Cold Weather Operation of SF<sub>6</sub> Circuit Breakers (Revision 2.4 already addressed recommendation from lessons learned)</li> </ul>
10/16/2020	3.0	<ul> <li>Section 3.1 - Added completion language for plants</li> <li>Section 3.6 - Added responsibility of Compliance area to contribute each review</li> <li>Adding new pdf writeable form as attachment</li> <li>Updated all ES organization names due to Ops Model II</li> <li>Updated VP Operations signature.</li> </ul>
10/11//2019	2.4	Content Review performed by content owners.  Section 4.4 Added pre-cold weather checks on circuit breakers  Section 4.5 Added periodic inspection and maintenance  Section 6.2 – Added links to industry guidance and added references EPR 5.701G01, ESO SPS6.10, and 2019 FERC and NERC Staff Report for January 17, 2018 Event
5/29/2018	2.3	Content Review performed by content owners.  Section 1.0 – Removed reference to a retired standard.  Section 6.2 – Added link to Lessons Learned from Southwest Cold Weather Event
03/08/2017	2.2	Content Review performed by content owners. Section 3.1.3 - Minor grammar correction. Section 4.2 - Updated terminology for SAP Appendix A Part B – Updated terminology for SAP
3/31/2016	2.1	<ul> <li>Content Review performed by stakeholders.</li> <li>Section 4.1 - Added 'NA' justification language</li> <li>Appendix A Checklist – 'NA' removed from requirement one.</li> <li>Appendix A - Numbered requirements.</li> <li>Appendix A - Added notes column for descriptions of items that get marked 'NA'.</li> </ul>
5/19/2015	2.0	Content Review performed conducted.  Section 3.1.4 - Removed  Section 3.6 - Removed  Section 4.1.17 – Added Section.  Reworded 4.1.9

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		<ul> <li>Sections 4.4, 4.5 - Severe Weather event actions grouped into two types: Before/during an actual event and following every winter.</li> <li>Section 5.3, 5.4 - deleted</li> <li>Section 5.2 - Reworded section to allow for regional location within Documentum</li> <li>Section 6.1 - Added Severe Winter Weather Event Definition.</li> <li>Appendix A Checklist - 'NA' removed from four requirements. Clarifications made to cover policy wording.</li> </ul>
07/18/2014	1.1	<ul> <li>Content Review conducted.</li> <li>3.8 Added changes in NDC ratings for affected plants shall be reflected in the PCI communication system with Energy Markets.'</li> <li>4.1.14 and Appendix A Checklist changed from annual training to a review.</li> </ul>
3/29/2012	1.0	Original Issue

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## **APPENDIX A**

Winter Preparation Checklist							
	Part A. Fleet-w	ide Item	is (all Pla	ant Checklists mu	st contair	n Part A <b>)</b>	
	Description of Task	YES c	or N/A	Responsible	Initial	Completed Date	Notes (Include reason for N/A)
1.	Review the previous winter events, issues, or cold weather critical component failures; this should include a review of open work orders in the work management system for corrective maintenance items that could affect plant operation and reliability in winter weather and ensure they are completed prior to the onset of the winter season.	YES	6				
2.	Provide generating unit-specific training to plant personnel responsible for operations and maintenance. At a minimum, the training should include the following areas: the plant's cold weather preparedness plan, additional operator rounds checks for cold weather, past severe cold weather lessons learned, discussion of potential areas of cold weather risks, communication protocols during severe weather	YES	6				
3.	Verification of heat trace functionality and ensure circuits have not tripped. Establish plan to reverify monthly during winter months.	YES□	N/A□				
4.	Verification and visual inspection of insulation quality for piping and water lines	YES□	N/A□				
5.	Verification and visual inspection of insulation quality for instrumentation systems, instrument sensing lines and control valves	YES□	N/A□				
6.	Addition of extra insulation to exposed components	YES□	N/A□				
7.	Verification of alternate fuel storage capacity (inventory) and validation with Commercial Operations that inventory levels are adequate for upcoming winter for units with fuel switching capability (Plants with Alternate Fuel Capability Only)	YES□	N/A□				
8.	Verification of black start unit availability prior to extreme cold weather. (Black Start units only)	YES□	N/A 🗌				
9.	Stock of food and emergency supplies	YES□	N/A 🗌				
	Acquisition, installation and testing of portable heaters	YES□	N/A 🗌				
	Acquisition and installation of tarps, temporary shelters, or wind breaks around sensitive equipment areas	YES□	N/A□				
	Testing of backup emergency generators and verification of adequate fuel in inventory	YES□	N/A□				
13.	Plan for temporary lodging for personnel in case of inclement weather, if needed	YES	<b>S</b> □				

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<ol> <li>Draining water from nonessential (i.e., non-critical service water line</li> </ol>	s) YES	N/A□				
15. Ensure unprotected but essential are free to drip.	10	Es□				
<ol> <li>Plan for scheduling of additional p during periods of Severe Weather cold weather.</li> </ol>	or extreme YE	ES□				
<ol> <li>Inspect and maintain instrument a prevention systems as needed.</li> </ol>	YE	ES□				
<ol> <li>Ensure portable air compressors to provide backup dry instrument areas as needed.</li> </ol>		N/A 🗆				
Reviewed by:(Plant I APPENDIX A (Continued	•		I	Date:		_
Part B. Plant Specific Iten	s/Checklists					
Description of Task			intenance Plan # applicable)	Responsible	Initial	Completed Date
Reviewed by:				Date:		
(P	ant Director)					

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