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CASTLE GAP WIND

Mills & Lampasas Counties, TX

A **SWIFT CURRENT ENERGY** PROJECT

CASTLE GAP WIND POWER, LLC

EMERGENGY OPERATIONS PLAN

EFFECTIVE DATE:

VERSION: 1.1

CONFIDENTIAL

AFFIDAVIT

STATE OF TEXAS §

§

COUNTY OF HARRIS §

Before me, the undersigned notary public, on this day personally appeared William Kelsey, to me known to be the person whose name is subscribed to the foregoing instrument, who being duly sworn according to law, deposes and says:

1. My name is William Kelsey. I am over the age of eighteen and am a resident of Harris County, Houston, Texas. I am competent to testify to all the facts stated in this Affidavit.

2. I am a Manager with binding authority over power generation company ("PGC") Castle Gap Wind Power, LLC.

3. I further swear or affirm that I have personal knowledge of the facts stated below:

- Relevant operating personnel are familiar with and will have received training on the applicable contents and execution of the EOP, and such personnel are instructed to follow the applicable portions of the EOP except to the extent deviations are appropriate as a result of specific circumstances during the course of an emergency,
- The EOP will be reviewed and approved by the appropriate executives,
- Drills will be conducted to the extent required by subsection (f) of PUC Subst. R. § 25.53 by: December 15, 2023,
- The EOP or an appropriate summary has been or will be distributed to local jurisdictions as needed,
- Castle Gap Wind Power, LLC will maintain a business continuity plan that addresses returning to normal operations after disruptions caused by an incident; and
- Castle Gap Wind Power, LLC has emergency management personnel who are designated to interact with local, state, and federal emergency management officials during emergency events who have received the latest IS-100, IS-200, IS-700, and IS-800 National Incident Management System training.

4. I further swear or affirm the information, statements and/or representations contained in the Emergency Operations Plan are true, complete, and correct to the best of my knowledge and belief.

Further affiant sayeth not.

William Kelsey
Manager
Castle Gap Wind Power, LLC

SWORN TO AND SUBSCRIBED TO BEFORE ME on the 28 day of August, 2023.

Brittany Edwards
My Commission Expires
8/2/2026
Notary ID133887374

Notary Public in and
for the State of Texas

My Commission Expires: 8/2/2026

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1. PURPOSE:

1..1.1. This document has been developed for Castle Gap Wind Power to ensure compliance with Chapter 25 of the Public Utility Commission of Texas, Substantive Rules Applicable to Electric Service Providers, Subchapter C, and Quality of Service. §25.53 Electric Service Emergency Operations Plans.

1..1.2. The purpose of this Emergency Operations Plan ("EOP") is to detail the requirements and actions for emergency operations of the Power Generation Company's ("PGC") wind-powered electric generation facility in Texas and weather emergency preparedness.

2. APPLICABILITY:

2..1.1. This plan applies to Castle Gap Wind Power, LLC, which is also registered with ERCOT as Resource Entities ("REs"):

2..1.2. As of 08/30/2023, this current version of the Emergency Operations Plan supersedes any prior version of this Emergency Operations Plan.

2..1.3. Castle Gap Wind Power, LLC most recently approved this EOP on August 28, 2023.

3. REFERENCES:

3..1.1. Public Utility Commission of Texas substantive rule 16 Texas Administrative Code ("TAC") § 25.53: Electric Service Emergency Operations Plans

3..1.2. Public Utility Commission of Texas substantive rule 16 TAC § 25.55: Weather Emergency Preparedness

3..1.3. Texas Department of Transportation, Hurricane Information: http://www.txdot.gov/travel/hurricane.htm

4. PROCEDURE:

4..1. Operations During Severe Cold or Severe Hot Weather

4..1.1. Winter weather preparedness steps and activities for the wind facilities are identified in Section 4.1.

4..1.1.1. The temperature parameters for the wind turbine generator (WTGs) comprising the PGCs listed in Section 2 are summarized in the table below in Section 4.2.4.

4..1.2. Aside from temperature, icing conditions and sustained high winds can also affect WTG operations. Further information regarding the potential impacts from icing and sustained high winds can be found in Section 4.2.4.

4..1.3. Training. 16 TAC § 25.55(c)(1)(D) requires the following: "Provide training on winter weather preparations and operations to relevant operational personnel…" There are two sets of operating personnel: remote control room operators and the on-site operations and maintenance ("O&M") staff. The training each receives corresponds with the scope of their responsibilities for winter weather preparations and operations.

4..1.3.1. Control room operators ("CROs"). Each facility is remotely monitored 24/7 by the Invenergy Control Center ("ICC") located in Chicago, Illinois. A Backup Control Center ("BCC") is located in Lombard, Illinois. The ICC maintains the capability to monitor and remotely control the balance of plant ("BOP") facilities. Communications with ERCOT (via the QSE) and the interconnecting utility are managed at the ICC. The PGC's QSE is Galt Power a subsidiary of Customized Energy Solutions Ltd. (CES).

4..1.3.1.1. By November 25th of each year, the CROs shall receive winter operations training. The CRO training covers the following winter operations topics:

4..1.3.1.1.1. WTG icing impacts

4..1.3.1.1.2. Alarming and WTG status

4..1.3.1.1.3. Derate identification and reporting

4..1.3.2. The Nordex Control Center (NCC) in Rostock, Germany remotely monitors 24/7 all WTG controls and operations. All operators are trained in NC2 operation control, main converter, pitch system analysis and adjustments.

4..1.3.3. Documentation of this training shall be provided to Asset Management and Owner Representative by November 25th of each year.

4..1.3.4. On-site O&M staff. Each wind facility is staffed during regular business hours by on-site O&M staff. The O&M staff primarily perform preventative maintenance activities and on-site WTG troubleshooting and return to service activities. This staff receives winter weather preparation and operations training on the winter weather readiness form (attached hereto as Appendix A) and safety-related policies/procedures listed in Section 4.1.1.

4..1.3.4.1. During periods of severe hot or cold weather, the on-site staff shall reference the following policies and procedures or equivalent when performing activities on-site.

4..1.3.4.1.1. When extreme heat or cold conditions are present, the on-site personnel shall reference and implement: Policy_Fleet_EHS_Manual_Heat_and_Cold_Stress (attached hereto as Appendix B).

4..1.3.4.1.2. When severe weather is impacting the wind facility, the on-site personnel shall reference and implement the checklist: Procedure_Fleet_JHA_Inclement_Weather (attached hereto as Appendix C).

4..1.3.4.1.3. If icing conditions are present, on-site personnel shall reference and implement: Procedure_Fleet_Pre_Work_Icing_Checklist (attached hereto as Appendix D) to mitigate risk of injury or equipment damage.

4..1.3.4.2. Prior to November 25th of each year, each wind facility Site Field Technical Representative shall conduct training with their staff on the documents listed in Section 4.1.3.3 Records of this training, including a roster of individuals that received the training, shall be provided to Asset Management and Owner Representative by November 25th of each year.

4..2. Critical Failure Points and Cold Weather Critical Components

4..2.1. 16 TAC § 25.55(b)(1) defines a Cold Weather Critical Component ("CWCC") for a resource as "Any component that is susceptible to freezing or icing, the occurrence of which is likely to significantly hinder the ability of a resource or transmission system to function as intended and, for a generation entity, to lead to a trip, derate, or failure to start of a resource."

4..2.2. Each wind facility in Section 2.1 has the same types of CWCC, which are:

4..2.2.1. Blades – Icing accumulation on the blades can significantly hinder the ability of the resource to function, and may ultimately lead to a trip, derate, or failure to restart the WTG. However, there is currently no commercially viable anti-icing or de-icing technology available for the blades on these WTGs.

4..2.3. Monitoring CWCCs. 16 TAC § 25.55(c)(1)(B) requires, among other items, "…and install monitoring systems for cold weather critical components."

4..2.3.1. The WTGs do not have specific sensors to detect the presence of blade icing. Instead, the CROs monitor the actual production performance of the wind facility against the expected performance based on the current meteorological data to identify underperformance. The CROs utilize in-house tools to assist with this identification. Training on the use of these in-house tools is provided in accordance with Section 4.2.2.1.1.

4..2.4. Operating limitations. 16 TAC § 25.55(c)(1)(e) requires each generation entity to "Determine minimum design temperature or minimum experienced operating temperature, and other operating limitations based on temperature, humidity, wind speed, and wind direction."

4..2.4.1. Operating limitations based on icing conditions are noted in Section 4.2.2.1 above. Icing is the only precipitation-related limitation.

4..2.4.2. Operating limitations based on the operating temperature range, as provided by the WTG OEM, appear in Table 4.2.4.6. below.

4..2.4.2.1. The minimum temperature of the operating temperature range is the temperature at which all sub-systems of the WTG are designed to function correctly, allowing the equipment to produce power as intended.

4..2.4.2.2. The minimum ambient fault temperature is the temperature at which the WTG will trip offline based on an ambient temperature sensor reading to prevent the WTG from operating in temperatures below its safe design limits.

4..2.4.2.3. .

4..2.4.3. Operating limitations based on wind speed, as provided by the OEM, appear in Table 4.2.4.2. are below.

4..2.4.4. There are no operating limitations based on wind direction.

4..2.4.5. There are no operating limitations based on humidity.

4..2.4.6. There are no operating limitations based on air density.

Table 4.2.4.6

Design	
Operational Temperature range	Negative 40°C to +50°C
Stop threshold parameter	Negative 20°C & 41°C Restart at negative 18°C & 40°C
Nominal Power starting at wind speeds of (air density of 1.225kg/m3)	Approx. 11.5m/s
Cut-in wind speed	3 m/s
Cut-out wind speed	26 m/s
Cut-back wind speed	25.5 m/s

4..2.5. Operational Readiness. 16 TAC § 25.55(c)(1)(A) requires, among other items, "Use best efforts to implement weather emergency preparation measures intended to ensure the sustained operation of all cold weather critical components during severe weather conditions, including… weatherization, operational readiness…". Additionally, 16 TAC § 25.55(c)(1)(B) requires, among other items, "…conduct maintenance of freeze protection components for all applicable equipment..."

4..2.5.1. After software upgrades, Operations Engineering verifies the parameters listed in Table 4.2.4.6 are set appropriately for the WTGs comprising the applicable facilities. These parameters reflect the WTG settings related to operations during cold weather, sustained high winds and icing conditions.

4..2.5.1.1. Documentation of this verification audit shall be provided to Asset Management and Owner Representative prior to November 30th of each year. The audit documentation shall be reviewed and approved by the Vice President, Operations Engineering prior to submission to Asset Management.

4..2.5.2. During the routine maintenance cycles, which occur on twelve-month intervals for each WTG, O&M staff verify the proper operation of pumps, heaters, fans, and thermostats in accordance with the OEM maintenance procedures. Visual inspections are also performed of seals, hoses, fittings, cables and electrical connections. The O&M staff shall reference the WTG maintenance manual for a list of required activities during each routine maintenance cycle. Records of completed routine maintenance and troubleshooting activities are stored in the Nordex work order management system.

4..2.5.3. The wind facilities do not require any instrument air moisture prevention systems to operate within their design limits.

4..2.5.4. The wind facilities do not require any freeze protection circuitry to operate within their design limits.

4..2.5.5. The on-site staff shall complete all tasks within Form_Fleet_Cold Weather Substation Inspection_Form (a copy of which is attached hereto as Appendix E) prior to the start of the winter season.

4..3. Emergency Shortage of Water

4..3.1. Not applicable. The wind facilities do not require access to water for operations.

4..4. Identification of Severe Weather Events

4..4.1. An Invenergy staff meteorologist monitors weather conditions over a two-week time horizon to identify periods of severe weather with a risk of WTG blade icing or low ambient temperatures. The meteorologist notifies the control room operators, on-site staff, and operations engineering staff by email when the potential for these conditions to occur in the vicinity of the wind facilities arises.

4..4.2. Real-time severe weather hazards that may impact the PGC facilities, including but not limited to tornadoes, hurricanes, flooding, and severely hot or cold weather, are identified using a third-party weather monitoring system (droughts would not have an impact on the PGC facilities). Local weather conditions are monitored by both on-site personnel and the ICC.

4..4.2.1. The control room operators provide notice to the on-site personnel of registered lightning strikes within a 30-mile radius of the wind facility when the personnel are present at the site.

4..4.2.2. Facility personnel are equipped with radios and phones to receive weather notifications while operating each wind facility.

4..4.3. In the event that an emergency or threat is impacting the PGC's facility, or has the potential to imminently impact the facility, the Field Technical Representative shall activate this EOP and direct on-site staff to follow the applicable policies and procedures within the EOP, except to the extent that deviations are appropriate under the circumstances during the course of an emergency. Upon activation of the EOP, the Field Technical Representative shall notify their direct supervisor of the action. If supervisor notification is initially provided by a means other than in writing, Field Technical Representative shall subsequently notify their direct supervisor of the activation via email as soon as practicable.

4..4.3.1. Operations at the PGC's facilities shall continue under the activated EOP until the emergency or threat has passed and the Field Technical Representative informs on-site personnel that the EOP has been deactivated. Upon deactivation of the EOP, the Field Technical Representative shall notify their direct supervisor via email of the action.

4..5. Pre-Arranged Emergency Supplies

4..5.1. First Aid supplies are located in the O&M building.

4..5.2. A First Aid kit is located in each technician vehicle.

4..5.3. An Automated External Defibrillator ("AED") device is located in the O&M building.

4..5.4. The facility maintains a comprehensive parts inventory that is replenished as necessary throughout the year to promote efficient troubleshooting and prompt repair of WTGs. The inventory is stored on-site at the O&M building parts room. The type of parts maintained in inventory include, but are not limited to, items such as pitch system batteries, anemometers, wind vanes, glycol, control cards and coolant pumps.

4..5.5. The O&M building shall be supplied with non-perishable food items (at a quantity the Field Technical Representative determines appropriate), emergency lighting equipment and spare batteries, and multi-band emergency radios for use during emergency operations.

4..5.5.1. The Field Technical Representative will periodically inventory emergency supply items and restock supplies as necessary.

4..6. Emergency Event Staffing

4..6.1. The facility is monitored, operated, and controlled remotely from the ICC. The ICC is staffed 24/7 in Chicago, Illinois by control room operators.

4..6.1.1. The Nordex Control Center (NCC) in Rostock, Germany remotely monitors 24/7 all WTG controls and operations.

4..6.1.2. Additionally, the BCC is located in Lombard, Illinois and can be staffed by control center personnel in the event of an emergency condition at the ICC.

4..6.2. The PGC's facility is maintained by the facility personnel (primarily O&M technicians) located at the facility during standard business hours.

4..6.2.1. Facility personnel remain on-call during off-hour periods and can report to the facility upon dispatch from the NCC, ICC or Field Technical Representative. The facility personnel are primarily engaged in maintenance and facility troubleshooting.

4..6.2.2. Upon activation of the EOP, the Field Technical Representative shall notify all on-site personnel and Owner Representative using available media of the emergency and of the activation of the EOP and shall coordinate with O&M personnel to notify those on-site personnel not present at the facility at that time to standby for any potential need to travel to the facility to assist with emergency operations. As the Field Technical Representative deems necessary, the Field Technical Representative will coordinate with O&M personnel on standby to proceed to the facility to assist with emergency operations.

4..6.2.2.1. In the event that on-site personnel are unable to physically staff the facility due to emergency conditions, the Field Technical Representatives shall notify the ICC and the ICC will maintain responsibility for remotely monitoring and controlling the facility, as noted in 4.6.1.

4..6.2.2.2. Upon deactivation of the EOP after the emergency, the Field Technical Representative shall notify all on-site personnel, Owner Representative, and any personnel on standby of the deactivation.

4..7. Emergency Events Checklists

4..7.1. Reference Appendix A for the winter weather readiness checklist.

4..7.2. Reference Appendix F for a pandemic response checklist.

4..7.3. Reference Appendix G for a wildfire response checklist.

4..8. Alternative Fuels and Storage Capacity

4..8.1. Not applicable. Wind facilities do not use alternative fuels.

4..9. Alternative Fuel Testing

4..9.1. Not applicable. Wind facilities do not use alternative fuels.

4..10. Recovery of Generating Capacity

4..10.1. The requirement of 16 TAC § 25.53(c)(2)(J) is not generally applicable to PGCs because they do not operate a utility or grid system and do not direct the recovery of generation capacity.

4..10.2. Facility Personnel will recover lost generation capacity at the wind facility by coordinating with the interconnecting utility and ERCOT through the PGC's QSE agent.

4..10.3. Facility personnel follow site-specific switching procedures to ensure a safe recovery of generation.

4..10.4. Individual WTGs can be remotely reset and returned to service from the Nordex Operating Center

4..10.5. The facility shall render all available emergency assistance to the Reliability Coordinator, Transmission Operator, or interconnected utility unless such actions violate safety, equipment limitations, or regulatory requirements.

4..11. Pandemic/Epidemic Preparedness and Response

4..11.1. In the event of a pandemic potentially impacting the vicinity of a PGC facility, ICC personnel are prepared to and shall continue to perform the remote monitoring and control of the wind facility.

4..11.2. See Appendix F for a Pandemic Response Checklist. Facility personnel shall comply with the plan in the Pandemic Response Checklist in the event of a pandemic or epidemic.

4..12. Hurricane Plan

4..12.1. Not applicable. The PGC identified in Section 2.1 is not located within any hurricane evacuation zone (see Reference 3.1.3 for identification of hurricane evacuation zones).

4..13. Winter Weatherization Readiness Report

4..13.1. By December 1 of each year, the PGC identified in Section 2.1 must submit to the PUCT and ERCOT, on a form prescribed by ERCOT, a winter weather readiness report that:

4..13.1.1. Describes all activities engaged in by the PGC to complete the weather emergency preparedness requirements of 16 TAC § 25.55, including those actions described in Section 4.1 and 4.2 of this EOP and, if necessary, any assertions of good cause for noncompliance: and

4..13.1.2. Includes a notarized attestation sworn to by the PGC's highest-ranking representative, official, or officer with binding authority over the PGC attesting to the completion of all activities described in the winter weather readiness report, subject to any notice of or request for good cause exception, and to the accuracy and veracity of the information described in the winter weather readiness report.

4..14. Cyber Security Incident Response

4..14.1. In the event of a cyber security incident impacting the PGC, the on-site staff shall reference the North American Electric Reliability Corporation ("NERC") Critical Infrastructure Protection ("CIP") Cyber Security Incident Response Program and follow all actions directed towards on-site staff for such an event. Section 5.3 of the NERC CIP Cyber Security Incident Response Program directs site staff to notify the IT Service Desk of any suspected cyber security incidents. The on-site personnel shall follow the directives of the Incident Response Team ("IRT") following the confirmation of a cyber security incident.

4..15. Physical Security Incident Response

4..15.1. In the event of a physical security incident at the PGC, the on-site staff shall follow the below procedures:

4..15.1.1. Anyone detecting any physical security threat shall immediately notify the Field Technical Representative.

4..15.1.2. The Field Technical Representative shall immediately coordinate the evacuation of the site and notify local law enforcement.

4..15.1.3. Once the evacuation has been completed and local law enforcement notified, the Field Technical Representative shall notify the Regional Director.

4..15.1.4. The Field Technical Representative will determine when conditions at the site are safe for the on-site staff to return.

4..16. Affidavit

4..16.1. The Asset Manager and Owner Representative shall confirm all of the following are true, accurate, and complete before seeking an executed affidavit from the highest-ranking officer of the PGC in accordance with PUCT substantive rule 16 TAC § 25.53(c)(4)(C):

4..16.1.1. All relevant operating personnel are familiar with this EOP, have received training on the applicable contents and execution of the EOP, and have been instructed to follow the applicable portions of the EOP, except to the extent that deviations are appropriate under the circumstances during the course of an emergency.

4..16.1.2. The Emergency Operations Plan has been reviewed and approved by the appropriate executives of the PGC.

4..16.1.3. Drills have been conducted to the extent required by, and in accordance with, Section 5 of this Emergency Operations Plan.

4..16.1.4. This EOP, or an appropriate summary, has been distributed to local jurisdictions as needed.

4..16.1.5. As provided in Sections 4.4 and 4.6, the PGC maintains a business continuity plan that addresses return to normal operations after disruptions caused by an incident.

4..16.1.6. As the PGC's emergency management personnel designated to interact with local, state and federal emergency management officials during an emergency event, the Field Technical Representative (or their designee) has received the latest IS-100, IS-200, IS-700 and IS-900 National Emergency Incident Management system training.

4..16.2. The most recently executed affidavit affirming the information specified in Section 4.16.1.1 through 4.16.1.6 is attached to this EOP.

4..17. Communication Plan

4..17.1. During an emergency event, on-site staff shall reference and follow the below policies and actions related to communications outside of the PGC:

4..17.1.1. Media:

4..17.1.1.1. Staff shall reference Section 3.I of the Invenergy Services LLC Employee Handbook for the company policy regarding communications with the media. If employees receive a media inquiry regarding any matter pertaining to the PGC or its affiliates, they shall not provide any statement on behalf of the PGC but instead refer the matter to the Owner Representative, who will be responsible for responding to the media inquiry.

4..17.1.2. Public Utility Commission of Texas ("PUCT"):

4..17.1.2.1. The Project Management Company shall be responsible for any communications with the PUCT during an emergency event impacting the PGC's facility.

4..17.1.2.2. The Project Management Company's contact information is included in the EOP for the individual PGCs.

4..17.1.3. Office of Public Utility Counsel ("OPUC"):

4..17.1.3.1. As the agency of the State of Texas that represents residential and small business utility customers, the PGC understands that OPUC's focus is on retail electric service. Because the PGC provides electricity at wholesale and not to end-use retail customers, emergency events at the PGC's facilities are not expected to impact retail customers or raise concerns relevant to OPUC's jurisdiction. If OPUC requests any information or otherwise communicates with the PGC during an emergency, the Project Management Company shall be responsible for any communications with OPUC.

4..17.1.4. Fuel suppliers:

4..17.1.4.1. Not applicable. The PGC's facilities are wind-powered and do not require fuel, therefore no communication with fuel suppliers is necessary during an emergency or otherwise.

4..17.1.5. Local and state governmental entities, officials and emergency operations centers:

4..17.1.5.1. In the event that communications are requirements with any local or state governmental entities, officials, or emergency operations centers, the Field Technical Representative shall be responsible for communicating with the Project Management Company about the current status of the PGC's facility and the need to communicate with outside entities.

4..17.1.6. ERCOT:

4..17.1.6.1. As the Reliability Coordinator, real-time communications with ERCOT are critical during emergency events. As previously stated in this EOP, the ICC is responsible for 24/7 monitoring and control of the facility. In this capacity, the ICC shall maintain responsibility for communicating with the QSE, who will in turn communicate with ERCOT about the facility. On-site staff shall communicate emergency conditions and events to the ICC promptly and as soon as reasonably practicable, including known and potential impacts to the facility's ability to generate, for the ICC's further communication to the QSE and ERCOT. The type of information the ICC communicates to the QSE and ERCOT includes:

- Planned and Forced Outage notification via voice and Current Operating Plan ("COP") updates,
- MW and MVAR derates via voice and COP updates,
- Real-time telemetry via the ICCP connection,
- Voice and/or email notifications in the event of loss of communication capabilities; and
- Voice notification in the event of an emergency affecting the facility.

4..17.1.6.2. For further guidance regarding the ICC communications with ERCOT, please reference the following procedures on the Operations Document Repository ("ODR"):

- Procedure_Control_Center_Emergency_Response_Plan_current
- Procedure_ICC_Backup_Control_Center_Plans_v2.7
- Procedure_Fleet_Outage_Management_v0.2

4..18. Declarations of Summer and Winter Weather Preparedness

4..18.1. As required by ERCOT Nodal Protocol § 3.21(4), between May 1st and June 1st each year, the REs identified in Section 2.1 must submit to ERCOT the annual Declaration of Summer Weather Preparedness stating that, at the time of submission, each RE has completed or will complete all weather preparations required by the weatherization plan for equipment critical to the reliable operation of the resource during the

summer Peak Load Season. If the work on the equipment that is critical to the reliable operation of the resource is not complete at the time of filing the declaration, the RE shall provide a list and schedule of remaining work to be completed. The declaration shall be executed by an officer or executive with authority to bind the RE.

4..18.2. As required by ERCOT Nodal Protocol § 3.21(3), between November 1st and December 1st each year, the REs identified in Section 2.1 must submit to ERCOT the annual Declaration of Winter Weather Preparedness stating that, at the time of submission, each RE has completed or will complete all weather preparations required by the weatherization plan for equipment critical to the reliable operation of the resource during the winter Peak Load Season. If the work on the equipment that is critical to the reliable operation of the resource is not complete at the time of filing the declaration, the RE shall provide a list and schedule of remaining work to be completed. The declaration shall be executed by an officer or executive with authority to bind the RE.

5. ANNUAL DRILL:

5..1.1. As required by 16 TAC § 25.53(f), the PGC shall conduct or participate in at least one annual drill within each calendar year to test its emergency procedures under this EOP. If the PGC has activated its EOP in response to an emergency during the calendar year, then a drill is not required for that calendar year.

5..1.2. The facility will conduct any annual drill of its EOP procedure in coordination with the ICC.

5..1.3. At least 30 days prior to the date of the PGC's first drill each calendar year, the PGC must notify the PUCT staff, using the method and form prescribed by PUCT staff on the PUCT's website, and notify the appropriate Texas Department of Emergency Management ("TDEM") District Coordinator, of the date, time and location of the drill.

5..1.4. The drill shall include a "tabletop" exercise where drill participants will be asked to respond to a simulated emergency situation.

5..1.4.1. For reference, two simulations used in the past to address Wildfire and Pandemic emergencies are attached in Appendix H.

5..1.4.2. Because the PGC's facilities are not located within a hurricane evacuation zone, no drill addressing hurricane response procedures is necessary.

5..1.5. The drill shall be documented using Appendix I.

5..1.6. Upon completion of a drill exercise, drill participants may submit feedback about the Emergency Operating Plan. The PGC shall assess the effectiveness of the drill and modify the Emergency Operating Plan as necessary.

6. EMERGENCY CONTACT INFORMATION:

6..1.1. Appendix L contains the emergency contact information for each PGC.

6..1.2. Pursuant to 16 TAC § 25.53(c)(4)(B), each PGC shall maintain a primary, and if possible, a backup, emergency contact information including the designation of specific individuals who can immediately address urgent requests and questions from the PUCT during an emergency.

6..1.3. Pursuant to 16 TAC § 25.53(e), each PGC shall maintain emergency contact information with the PUCT using the form found on the PUCT's website:
https://www.puc.texas.gov/storm/contents/media/Contacts_Form.pdf

Any changes to the emergency contact information, including the primary, secondary, or tertiary emergency contacts, shall be submitted to the PUCT by email within 30 days of the change to emc@puc.texas.gov with the following subject line: "Emergency Contact Information".

7. REPORTING:

7..1.1. See Appendix I for an Annual Drill Summary form.

7..1.2. See Appendix J for the Record of Distribution form.

8. RESPONSIBILITIES:

8..1. Asset Manager and Owner Representative

8..1.1. The Owner Representative is responsible for submitting the Winter Weather Readiness Report by December 1 to ERCOT and the PUCT, as described in Section 4.14.

8..1.2. The Owner Representative is responsible for submitting the annual Declaration of Summer Weather Preparedness to ERCOT between May 1st and June 1st and for submitting the annual Declaration of Winter Weather Preparedness to ERCOT between November 1st and December 1st as described in Section 4.15.

8..1.3. The Asset Manager and Owner Representative are responsible for the review and approval of this EOP.

8..1.4. The Asset Manager and Owner Representative will work together to ensure that the Emergency Operations Plan is submitted to the PUCT and ERCOT pursuant to the filing requirements in PUCT substantive rule 16 TAC § 25.53.

8..1.5. The Asset Manager and Owner Representative are responsible for revising the Emergency Operations Plan following any applicable changes to the PUCT's rules, to implement feedback from personnel operating under the Emergency Operations Plan, or if changes are otherwise deemed in the Asset Manager's discretion to be necessary.

8..2. Director, Wind Regional O&M

8..2.1. The Director, Wind Regional O&M shall review and approve this plan.

8..3. Field Technical Representative

8..3.1. The Field Technical Representative is responsible for conducting drill exercises and summarizing the results using the form in Appendix I.

8..3.2. The Field Technical Representative will review and understand the requirements of this Emergency Operating Plan and disseminate the EOP to on-site personnel to ensure that such personnel are appropriately trained.

8..3.3. The Field Technical Representative is responsible for activating the Emergency Operations Plan when emergency conditions impact the facility and deactivating the EOP once the emergency has passed.

8..4. Operations and Maintenance Personnel

8..4.1. The O&M personnel are responsible for reviewing and understanding the requirements of this Emergency Operating Plan.

8..4.2. The O&M personnel are responsible for implementing the actions and procedures required during emergency conditions when the Emergency Operations Plan has been activated.

8..5. Operations Engineering

8..5.1. Operations Engineering personnel are responsible for reviewing and understanding the requirements of this Emergency Operations Plan.

8..6. Executive Vice President and Owner Representative

8..6.1. The EVP and Operating Business Leader shall review and approve the EOP.

9. DATA RETENTION:

9..1.1. The PGC shall retain the documentation from a reportable incident or Bulk Electric System ("BES") disturbance for the period of one year.

10. ATTACHMENTS:

10..1.1. Appendix A: Winter Weather Readiness Form

10..1.2. Appendix B: Heat and Cold Stress

10..1.3. Appendix C: Inclement Weather Job Hazard Analysis ("JHA")

10..1.4. Appendix D: Pre-Work Icing Checklist

10..1.5. Appendix E: Cold Weather Substation Inspection Form

10..1.6. Appendix F: Pandemic Response Checklist

10..1.7. Appendix G: Wildfire Response Checklist

10..1.8. Appendix H: Tabletop Exercise Examples (Wildfire and Pandemic)

10..1.9. Appendix I: Drill/Exercise Summary

10..1.10. Appendix J: Emergency Operating Plan Affidavit

10..1.11. Appendix K: Emergency Plan Training Summary

10..1.12. Appendix L: Emergency Plan Contact Form

10..1.13. Appendix M: Revision Control Summary

Appendix A: Winter Weather Readiness Form

Attachment 6.2: Winter Weather Preparation Procedure – Wind

Work Management System

- ☐ Ensure that Sections 4.2.1, 4.2.2, and 4.13.6 in *Procedure_Fleet_Maintenance_3_Cycle_Minor_1* and *Procedure_Fleet_Maintenance_3_Cycle_Minor_3* are completed during normal scheduled PMs
- ☐ Ensure that all cold weather parameters are verified by the Analytics group or the ICC.
- ☐ Ensure that all applicable substation maintenance is completed

Covers, Enclosures, and Buildings

- ☐ Install a box or enclosure with inside heat for some transmitters.
- ☐ Inspect building penetrations, windows, doors, fan louvers, and other openings for potential exposure of critical equipment to the elements.

Supplemental Equipment and Supplies

- ☐ Ensure adequate inventory of items that aid in event preparation or response, for example:
  - Tarps
  - Portable heaters/heat lamps
  - Extension cords
  - Insulation/insulation blankets
  - Portable generators

Staffing

- ☐ Consider adding staffing during events
- ☐ Evaluate lodging/transportation needs for additional staff

Special Equipment/Other

- ☐ Verify plant vehicles are prepared for cold weather.
  - *Form_Fleet_EHS_Vehicle_Inspection*

Appendix B: Heat and Cold Stress

HEAT AND COLD STRESS

Table of Contents

1. PURPOSE:

1.1. The purpose of this document is to provide information and guidelines for defining heat and cold stress.

2. APPLICABILITY:

2.1. All company personnel performing work at Invenergy sites.

3. REFERENCES:

3.1. OSHA – Heat and Cold Stress are covered under OSHA's "General Duty Clause"

3.2. ACGIH – American Conference of Governmental Industrial Hygienists – TLV Pocket Guide

3.3. NOAA – National Oceanic and Atmospheric Administration – "Heat Index" reference

4. PROCEDURE:

4.1. Heat Stress

4.1.1. Background

4.1.1.1. The body reacts to high external temperature by circulating blood to the skin which increases skin temperature and allows the body to give off its excess heat through the skin. However, if the muscles are being used for physical labor, less blood is available to flow to the skin and release the heat. Sweating is another means the body uses to maintain a stable internal body temperature in the face of heat. Sweating is effective only if the humidity level is low enough to permit evaporation, and if the fluids and salts lost are adequately replaced.

4.1.1.2. If the body cannot release excess heat, it will store it. When this happens, the body's core temperature rises and the heart rate increases. As the body continues to store heat, the individual begins to lose concentration and has difficulty focusing on a task, may become irritable or sick, and often loses the desire to drink fluids. The next stage is most often fainting, but the condition can be potentially fatal if the person is not removed from the heat. Three levels of heat stress exist:

4.1.1.2.1. **Fainting (heat syncope)** – Problem for the worker that is not acclimatized to a hot environment who simply stands still in the heat. Victims usually recover quickly after a brief period of lying down. Heat rash, also known as prickly heat, may occur in hot and humid environments where sweat is not easily removed from the surface of the skin by evaporation.

4.1.1.2.2. **Heat Cramps** – Painful spasms of the muscles are caused when workers drink large quantities of water but fail to replace their bodies' salt loss. Tired muscles -- those used for performing the work - are usually the ones most susceptible to cramps. Cramps may occur during or after working hours.

4.1.1.2.3. **Heat Exhaustion** – This results from loss of fluid through sweating when a worker has failed to drink enough fluids or take in enough salt or both. The worker with heat exhaustion still sweats but experiences extreme weakness or fatigue, giddiness, nausea, or headache. The skin is clammy and moist, the complexion pale or flushed, and the body temperature normal or slightly higher.

4.1.1.2.4. **Heat Stroke** – The most serious health problem for workers in hot environments is caused by the failure of the body's internal mechanism to regulate its core temperature. Sweating stops and the body can no longer rid itself of excess heat. Signs include (1) mental confusion, delirium, loss of consciousness, convulsions or coma; (2) a body temperature of 106°F or higher; and (3) hot dry skin which may be red, mottled, or bluish. Victims of heat stroke will die unless treated promptly.

4.1.2. **Heat Index**

4.1.2.1. The "heat index" is a single value that takes both temperature and humidity into account. The higher the heat index, the hotter the weather feels since sweat does not readily evaporate and cool the skin. The heat index is a better measure than air temperature alone for estimating the risk to workers from environmental heat sources.

4.1.2.2. See Attachment 7.1.

4.1.3. **Prevention and Response**

4.1.3.1. The following precautions should be followed to prevent heat stress:

4.1.3.1.1. Take regular breaks from physical activity as needed based on ambient temperatures and nature of work.

4.1.3.1.2. Be familiar with symptoms of heat stress so that you may recognize it in yourself and others.

4.1.3.1.3. In the event that an employee is exhibiting signs/symptoms of heat stress, the employee should discontinue work and be escorted to a shaded area and encouraged to drink electrolytic fluids. An employee knowledgeable in the health effect of heat stress should assess the degree of heat stress and determine if medical assistance is required.

4.1.3.1.4. Drink Water (or electrolyte solutions):

- During a day's work in the heat, a worker may produce as much as 2 to 3 gallons of sweat. Because so many heat disorders involve excessive dehydration of the body, it is essential that water intake during the workday be about equal to the amount of sweat produced.
- Most workers exposed to hot conditions drink fewer fluids than needed because of an insufficient thirst drive. A worker, therefore, should not depend on thirst to signal when and how much to drink. **Instead, the worker should drink 5 to 7 ounces of fluids every 15 to 20 minutes during exertion to replenish the necessary fluids in the body.**
- Sufficient potable water must be readily available to all workers. Individual drinking cups should be provided – never use a common drinking cup.

Note: Water and ice is available at the O&M Building.

4.1.4. **Engineering Controls**

4.1.4.1. Use engineering controls to reduce the risk of heat stress (examples include):

4.1.4.1.1. Air conditioning to reduce air temperatures (and possibly humidity);

4.1.4.1.2. Fans (or other air movers) to increase air velocity and enhance evaporative cooling and/or convective cooling;

4.1.4.1.3. Shields, insulation, and surface emissivity to reduce radiant heat;

4.1.4.1.4. Shaded awnings for outside work when possible;

4.1.4.1.5. Opening windows/doors in hot work areas.

4.2. **Cold Stress**

4.2.1. **Background**

4.2.1.1. Hypothermia means "low heat" and is a potentially serious health condition. This occurs when body heat is lost, from being in a cold environment, faster than it can be replaced. When the

body core temperature drops to approximately 95°F, the onset of symptoms normally begins (see list of symptoms below). Once the body temperature falls to approximately 85°F, the person may become unconscious. The risk of death significantly increases if the body temperature reaches 78°F. Symptoms of hypothermia can range from mild, moderate and severe such as listed in 4.2.1.2.

4.2.1.2. Symptoms of Hypothermia:

- Intense shivering
- Feeling of deep/cold numbness
- Muscle tensing
- Fatigue
- Poor coordination
- Disorientation
- Blueness of skin
- Slow, weak, irregular pulse
- Slurred speech

4.2.1.3. Frostbite occurs when the skin freezes and loses water. In severe cases, amputation of the frostbitten area may be required. While frostbite usually occurs when the temperatures are 30°F or lower, wind chill factors can allow frostbite to occur in above freezing temperatures. Frostbite typically affects the extremities, particularly the feet and hands.

4.2.2. **Cold Stress Prevention**

4.2.2.1. Planning for work, and wearing appropriate clothing, in cold weather is the most important defense to cold stress. Avoiding alcohol, smoking, and certain medications can also help to minimize the risk. Certain medications may prevent the body from generating heat normally. These include anti-depressants, sedatives, tranquilizers, and some heart medications. If taking prescribed medications, one should confirm their potential impact on cold stress.

4.2.3. **Cold Stress Treatment**

Condition	Treatment
Mild Hypothermia	• Move to warm area. • Stay active. • Remove wet clothes and replace with dry clothes or blankets. • Cover the head to prevent heat loss. • Drink a warm (not hot) drink that includes sugar.
Moderate Hypothermia	• Call 911 for emergency medical services. • Cover all extremities completely in protective clothing or blankets. • Place very warm objects, such as hot packs or water bottles on the victim's head, neck, chest and groin.
Severe Hypothermia	• Call 911 for emergency medical services. • Treat the victim very gently. • Do not attempt to re-warm. The victim should receive treatment in a hospital.
Frostbite	• Call 911 for emergency medical services. • Do not rub the area. • Wrap in soft cloth. • If help is delayed, immerse in warm (not hot) water.

4.2.4. **Protective Clothing**

4.2.4.1. Wearing the appropriate clothing is the most important way to avoid cold stress. Wool is recommended because of its ability to retain its insulation value even when wet and wick moisture away from the skin's surface. Cotton is not recommended due to its loss of insulation value when it becomes wet. The following are specific clothing recommendations for working in cold environments:

4.2.4.1.1. Wear at least three layers of clothing:

- An outer layer to break the wind and allow some ventilation (like Nomex® or FR Rated Water Proof Blends).
- A middle layer of down or wool to absorb sweat and provide insulation even when wet.
- An inner layer of cotton or synthetic weave, to allow ventilation.

4.2.4.1.2. Wear a hat. Body heat can be lost when the head is left exposed.

4.2.4.1.3. Wear cold weather footwear (i.e., insulated boots).

4.2.4.1.4. Keep a change of dry clothing available in case work clothes become wet as water conducts body heat over 25 times faster than air.

4.2.4.1.5. Do not wear tight clothing. Loose clothing allows for better insulation by creating air pockets that trap warm air.

NOTE: Ensure that proper AR rated material is worn when performing electrical work that requires it.

4.2.5. **Work Practices**

4.2.5.1. Drink plenty of liquids and avoid the consumption of caffeine and alcohol. It is easy to become dehydrated in cold weather.

4.2.6. **Engineering Controls**

4.2.6.1. Use engineering controls to reduce the risk of cold stress (examples include):

4.2.6.1.1. Shield work areas from drafts or wind.

4.2.6.1.2. The use of portable electric heaters can be a form of engineering controls.

4.2.6.1.3. Wear insulated gloves when handling equipment when temperatures drop below 32°F.

4.3. **Work Schedule**

4.3.1. **Heat**

4.3.1.1. Heat index 85°-94° (heightened risk). Controls may include; normal work/rest cycles, monitor conditions for change, and discuss heat stress awareness in pre-job briefing.

4.3.1.2. Heat index 95° and above (moderate-high risk). Controls may include; all controls above (4.3.1.1), and the following work/rest cycle:

4.3.1.2.1. The table below serves as the guideline for management to determine if, or when, rest periods are needed at the worksite to protect workers from heat related illness.

Heat Index (°F)	Work/Rest Cycle
95°	45/15 minutes
97°	40/20 minutes
98°	35/25 minutes
100°	30/30 minutes
102°	25/35 minutes
103°	20/40 minutes
105°+	15/45 minutes

4.3.1.3. The heat index work/rest cycle guideline SHOULD be adhered to at a minimum, with these additional provisions:

4.3.1.3.1. Any employee that is not acclimated or requires more than the prescribed work/rest cycle shall have the personal discretion to stop work and rest regardless of the work/rest cycle.

4.3.1.3.2. The manager or designee can impose stricter rest cycles than the prescribed work/rest cycle at their discretion.

4.3.2. Cold

4.3.2.1. Cold weather and wind chill work/rest cycle:

Wind Chill (°F)	Work/Rest Cycle
10° to 0°	45/15 minutes
0° to -10°	30/30 minutes
-10° to -20°	15/45 minutes
-20° and less	Restricted

4.3.2.2. The table above serves as a guideline for cold exposure during work activities. If mitigation of associated hazards is taken (i.e., winter clothing, industrial heaters, etc.) then appropriate judgment shall be made by site management concerning work activities.

4.3.2.3. For work being performed inside of the WTG, use the area's Wind Chill temperature and follow the above guideline for work/rest cycle.

4.3.2.4. The cold weather and wind chill work/rest cycle guideline SHOULD be adhered to at a minimum, with these additional provisions:

4.3.2.4.1. Any employee that is not acclimated or requires more than the prescribed work/rest cycle shall have the personal discretion to stop work and rest, regardless of the work/rest cycle.

4.3.2.4.2. The manager or designee can impose stricter rest cycles than the prescribed work rest cycle at their discretion.

4.4. **Deviations**

4.4.1. In regard to both extreme heat and cold weather conditions, Invenergy realizes that certain situations may require brief periods of emergency work outside of the parameters set by the above tables. In this event, Site Managers must review and approve such work to ensure safety standards are maintained. Corporate and/or Regional EHS Managers can be consulted for guidance in such instances.

5. RESPONSIBILITIES:

5.1. **Invenergy Services Personnel**

5.1.1. All Invenergy Services Personnel are responsible for reading and understanding the requirements and limitations of this policy.

5.2. **Regional EHS Manager**

5.2.1. The Regional EHS Manager is responsible for understanding the requirements of this policy and ensuring that all site personnel adhere to this policy.

5.3. **Corporate Director, EHS**

5.3.1. The Corporate EHS Manager is responsible for reviewing and approving this document, as well as initiating any necessary changes.

6. **DATA RETENTION:**

6.1. None.

7. **ATTACHMENTS:**

7.1. Heat Index

7.2. Wind Chill Chart

Attachment 7.1. Heat Index

NOAA's National Weather Service

Heat Index

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

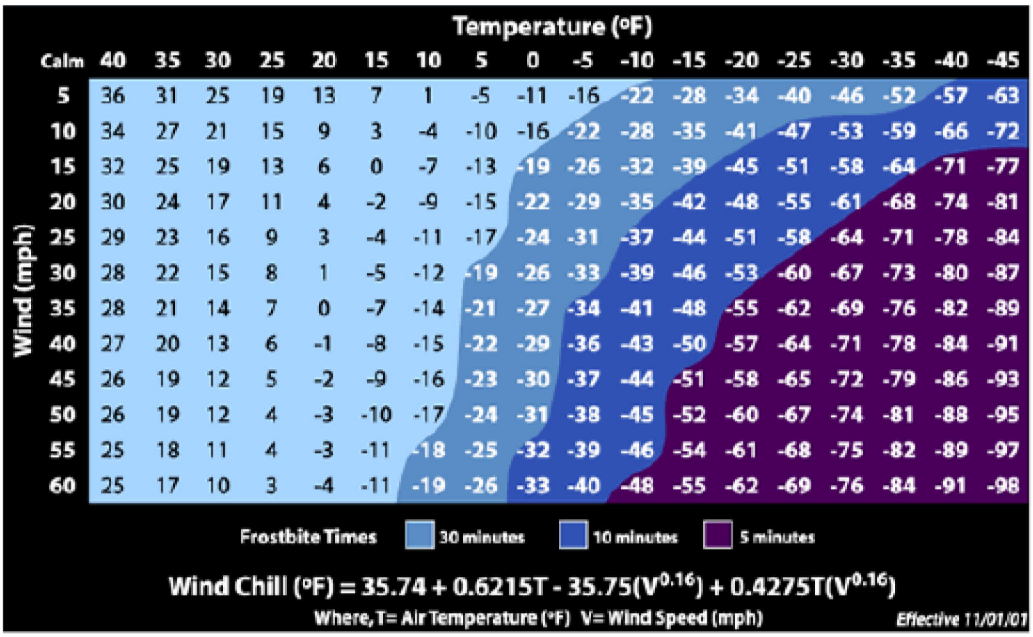
Caution | Extreme Caution | Danger | Extreme Danger

The above heat index chart was prepared by the National Oceanic and Atmospheric Administration (NOAA) and can be used as an indicator for when extreme conditions may warrant additional precautions while performing work.

Although all the proposed scenarios may cause the onset of one of the heat stress categories outlined above, the orange and red portions of the chart represent scenarios of the highest concern for employees.
The prevention and response measures below should be followed at all times where heat may cause adverse conditions, but all employees should increase their awareness as the heat index increases into the orange and red zones.

Employees should also consider the potential lack of ventilation, physical demands, and additional protective clothing that may be worn during certain activities.

Attachment 7.2. Wind Chill Chart



National Weather Service Wind Chill Chart

AMENDMENT RECORD SHEET

Version:	Description:	Date:
0	Original Document	07/26/13
1.0	Updated language. Clearer version of Attachment 7.1.	08/27/18
1.1	Updated language in 4.3.1 Heat and 4.3.2 Cold section.	2/16/22

Appendix C: Inclement Weather Job Hazard Analysis ("JHA"):

Invenergy	INVENERGY SERVICES LLC	Version: 1.3
	JOB HAZARD ANALYSIS- INCLEMENT WEATHER	Issued: 07/14/21

Table of Contents

Invenergy	INVENERGY SERVICES LLC	Version: 1.3
	JOB HAZARD ANALYSIS- INCLEMENT WEATHER	Issued: 07/14/21

1. PURPOSE:

1.1. Communicate guidelines and rules that promote a safe work site when performing tasks during inclement weather conditions. The environmental factors discussed in this JHA are lightning, high winds, and ambient temperature extremes.

2. APPLICABILITY:

2.1. All employees at Invenergy Wind/Solar Energy Centers as well as visitors, vendors, contractors, and contracted employees.

3. REFERENCE:

3.1. Site Specific Emergency Response Plan

3.2. Policy_Fleet_EHS_Manual_Walking/Working_Surfaces

3.3. Policy_Fleet_EHS_Manual_Heat_and_Cold_Stress

3.4. Procedure_Fleet_Pre_Work_Icing_Checklist

3.5. Procedure_Fleet_WeatherSentry_Configuration

3.6. Wind Speed Limitations

4. PROCEDURE

4.1. **Acronyms**

4.1.1. JHA - Job Hazard Analysis

4.1.2. O&M - Operations and Maintenance

4.1.3. OSHA - Occupational Safety and Health Administration

4.1.4. PPE - Personal Protective Equipment

4.1.5. WTG - Wind Turbine Generator

4.1.6. ERP – Emergency Response Plan

4.2. **Personal Protective Equipment**

4.2.1. Required

4.2.1.1. Safety Toe Footwear

4.2.1.2. Inclement weather gear (cold/hot)

4.3. **Safety Rules that Apply**

4.3.1. Work activities in the field are not recommended if wind speeds exceed 25 m/s on a 10-minute average. Appropriate judgment is made by site management concerning work activities.

4.3.1.1. Entry to WTG to prohibited if a 10-minute wind average of > 20 m/s is present.

4.3.1.2. Hub Entry and work outside of nacelle is prohibited with wind speed of >15 m/s on a 10-minute average. Consult Manufacturers document for specific WTG hub entry 10-minute average limitations.

4.3.2. Follow the Pre-Work Icing Checklist procedure if a dangerous icing condition is present.

4.3.3. Work/Rest cycles should be considered to provide sufficient time off from inclement weather. Job planning should consider current, or forecasted, weather conditions and the need to modify work activities to accommodate for environmental conditions such as: extreme hot/cold periods, lightning, and/or high winds.

4.3.4. Ensure first aid and rescue kits are readily available.

4.3.5. **Lightning**

4.3.5.1. To ensure reliable weather notifications, please reference the WeatherSentry Configuration procedure for guidance on managing recipients and configuring lightning alerts.

4.3.5.2. **WTG Operations**

4.3.5.2.1. **Advisory:** Lightning is reported within 31-50 miles of work location.

4.3.5.2.1.1. Make everyone aware and prepare to stop work by stowing tools and preparing to exit the WTG. No new climbs unless needed to demobilize from the tower.

4.3.5.2.2. **Warning:** Lightning is reported within 30 miles or closer of work location.

4.3.5.2.2.1. Stop immediately, regardless of work in progress. Descend and exit the WTG.

4.3.5.2.3. Give an **ALL CLEAR** for work activities to resume when the lightning activity is greater than 30 miles outside the Level 2 Area for greater than 30 minutes.

4.3.5.2.4. Entry to WTG is prohibited with lightning within 30 miles, and lightning must be tracked from 50 miles to ensure that personnel are not up-tower when lightning is within 30 miles.

4.3.5.3. **Substation Operations/Solar and Battery Operations**

4.3.5.3.1. **Advisory:** 16-30 miles and storm approaching.

4.3.5.3.1.1. Make everyone outside in the substation yard aware of approaching storm.

4.3.5.3.2. **Warning:** 15 miles or closer.

4.3.5.3.2.1. Stop all outside work immediately, ensure all enclosure doors are closed, and exit the substation or enter the substation control building.

4.3.5.3.3. Give an **ALL CLEAR** when the storm is greater than 15 miles out from site for greater than 30 minutes.

4.3.5.4. See Reference Weather Monitoring Configuration.

4.3.6. **Heat**

4.3.6.1. Heat index 85°-94°: heightened risk Continue work and monitor conditions and heat stress awareness.

4.3.6.2. Heat index 95° and above is moderate/high risk. Continue to monitor conditions and personnel and implement the following work/rest cycle:

4.3.6.2.1. The table below serves as the guidelines for management to determine if, or when, rest periods are needed at the worksite to protect workers from heat related illness.

Heat Index (°F)	Work/Rest
95°	45/15 minutes
97°	40/20 minutes
98°	35/25 minutes
100°	30/30 minutes
102°	25/35 minutes
103°	20/40 minutes
105°	15/45 minutes

4.3.6.3. These work/rest cycle guidelines shall be adhered to if no mitigations are taken (cooling vests, ventilation, etc.).

4.3.6.3.1. Any employee that has reduced ability to adapt to temperature extremes or otherwise requires more than the prescribed work/rest cycle shall have the personal discretion to stop work and rest regardless of the work/rest cycle.

4.3.6.3.2. The O&M Manager can impose stricter rest cycles than the prescribed work/rest cycle at their discretion.

4.3.7. **Cold**

4.3.7.1. Cold weather and wind chill work/rest cycle.

4.3.7.2. The table below serves as the guidelines for **actual outdoor exposure** during work activities. If mitigation of the associated hazard is taken (i.e., winter clothing, industrial heaters, etc.) then appropriate judgment is made by site management concerning work activities.

Wind Chill (°F)	Work/Rest
10° to 0°	45/15 minutes
0° to -10°	30/30 minutes
-10° to -20°	15/45 minutes
-20° and less	Restricted

4.3.7.3. For the above chart, if the work being performed is inside of the WTG, refer to the Wind Chill temperature as the Ambient Temperature inside of the WTG.

4.3.7.4. These work/rest cycle guidelines shall be adhered to at a minimum if no mitigations are taken.

4.3.7.4.1. Any employee that is not acclimated to or otherwise requires more than the prescribed work/rest cycle, shall have the personal discretion to stop work and rest, regardless of the work/rest cycle.

4.3.7.4.2. The O&M manager can impose stricter rest cycles than the prescribed work rest cycle at their discretion.

4.3.8. Entry to WTG is prohibited in the event of a tornado warning.

4.3.9. Entry to WTG is prohibited while crop spraying is in progress.

4.4. **Process**

4.4.1. See Attachment 7.1. for Procedures to follow for this JHA.

4.4.2. Applicable JHA's to reference:

4.4.2.1. Turbine Startup/Shutdown Sequence

4.4.2.2. Vehicle Operations

4.4.2.3. Hub Entry

5. RESPONSIBILITIES

5.1. **Regional EHS Manager**

5.1.1. The Regional EHS Manager is responsible for review and approval of this procedure.

5.1.2. The Regional EHS Manager shall review the procedure, to ensure all safety related concerns are addressed and trained upon, on an annual basis.

5.2. **Vice President, EHS**

5.2.1. The Vice President of EHS is responsible for the review and approval of this procedure.

5.3. **O&M Manager**

5.3.1. The O&M Manager is responsible for:

5.3.1.1. Reviewing this procedure as needed to ensure compliance.

5.3.1.2. Ensuring that personnel are trained on the topic of JHA on an annual basis. Attachment 7.5. is a Training Sign-off sheet for all personnel to fill out upon completion of annual training.

5.4. **Operations and Maintenance Personnel**

5.4.1. All Operations and Maintenance personnel are responsible for becoming familiar with the purposes and limitations of this procedure at all Invenergy Wind Energy Centers and for implementing the requirements of this procedure as written.

5.4.2. Employee shall be aware of changing environmental conditions and immediately contact their supervisor when weather conditions affect, or have the potential to affect, their ability to work safely.

5.4.3. All O&M personnel are responsible for attending training on the purpose and requirements of this procedure on an annual basis.

6. DATA RETENTION

6.1. The Training sign-off sheet (Attachment 7.7.) shall be kept with the JHA addendum and retained with dates completed for no less than three years.

6.2. A PM in EAM will be assigned to each site on an annual basis for review of current JHA's.

7. ATTACHMENTS

7.1. Cold Weather (Wind)

7.2. Cold Weather (Solar/Battery)

7.3. Hot Weather

7.4. Lightning

7.5. High Winds (Blade Repair Specific)

7.6. PPE Assessment

7.7. Training Sign-Off Sheet

7.8. Hazard List (Examples to assist in JHA development)

Attachment 7.1: Cold Weather (Wind)

Step #	Basic Step Description	Hazardous Condition(s)	Safe Method: Action(s) and/or method(s) to control the hazard
1	Exterior Conditions around O&M Building	- Extreme Cold Weather - Icing Conditions	1. Keep eyes on walking surface and be aware of foot placement to account for ice patches.
2	Prior to traveling to WTG	- Extreme Cold Weather - Icing Conditions	1. Check the weather monitoring system for cold weather storms such as snow, freezing rain, blizzards. 2. Check WTG power curves for possible icing conditions. 3. If warranted, schedule snow removal for paths to WTGs scheduled to work on for the day. 4. Ensure that cold weather gear is brought on the job. 5. Perform pre-driving inspection of vehicle.
3	Traveling to WTG	- Unsafe Road/Path Conditions - Low Visibility - Vehicle Failure - Collision	1. Be aware of road conditions to ensure a safe drive to the WTG or substation. 2. Perform pre-driving inspection of vehicle and follow defensive driving tactics. 3. Ensure that plow is attached if forecasted or actual snow fall is appropriate for plowing.
4	Duration at the WTG	- Snow Accumulation - Falling Ice - Extreme Cold Weather Exposure	1. Do not enter WTG without completing the Icing Pre-Work Checklist if ice accumulation is observed. 2. Be careful of foot placement while walking to WTG and on stairs. 3. Watch foot placement if going on top of Nacelle. 4. If applicable, utilize portable heaters to stay warm. 5. Ensure communication protocol is set before initiating tasks. 6. Perform buddy checks, as needed, to ensure personnel are not exhibiting symptoms of cold weather exposure/hypothermia/frostbite.

Invenergy	INVENERGY SERVICES LLC	Version: 1.3
	JOB HAZARD ANALYSIS- INCLEMENT WEATHER	Issued: 07/14/21

Attachment 7.2.: Cold Weather (Solar/Battery)

Step #	Basic Step Description	Hazardous Condition(s)	Safe Method: Action(s) and/or method(s) to control the hazard
1	Exterior Conditions around O&M Building	- Extreme Cold Weather - Icing Conditions	1. Keep eyes on walking surface and be aware of foot placement to account for ice patches.
2	Prior to traveling to Work Site	- Extreme Cold Weather - Icing Conditions	1. Check the weather monitoring system for cold weather storms such as snow, freezing rain, blizzards. 2. If warranted, schedule snow removal for paths to work site for the day. 3. Ensure that cold weather gear is brought on the job. 4. Perform pre-driving inspection of vehicle.
3	Traveling to Work Site	- Unsafe Road/Path Conditions - Low Visibility - Vehicle Failure - Collision	1. Be aware of road conditions to ensure a safe drive to the work site. 2. Perform pre-driving inspection of vehicle and follow defensive driving tactics. 3. Ensure that plow is attached if forecasted or actual snow fall is appropriate for plowing.
4	Duration at the Work Site	- Snow Accumulation - Falling Ice - Extreme Cold Weather Exposure	1. Be careful of foot placement while walking. 2. If applicable, utilize portable heaters to stay warm. 3. Ensure communication protocol is set before initiating tasks. 4. Perform buddy checks, as needed, to ensure personnel are not exhibiting symptoms of cold weather exposure/hypothermia/frostbite.

Attachment 7.3: Hot Weather

Step #	Basic Step Description	Hazardous Condition(s)	Safe Method: Action(s) and/or method(s) to control the hazard
1	Prior to Traveling to Work Site	- Exposure to Hot Air Temperatures - Contact with Hot Surfaces - Heat Stress - Vehicle Usage	1. Check weather monitoring system for heat advisories or warnings. 2. Wear proper hand PPE to avoid contact with hot surfaces. 3. Ensure that water bottles are brought in truck for job. 4. Work/Rest cycles should be adhered to prevent heat exhaustion/stress/ dehydration. 5. Perform pre-driving inspection of vehicle.
2	Traveling to Work Site	- Unsafe Road Conditions - Vehicle Failure - Collision	1. Observe driver's safety.
3	Duration at the Work Site	- Worker exposed to air ambient temps - Heat Stress - Contact with Hot Surfaces	1. Ventilate the work area upon entering. 2. Ensure availability of water at the job site and stay hydrated. 3. Use sun block with a suitable protection factor (SPF) if working in direct sun for an extended period. 4. Ensure communication protocol is set before initiating tasks. 5. Periodically perform buddy checks to ensure personnel are not exhibiting heat exhaustion/stress symptoms. 6. Avoid placement of metal/chrome tools on hot surfaces or direct sunlight. 7. Be aware of hot surfaces and avoid unprotected contact.

Attachment 7.4: Lightning

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	JOB HAZARD ANALYSIS- INCLEMENT WEATHER	Issued: 07/14/21

Step #	Basic Step Description	Hazardous Condition(s)	Safe Method: Action(s) and/or method(s) to control the hazard
1	Prior to Starting Work in WTG (e.g., climbing)	- Contact with Electricity - Impact from Flying/Falling Debris - Exposure to Noise from Impact - Arc Flash/Blast	1. Check lightning alert system and advisories prior to entering tower or other work area. 2. If lightning is within 30 miles, DO NOT enter a WTG. 3. If lightning is within 30-50 miles, determine which direction the storm is moving and plan work to allow for a quick exit of the WTG if lightning is observed within 30 miles.
2	Prior to Starting Work in Substation Operations, Solar/Battery Operations & Other Outdoor Work	- Contact with Electricity - Impact from Flying/Falling Debris - Exposure to Noise from Impact - Arc Flash/Blast	1. **Advisory** – If lightning is within 16-30 miles, determine which direction the storm is moving and plan work to allow for quick exit if lightning is observed within 15 miles. 2. **Warning** – If lightning is within 15 miles, DO NOT enter the work site. 3. Give an ALL CLEAR when the storm is greater than 15 miles out from site for greater than 30 minutes.
3	Duration at the Job Site	- Lightning Strikes	1. Be sure to have more than one type of communication and check communication operation prior to starting work. 2. Continue to check status of storms on lightning alert system for updates.

Attachment 7.5: High Winds and Lightning (Blade Repair Specific)

Step #	Basic Step Description	Safe Method: Action(s) and/or method(s) to control the hazard
1	Prior to Starting Work in WTG (e.g., climbing)	1. Max speed wind limitation must be determined by team lead/supervisor each day depending on weather and scope of work. 2. Limitations shall be noted in pre-job briefing paperwork with any details regarding the specific limitation determined.
2	Rotor Lock Limitations	1. The High Speed Rotor Lock (HSRL) should always be used if possible. 2. In the event the HSRL cannot be used safely, the Low Speed Rotor Lock (LSRL) should be used. a. Max wind speed limit changes to the LSRL limitation. b. It is not permitted to pitch any blades away from feather while using LSRL.
3	Maximum Wind Speed Limitations (based on 10-min average using HSRL)*	1. <10m/s – No limitations imposed on blade work. 2. 10-12m/s – Limited external blade work. a. Verify WTG model hub lockout limit to be upper limit allowable. 3. >12m/s – Exterior blade work not permitted.
4	Gusting Limitations	1. Work is prohibited with 3 consecutive 1-second readings ≥15m/s.
5	Lightning Advisory*	1. Stop work at minimum advisory distance of 50 miles per section 4.3.5. Clean up all supplies and derig from tower.

*Team may still determine a farther lightning advisory distance and/or lower wind limit to be necessary due to location of repair or scope of work to complete

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Attachment 7.6: PPE Assessment

* Indicate the PPE required for each step of the JHA procedure in Attachment 7.3, above.

Step 1 – Name of Step	**"GENERAL USE" PPE (When working on and around the WTG)** ☐ Hardhat/Helmet, Safety Glasses, Safety Footwear, Lad Safe (on ladder), Lanyard / Harness (when in a potential fall location) **SPECIALIZED "TASK SPECIFIC" PPE:** ☐ Face Protection (shield and/or goggles) ☐ Respirator – Voluntary Use: ☐ Chemical Resistant Footwear:_____ ☐ Specialized Body Protection- Type ☐ Chemical Apron ☐ Hardhat/Helmet ☐ Safety Footwear ☐ Hearing Protection (Ear Plugs or Muffs) ☐ Safety Glasses ☐ Arc Flash Protection:_____ ☐ Gloves Type(s): ☐ Sleeve Protection: _____s ☐ Other:_____
Step 2 – Assess Debris	**"GENERAL USE" PPE (When working on and around the WTG)** ☑ Hardhat/Helmet, Safety Glasses, Safety Footwear, Lad Safe (on ladder), Lanyard / Harness (when in a potential fall location) **SPECIALIZED "TASK SPECIFIC" PPE:** ☑ Face Protection (shield and/or goggles) ☐ Respirator – Voluntary Use: _____ ☐ Chemical Resistant Footwear:_____ ☐ Specialized Body Protection- Type _____ ☐ Chemical Apron ☐ Hardhat/Helmet ☐ Safety Footwear ☐ Hearing Protection (Ear Plugs or Muffs) ☐ Safety Glasses ☐ Arc Flash Protection:_____ ☑ Gloves Type(s): _____ ☐ Sleeve Protection: _____s ☐ Other:
Step 3 – Name of Step	**"GENERAL USE" PPE (When working on and around the WTG)** ☐ Hardhat/Helmet, Safety Glasses, Safety Footwear, Lad Safe (on ladder), Lanyard / Harness (when in a potential fall location) **SPECIALIZED "TASK SPECIFIC" PPE:** ☐ Face Protection (shield and/or goggles) ☐ Respirator – Voluntary Use: _____ ☐ Chemical Resistant Footwear: ☐ Specialized Body Protection- Type _____ ☐ Chemical Apron ☐ Hardhat/Helmet ☐ Safety Footwear ☐ Hearing Protection (Ear Plugs or Muffs) ☐ Safety Glasses ☐ Arc Flash Protection:_____ ☐ Gloves Type(s): _____ ☐ Sleeve Protection: s ☐ Other:
Step 4 – Name of Step	**"GENERAL USE" PPE (When working on and around the WTG)** ☐ Hardhat/Helmet, Safety Glasses, Safety Footwear, Lad Safe (on ladder), Lanyard / Harness (when in a potential fall location) **SPECIALIZED "TASK SPECIFIC" PPE:** ☐ Face Protection (shield and/or goggles) ☐ Respirator – Voluntary Use: _____ ☐ Chemical Resistant Footwear:_____ ☐ Specialized Body Protection- Type _____ ☐ Chemical Apron ☐ Hardhat/Helmet ☐ Safety Footwear ☐ Hearing Protection (Ear Plugs or Muffs) ☐ Safety Glasses ☐ Arc Flash Protection:_____ ☐ Gloves Type(s): _____ ☐ Sleeve Protection: _____s ☐ Other:

*Workers may choose to wear respiratory protection (specifically a "dust mask") to minimize exposure to airborne contaminants associated with this task. Note: Upon request supervisors shall make dust masks available to employees at no charge and ensure that those employees who elect to wear a dust mask are compliant with OSHA's requirements for the "voluntary use" of dust masks. See appendix D of OSHA's Respiratory Protection Standard.

Attachment 7.7: Training Sign-Off Sheet

Date Training Completed	Facilitator	Location
Topic		
Inclement Weather JHA		
Print Name	Signature	

Attachment 7.8: Hazard List (Examples to assist in JHA development)

What is a Hazard?

A hazard is the potential for harm. In practical terms, a hazard often is associated with a condition or activity that, if left uncontrolled, can result in an injury or illness.

Examples of Common Workplace Hazards

The following is a list of common workplace hazards. The list is broken down into the three main categories of hazards; Physical, Chemical, and Biological. This list is not all-inclusive. When completing the JHA Worksheet, list all hazards that are present for the particular task.

Physical Hazards:

Physical hazards cause injury to workers when an object, piece of equipment or material comes in contact with a worker. Physical hazards are often associated with an uncontrolled source of energy; kinetic, electrical, pneumatic, hydraulic, etc. Examples of physical hazards are:

1) Exposed energized electrical conductors
2) Arc Flash (from arcing electrical systems)
3) Uneven, or unstable, walking/working surfaces
4) Slippery (wet) surface conditions
5) Repetition of body movement
6) Awkward posture
7) Sustained static posture
8) Handling heaving objects
9) Excessive vibration of equipment/tools
10) Lack of, or limited, task illumination
11) Obstructed vision
12) High ambient temperatures
13) Low ambient temperatures
14) Hot surfaces
15) Exposure to sunlight / UV radiation
16) Working at heights (falling, dropping objects)
17) Working in a Confined or Enclosed Space
18) Pinch/Nip points
19) Moving parts (or rotating equipment)
20) Sharp edges and/or surfaces– (Contact with, example when a screwdriver slips)
21) High Noise Levels (>85 dBA) concern about hearing damage or poor worksite communication.
22) Overhead load hazards - (WTG hoist, industrial size crane loads of WTG pieces)
23) Verbal Communication Limited - (i.e., activities with no line-of-site communication)
24) Vehicle Use Hazards – (Impact with objects, load stability)
25) Flying debris - Using hand tools (i.e., grinding, hammering on striking wrenches, chisels and punches, etc.)
26) Fluids under pressure – (i.e., hydraulic oils)
27) Entanglement Hazard
28) Wildlife Hazards (threat of insect or animal bites)
29) Loose Debris

Biological Hazards:
Biological hazards are organisms or substances produced by organisms that may pose a threat to human health and safety. Biological hazards include exposure to:

1) Fungi / molds
2) Bacteria and viruses (human / animal waste)
3) Poisonous plants

Chemical Hazards:
Chemical hazards are substances which, because of its characteristics and effects, may cause harm to human health and safety. Chemical hazards can be broken down to include inhalation of; vapors, gases, mists, dusts, fumes, and smoke. Examples of chemical hazards include exposure to:

1) Chemical contact during handling/use (i.e., spill and/or splash on skin or eyes, inhalation, etc.)
2) Chemical reactions (i.e., flammable, combustible, oxidizer, corrosive, etc.)
3) Chemical incompatibility
4) Pressurized containers

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AMENDMENT RECORD SHEET

Version	Description:	Date:
0	Original Document	11/19/12
1	Added statements to the Heat and Cold sections, indicating that the tables are guidelines for actual outdoor exposure. Removed "Other Environmental Concerns" attachment. Added reference to Emergency Response Plan.	04/19/13
1.1	Added Attachments 7.4: PPE Assessment and 7.6: Hazard List (Examples to assist in JHA development). Added references and links to them for the safety rules. Added different lightning rules for substation work.	06/08/16
1.2	Updated to address Solar/Battery sites.	10/25/19
1.3	Added Attachment 7.5: Wind Limitations for blade repairs	07/14/21

Appendix D: Pre-Work Icing Checklist:

Invenergy	INVENERGY SERVICES LLC	Version: 1.4
	PRE-WORK ICING CHECKLIST	Issued: 01/11/23

Site:		**Date:**	
WTG #(s):		**Time:**	
Technician Names: ----------	----------	----------	----------

		Yes	No
1	Has precipitation or fog occurred in the last 24 hours?	☐	☐
2	Has the temperature hovered at or around freezing during precipitation?	☐	☐
3	Is ice or compacted snow visible on any part of the WTG? (Inspect from distance with binoculars)	☐	☐
4	Has any ice or compacted snow fallen off the WTG in the last 24 hours?	☐	☐
5	Is there ice or compacted snow formations present anywhere in the vicinity of the WTG?	☐	☐
6	Is the temperature above or forecasted to rise above 32°F / 0°C after icing conditions were present? Confirm by checking weather forecast.	☐	☐
7	Is the current temperature between 28°F and 36°F? (-2°C and 2°C)	☐	☐
8	Is there water coming down the tower or off the blades?	☐	☐

If you answered NO to **all of the above** questions, proceed with work as usual.

If you answered YES to **any** of the above questions, do not approach the WTG unless all of the following steps have been completed.

1) Approaching WTG areas when icing potential exists; **WTG shall be remotely stopped before inspection.**
   a) Stop about 300 meters (~1000 feet) from any WTGs.
      i) If icing is observed on overhead collector lines, there may be a need to temporarily shut down an entire string of WTGs to approach.
   b) Using binoculars/drone, look for signs of ice on the ground, inconsistencies on the blade, signs of built up snow or ice in the nosecone, or ice hanging off the nacelle & radiator area. (If ice has developed on the vehicle antenna, it is a good indicator of potential ice on the tower/blades.)
      i) Additional areas to look for falling ice are: Vortex Generators (VG's), Rain Guards, Hub, Hub vents and Top, Middle and Base Tower Sections.
   c) If ice is noticed, do not approach the WTG at this time and inform Site Manager of the conditions and begin ice stability check and mitigation.
   d) If ice is present on the roof of the nacelle/hub, no work shall be completed outside of the nacelle.

   NOTE: If the Site Manager is not available, the Lead Technician or regional EHS personnel must be made aware of the situation.

   NOTE: If no ice is observed during the initial observation, proceed with operations as normal. Stay situationally aware as ice may not be visible from the ground. All personnel have STOP WORK authority.

2) Ice stability checks and risk mitigation shall be completed as follows:
   a) If the WTG was running and remotely shut down, wait at least 5 minutes or until yawing is complete. Using binoculars/drone, and maintaining a safe distance of at least 300 meters, observe WTG for falling ice.
   b) Yaw WTG remotely so that the greatest overhead hazard (typically ice on the blades) is on the side opposite of the entrance door and watch for ice falling from the WTG during yawing movements.
      i) If WTG cannot be yawed, extend binocular/drone monitoring for 15 minutes and confirm that the greatest overhead ice-fall hazard is not above the door/turbine entrance. If there is any ice-fall hazard, DO NOT enter WTG.
   c) If falling ice is observed, no work may be completed outside of the WTG within 90 meters (~300 feet) of any of the overhead WTG components (nacelle, hub, blades, or blade roots). Inform Site Manager of the conditions.
   d) If **NO** falling ice is observed, proceed to a distance of 90 meters away and repeat the ice stability observation. (Steps a) through c) above)

Procedure_Fleet_Pre_Work_Icing_Checklist Uncontrolled Document when Printed

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	PRE-WORK ICING CHECKLIST	Issued: 01/11/23

NOTE: Ice on the blades, inside the nosecone, and on top of the nacelle or along the tower sections may be difficult to see. Ice condition/stability can change making it possible for ice to begin shedding; temperatures rising above freezing, rain or changes in wind direction. Use of a spotter is encouraged when working near towers during icing conditions even if ice has not been seen.

e) If ice appears to be stable (not thawing or being shed), personnel may approach the tower steps and enter the WTG. The vehicle shall be parked a safe distance from the WTG.

f) In the event conditions change while approaching the WTG and ice begins to fall off the WTG, technicians are expected to evacuate the area and get all personnel a safe distance away from the falling hazard.

g) Once the door has been opened and the "all clear" sign has been given by the initial entrant, the second (and any others) may also enter the WTG cautiously. While unloading tools/equipment, all participants must be conscious of potential overhead hazards, and enter the WTG as quickly and safely as possible.

h) Stay clear of the area below the blades where there is a potential for ice falling off the WTG. If water is spotted running down the turbine or off the blades, the risk of falling ice could be higher.

i) Be aware of potential wind drift (especially if the door is downwind of the blades).

j) Prior to exiting the WTG, personnel must attempt to verify ice stability conditions. This may be accomplished by calling for remote observation by another crew, by observing through the nacelle hatch (without exiting) on the roof or by monitoring local weather conditions.

k) If the WTG has started shedding ice, personnel must remain in the tower until the shedding activity has stopped.

NOTE: If any employee/contractor does not believe it is safe to enter/exit the WTG, "Stop Work Authority" should be utilized by the employee/contractor and work should not proceed at this location. Notify the Site Manager and any other work teams on site.

Ice Stability and Hazard Mitigation Checklist on NEXT PAGE.

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	PRE-WORK ICING CHECKLIST	Issued: 01/11/23

Ice Stability and Hazard Mitigation Checklist: (if all answered yes, then work can proceed)

Step #	Description of steps taken to minimize risk:	Yes	No
1	All employees/contractors understand they have "Stop Work Authority" if conditions change.	☐	☐
2	WTG yawed remotely and ice appeared stable (no shedding observed). If WTG cannot be yawed, extended monitoring for 15 minutes and ice appeared stable. (300 Meters)	☐	☐
3	No falling ice or dripping water was observed when the WTG was shutdown. (300 Meters)	☐	☐
4	No falling ice was observed when approaching WTG. (90 Meters)	☐	☐
5	A spotter will be used when entering WTG.	☐	☐
6	A vehicle will be used to approach WTG.	☐	☐
7	Exposure time will be minimized in the potential impact zone in case conditions change and shedding does occur.	☐	☐
8	No up-tower work will be performed outside of the nacelle.	☐	☐
9	All employees/contractors believe ice will remain stable throughout duration of work at WTG	☐	☐
10	Ice stability conditions will be verified prior to exiting WTG.	☐	☐

Additional Comments:

Obtain Site Manager (or designee) approval for "Clearance for Work"

Approval received from: (Print Name)	**Signature:**
Date:	**Time:** ☐

If "STOP WORK" authority is used, other teams on site and Site Manager should be notified.

RESET FORM

Procedure_Fleet_Pre_Work_Icing_Checklist

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Appendix E: Cold Weather Substation Inspection Form

Invenergy	INVENERGY	Revision: 1
	COLD WEATHER READINESS INSPECTION	Issue:

Site Name:	
Inspected By:	
Date / Time:	

Control Building:

Assess and mark condition of equipment found below

Any equipment found to be open, damaged, or requiring service should be identified in the comments or deficiencies section

Acceptable = ACC Unacceptable = UAC Not Applicable = NA

1. Record as found Control Building temperature	
As found temperature found set to:	

2. Ensure the HVAC Filter was changed within the last 6 months
HVAC Filter Changed: _____ YES _____ NO

3. Set the Control Building thermostat to HEAT setting
Did the HVAC System Respond: _____ YES _____ NO

4. Confirm the HVAC system responds to an appropriate range.
Normal Operation: YES NO
If No was chosen, does the unit require service?

5. Record as set Control Building temperature	
Temperature set to:	

General Inspection Notes

HEAT should be on when outdoor temperature starts dropping under 50 °F

COOL should be on when outdoor temperature starts increasing over 70 °F

If you're unsure of when the HVAC filter was last switched out,
we should change it as soon as possible, so that our HVAC system is running as efficiently as possible

Allow time for HVAC system to respond to setting changes.

Comments or Deficiencies

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Invenergy	INVENERGY	Revision: 1
	COLD WEATHER READINESS INSPECTION	Issued:

CCVT/PT Low Voltage Cabinet

Assess and mark condition of equipment found below

Any equipment found to be open, damaged, or requiring service should be identified in the comments or deficiencies section

Acceptable = ACC Unacceptable = UNAC Not Applicable = NA

1.	Ensure all equipment cabinet enclosure doors are found securely shut			
2.	Inspect weatherstripping on enclosure doors is intact and ensure its sealing properly to keep water out			
3.	Record As Found Equipment Cabinet Heater Thermostat Setting Circle Units Referenced →	°F	°C	
4.	Adjust cabinet heater temperature setting and allow time for the heater to respond.			
5.	Using an IR camera verify that the cabinet heater is heating the cabinet			
6.	Return the cabinet heater thermostat dial to as found thermostat setting			
7.	Record As Set/Left Equipment Cabinet Heater Thermostat Setting Circle Units Referenced →	°F	°C	

Comments/Deficiencies:

Invenergy	INVENERGY	Revision: 1
	COLD WEATHER READINESS INSPECTION	Issued:

Vacuum Circuit Breaker: _____

1.	Ensure all equipment cabinet enclosure doors are found securely shut			
2.	Inspect weatherstripping on enclosure doors is intact and ensure its sealing properly to keep water out			
3.	Record As Found Equipment Cabinet Heater Thermostat Setting Circle Units Referenced →	°F	°C	
4.	Adjust cabinet heater temperature setting and allow time for the heater to respond.			
5.	Using an IR camera verify that the cabinet heater is heating the cabinet			
6.	Return the cabinet heater thermostat dial to as found thermostat setting			
7.	Record As Set/Left Equipment Cabinet Heater Thermostat Setting Circle Units Referenced →	°F	°C	

Notes/Deficiencies:

Vacuum Circuit Breaker: _____

1.	Ensure all equipment cabinet enclosure doors are found securely shut			
2.	Inspect weatherstripping on enclosure doors is intact and ensure its sealing properly to keep water out			
3.	Record As Found Equipment Cabinet Heater Thermostat Setting Circle Units Referenced →	°F	°C	
4.	Adjust cabinet heater temperature setting and allow time for the heater to respond.			
5.	Using an IR camera verify that the cabinet heater is heating the cabinet			
6.	Return the cabinet heater thermostat dial to as found thermostat setting			
7.	Record As Set/Left Equipment Cabinet Heater Thermostat Setting Circle Units Referenced →	°F	°C	

Notes/Deficiencies:

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Invenergy	INVENERGY	Revision: 1
	COLD WEATHER READINESS INSPECTION	

SF6 Circuit Breakers:

				PCB #_____	PCB #_____
	Acceptable – ACC Unacceptable – UAC Not Applicable - NA				
1.	Ensure all equipment cabinet enclosure doors are found securely shut				
2.	Inspect weatherstripping on enclosure doors is intact and ensure its sealing properly to keep water out				
3.	Record As Found Equipment Cabinet Heater Thermostat Setting Circle Units Referenced →	°F	°C		
4.	Adjust cabinet heater temperature setting and allow time for the heater to respond.				
5.	Using an IR camera verify that the cabinet heater is heating the cabinet				
6.	Return the cabinet heater thermostat dial to as found thermostat setting				
7.	Record As Set/Left Equipment Cabinet Heater Thermostat Setting Circle Units Referenced →	°F	°C		
8.	Record Ambient Temperature Circle Units Referenced →	°F	°C		
9.	Record the SF6 Gas Pressure and Gas Pressure Gauge Units.				
	SF6 Gas Pressure Gauge Units:				
10.	Confirm that the SF6 Gas Pressure is within acceptable range.				

High Voltage Power Circuit Breaker with SF6 Blanket Heater	A-Phase	B-Phase	C-Phase
11. Perform external inspection of seals, insulation, and piping associated with the SF6 blanket heater			
This space is reserved for sites with a 2nd HV PCB. Mark NA if not applicable →			

Comments/Deficiencies:

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Invenergy	INVENERGY	Revision: 1
	COLD WEATHER READINESS INSPECTION	

Generation Step-Up Transformer (GSU):

Acceptable – ACC Unacceptable – UAC Not Applicable - NA			GSU #_____	GSU #_____
1. Ensure all equipment cabinet enclosure doors are found securely shut				
2. Inspect weatherstripping on enclosure doors is intact and ensure its sealing properly to keep water out				
3. Record As Found Equipment Cabinet Heater Thermostat Setting Circle Units Referenced →	°F	°C		
4. Adjust cabinet heater temperature setting and allow time for the heater to respond.				
5. Using an IR camera verify that the cabinet heater is heating the cabinet				
6. Return the cabinet heater thermostat dial to as found thermostat setting				
7. Record As Set/Left Equipment Cabinet Heater Thermostat Setting Circle Units Referenced →	°F	°C		
8a. Record the ambient temperature Circle Units Referenced →	°F	°C		
8b. Verify oil level is in acceptable oil level range				

On Load Tap Changer (OLTC)	OLTC Unit #_____	OLTC Unit #_____
1. Ensure all equipment cabinet enclosure doors are found securely shut		
2. Inspect weatherstripping on enclosure doors is intact and ensure its sealing properly to keep water out		

Comments/Deficiencies:

Page:

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Appendix F: Pandemic Response Checklist:

(Use upon declaration of a pandemic or epidemic by regional or national epidemiological authority)

- ❑ Date and time initiated:
- ❑ Location/Facility:
- ❑ Name of individual completing form:
- ❑ Affected personnel/positions:
- ❑ Immediate Actions
  - ❑ Employees: notify O&M Mgr/HR if they are ill, becomes ill, or if a person in their household is ill.
    - ❑ Do not report for work until notified by supervision to do so.
    - ❑ Communicate frequently with HR regarding status of illness and availability for work.
  - ❑ Isolate personnel: notify infected or potentially affected personnel to remain at home.
  - ❑ Notify HR of personnel isolated due to illness/potential illness
    - ❑ Date/Time and person notified
  - ❑ Disinfect workstations and common areas frequented by infected or potentially infected personnel
    - ❑ Date/time complete:
  - ❑ Place disinfecting wipes and sanitizer in common areas and at each common workstation (and instruct personnel to use prior to and following shift change if applicable).
    - ❑ Date/time complete:
  - ❑ Assess business impact (Field Technical Representative/Asset Manager/ICC Manager)
    - ❑ Can facility(s) still be dispatched normally?(Yes/No)
      - ❑ If No – what actions are necessary to return to service?
        - ❑ Initiate outage reporting in accordance with established methods
          - ❑ Date/time and person making report:
    - ❑ Are adequate personnel available to maintain facility? (Yes/No):
      - ❑ If No – consider whether personnel can be made available from un-affected sites.
        - ❑ If personnel are brought from other sites, list names (of enter n/a):
        - ❑ _____
    - ❑ Reschedule/Delay maintenance activities
      - ❑ If maintenance activity involves outside contractor personnel and/or travel:
        - ❑ Assess potential financial penalty for delay
        - ❑ Asset Mgr: decide whether to proceed or re-schedule
          - ❑ Decision:
            - ❑ If re-schedule
              - ❑ Notify contractor:
              - ❑ Notify ERCOT
      - ❑ If maintenance activity does not require outside contractor personnel follow normal protocol for re-scheduling outage/maintenance activity.

Appendix G: Wildfire Response Checklist:

- ❑ Date and time initiated:
- ❑ Location/Facility:
- ❑ Name of individual completing form:
- ❑ Affected area (i.e. entire facility, only certain locations, T-line only,,)::
- ❑ Immediate Actions upon discovery of fire that will affect facility

  NOTE: Personnel safety is the utmost priority.

  - ❑ Notify
    - ❑ ICC (date time notified):
      - ❑ Note: ICC notifies counterparties– date/time will be in ICC log.
    - ❑ Field Technical Representative (date time notified):
    - ❑ Asset Manager (date time notified):
  - ❑ Maintain contact with local authority – determine whether WTG, substation, or generator tie line is affected.
    - ❑ WTG: idle WTG(s) if structural damage is known or suspected
    - ❑ SUBSTATION:
      - ❑ If fire is in immediate area and course/direction imminently threatens substation:
        - ❑ Notify ICC of situation and of intent to de-energize substation
          - ❑ Date/time and person notified:
        - ❑ Notify interconnecting utility – request they de-energize substation by opening the interconnecting substation tie line breaker.
          - ❑ Date/Time and person notified
          - ❑ Date/time substation de-energized
    - ❑ GENERATOR TIE LINE
      - ❑ If fire is in immediate area and course/direction imminently threatens tie line:
        - ❑ Notify ICC of situation and of intent to de-energize line
          - ❑ Date/time and person notified:
        - ❑ Notify interconnecting utility – request they de-energize the generator tie line by opening the interconnecting substation tie line breaker.
          - ❑ Date/Time and person notified
          - ❑ Date/time substation de-energized.

- Follow-up action:
  - Assess damage:
    - WTG: Inspect each WTG located within a burn area for damage
      - Note damage or provide relevant EAM WO #'s:
        - Damage:
    - GENERATOR TIE LINE:
      - If fire crossed or reached tie line area perform **PRIOR TO ENERGIZING LINE**:
        - Perform pole-by-pole inspection for damage
          - Note damaged pole location (if any) or provide EAM WO #'s
            - Damage:
        - Inspect tie line for obvious signs of damage
          - Note damage or provide relevant EAM WO #'s:
            - Damage:
    - SUBSTATION:
      - If De-energized during fire-then **PRIOR TO ENERGIZING**
        - Perform a monthly substation walk-down using the SMP Checklist.
        - Perform an orderly restoration of power
  - Provide estimated return to service information to:
    - Asset Manager (date/time notified):
    - ICC (date/time notified)
- When repair work complete, if any, restore facility to service in accordance with normal procedure.

Appendix H: Example Tabletop Exercises (Wildfire and Pandemic):

Scenario Summary (Wildfire)

Background: It is July in "**Insert closest City HERE"** Texas and the residents are experiencing a hot summer. The annual 4th of July Independence Day celebration is approaching. The Nation Forest Service Wild Fire Threat Advisory Level is yellow, where it has remained for almost a full year due to lack of rain.

The Event: Late in the evening of July 2nd, there was an early fireworks show and one of the fireworks set a pasture on fire. The winds have been high and the blaze is out of control. The fire stretched across 28,000+ acres uncontrolled. The fire is moving towards **INSERT SITE NAME HERE**.

The Results: The immediate results are local power outages and significant curtailment directives from ERCOT.

To the Facilitator: The goal of this exercise is to test the participant's response to an approaching wild fire. The participants will be required to discuss critical notifications and collaborations required to address the damaging effects of the natural disaster in an organized and effective manner.

Intended Participants: The exercise includes employees of Invenergy Services LLC. The hypothetical situation may encompass many other parties, including but not limited to ERCOT, the transmission provider, local law enforcement, and fire/emergency medical services (EMS) personnel.

For future exercises, we may consider extending the drill to include participants from the following:

Public Utilities:	Transmission Providers, Emergency Response Team Members, Utility Operators, IT/SCADA Operators, Engineers, Sampling Staff, Administrative Staff
Hospital:	Emergency Room staff, Physicians, Nurses and Nurse Practitioners, Hospital Administrators, Medical Laboratory staff, Public Information Officer
Fire Dept., HazMat and EMS:	Fire Fighters, HazMat Team members, EMS workers, 911 Call Center workers
Police:	Police Officers, Counter-Terrorism Specialists
Local Officials:	Mayor and Elected Officials, City Council Members, Local Emergency Planning Committee (LEPC) Members, Local Emergency Management Agency staff
State Officials:	State Environmental Agency Staff, State Health Department Staff, State Emergency Management Agency, Governor's Office Representatives
Federal Officials:	EPA staff, FBI staff, FEMA staff, CDC staff, DHS staff

Running the Exercise

Step 1: Decide on a facility, training date, training duration, and who to invite. Invite participants well in advance of your training date to ensure that you can achieve your attendance goal. Allow adequate time for planning and be sure to prepare all materials (digital and hard copy) ahead of time.

Step 2: Depending on who is participating in this exercise, it may be a good idea to have the participants go around the table and introduce themselves (name, utility, and job title) so that everyone will understand where any particular individual is "coming from" during the ensuing discussions.

Step 3: Explain to the participants that they are participating in a simple tabletop exercise. There is no time pressure, and that they are there as a group to discuss their roles and responses to an emergency incident. There is no right or wrong answers, but the group should be able to discuss problem or "gray" areas that may arise during the exercise. Let them know this is good, as the exercise should stimulate discussion that may lead to changes in the way the participants conduct their daily and emergency operations. Also inform the participants that, although the incident is fictional, it is okay to talk about the incident from their own experiences or in the context of their own protocols and procedures. It will make the exercise more beneficial for the participants if they exchange emergency response practices, protocols, and procedures that they may currently use.

Step 4: Begin the exercise by delivering the first inject. Then, let the discussion evolve naturally on its own after giving the participants the first inject. If necessary, to get the discussion started, simply "nudge" the participants with a non-leading question such as: What would you do in this situation? You could direct this question to the group at large or, in a group where no one is willing to break the ice, to a particular individual, preferably one that you know serves in a leadership role during the course of their daily activities.

Step 5: Be sure to take notes during the discussions. These notes will form the basis of your after-action review. Note problem or gray areas that need more research prior to resolution and who will perform this research or any action items decided upon by the participants. The notes you take will ensure that a summary of the take-home points, action items or messages will not be forgotten or overlooked. You may wish to write these points, action items and messages on a flip chart at the end of the exercise.

Step 6: Perform an after-action review. You may wish to give the participants a 10 to 15 minute break at the end of the exercise to give yourself time to compose your notes prior to conducting the review. Be sure to review the exercise objectives again to determine if the objectives were met by the exercise. Allow the participants to give their feedback on the exercise and the conclusions or decisions that they arrived at during the exercise. The entire tabletop exercise, including the after-action review, can typically be conducted in a two to four hour session. This time range is flexible and is dependent on the amount of discussion generated during the exercise. The pace of the exercise is controlled entirely by the facilitator, who manages the discussions.

Discussion Points

Remember, it is July in "**INSERT closest City HERE**" Texas and the residents are experiencing a drought. The annual July 4th Independence Day celebration is approaching. The National Forest Service Wild Fire Threat Advisory Level is yellow, where it has remained for almost a full year due to the drought. The National Forrest Service has alerted "**INSERT closest City HERE**" Texas Officials that a wild fire is burning uncontrollably north of the city. Exercise participants are provided a map of "**Insert County Name Here**" County Texas, a site transmission distribution lay out map, a turbine lay out map, and other pertinent materials.

[All of the "Injects" should prompt the Invenergy participants to follow the checklist in the EOP]

Inject #1: Local news reports indicate that the fire is 10 miles (INSERT DIRECTION RELEVANT TO SITE) of (INSERT SITE NAME HERE). Winds are high, but the fire appears to be moving west.

Points that could be covered in the discussion of Inject #1 include:

- Is anyone at the site in immediate danger? Is anyone out in the field?
- Who should be notified?

Inject #2: All technicians are back in the O&M building, when one technician gets a call from his spouse who says the wildfire is causing an evacuation of the school. Three technicians with children at the school leave to pick them up.

Points that could be covered in the discussion of Inject #2 include:

- Is there any challenge raised by the site being short-staffed?

Inject #3: The fire destroyed a major transmission line in the area, resulting in transmission congestion.

Points that could be covered in the discussion of Inject #3 include:

- What should the site do?
- What should the ICC do?
- What are the proper procedures for curtailing the wind facility?
- Who must be notified in the event of a curtailment expected over long periods?

Inject #4: Local news reports indicate the wind has shifted and the wild fire is now moving (INSERT DIRECTION RELEVANT TO SITE), towards (INSERT SITE NAME HERE).

Points that could be covered in the discussion of Inject # include:

- Is the substation threatened?
- Is the T-line threatened?
- If so, what should be done?
- Who should be notified?

Inject #5: The Fire has reached the INSERT SITE NAME HERE Transmission Line and has destroyed structures (INSERT STRUCTURE NUMBERS RELEVANT TO SITE). The fire has also destroyed the local cell phone tower, utility power to the facility and the local phone line.

Points that could be covered in the discussion of Inject #5 include:

- How will the plant restore back feed to their wind farm?
- How will the TSP operate the power provided to the wind farm?
- How will the local utility restore utility power to the wind facility?
- What types of notifications should be made?
- What has happened to hand held radio communication?
- How will the site communicate with the ICC?

Inject #6: Heavy rains put out the wildfire, but only after it reaches the (INSERT RELEVANT LOCATION) section of (INSERT SITE NAME HERE). The site personnel arrive to find the park tripped offline.

Points that could be covered in the discussion of Inject #6 include:

- What is the first step to take?
- What should be done with the T-line?
- What should be done with the substation?
- What is the state of the turbines?
- What notifications should be made?

Scenario Summary (Pandemic)

Background: Time: mid-January. Texas sites have begun a new maintenance period; the first on a new cycle frequency. One Texas site has a WTG with a broken blade with a crew from a nationwide vendor on the way to assist in repair, preparing to leave their home base in Houston. Local news reports make mention of an unusually early start to the flu season throughout the U.S. and that in many cases hospitals and clinics were filling with patients. The East Texas region is showing an especially alarming number of reports of people with flu-like symptoms.

The Event: The Center for Disease Control issues a warning that the strain of flu currently spreading throughout the U.S., and world at large, is not a strain that is currently accounted for by vaccine. The CDC subsequently declares the flu a ***pandemic*** due to the lack of vaccine and rapidly deteriorating conditions in most regions. The Texas Department of State Health Services (DSH) indicates that East Texas is especially hard hit and travel to that area is discouraged.

The Results: Texas site Field Technical Representatives account for operation of the facilities with little or no on-site manpower and the potential loss of the ICC.

To the Facilitator: The goal of this exercise is to recreate the disruption of maintenance and operations activities associated with a lack of manpower due to pandemic flu conditions.

Intended Participants: This exercise may be run by site or regional staff and include simulated notification of the proper local and national authorities. Internal notifications may include Asset Management, Safety, Human Resources, and the ICC (Operations and Power Scheduling).

Running the Exercise

Step 1: Decide on a facility, training date, training duration, and who to invite. Invite participants well in advance of your training date to ensure that you can achieve your attendance goal. Allow adequate time for planning and be sure to prepare all materials (digital and hard copy) ahead of time.

Step 2: Depending on who is participating in this exercise, it may be a good idea to have the participants go around the table and introduce themselves (name, utility, and job title) so that everyone will understand where any particular individual is "coming from" during the ensuing discussions.

Step 3: Explain to the participants that they are participating in a simple tabletop exercise. There is no time pressure, and that they are there as a group to discuss their roles and responses to an emergency incident. There is no right or wrong answers, but the group should be able to discuss problem or "gray" areas that may arise during the exercise. Let them know this is good, as the exercise should stimulate discussion that may lead to changes in the way the participants conduct their daily and emergency operations. Also inform the participants that it is okay to talk about the incident from their own experiences or in the context of their own protocols and procedures. It will make the exercise more beneficial for the participants if they exchange emergency response practices, protocols, and procedures that they may currently use.

Step 4: Begin the exercise by delivering the first inject. Then, let the discussion evolve naturally on its own after giving the participants the first inject. If necessary, to get the discussion started, simply "nudge" the participants with a non-leading question such as: What would you do in this situation? You could direct this question to the group at large or, in a group where no one is willing to break the ice, to a particular individual, preferably one that you know serves in a leadership role during the course of their daily activities. You can also refer to the discussion points in the Facilitator's Guide to help jump-start discussion.

Step 5: Be sure to take notes during the discussions. These notes will form the basis of your after-action review. Note problem or gray areas that need more research prior to resolution and who will perform this research or any action items decided upon by the participants. The notes you take will ensure that a summary of the take-home points, action items or

messages will not be forgotten or overlooked. You may wish to write these points, action items and messages on a flip chart at the end of the exercise.

Step 6: Perform an after-action review. You may wish to give the participants a 10 to 15 minute break at the end of the exercise to give yourself time to compose your notes prior to conducting the review. Be sure to review the exercise objectives again to determine if the objectives were met by the exercise. Allow the participants to give their feedback on the exercise and the conclusions or decisions that they arrived at during the exercise. The entire tabletop exercise, including the after-action review, can typically be conducted in a two to four hour session. This time range is flexible and is dependent on the amount of discussion generated during the exercise. The pace of the exercise is controlled entirely by the facilitator, who manages the discussions.

Discussion Points

Time: mid-January. Texas sites have begun a new maintenance period; the first on a new cycle frequency. One Texas site has a WTG with a broken blade with a crew from a nationwide vendor on the way to assist in repair, preparing to leave their home base in Houston. Local news reports make mention of an unusually early start to the flu season throughout the U.S. and that in many cases hospitals and clinics were filling with patients. The East Texas region is showing an especially alarming number of reports of people with flu-like symptoms.

Inject #1: The Center for Disease Control issues a warning that the strain of flu currently spreading throughout the U.S., and world at large, is not a strain that is currently accounted for by vaccine. The CDC subsequently declares the flu a ***pandemic*** due to the lack of vaccine and rapidly deteriorating conditions in most regions. The Texas Department of State Health Services (DSH) indicates that East Texas is especially hard hit and travel to that area is discouraged.

Points that could be covered in the discussion of Inject #1 include:

- What action should you take when the pandemic alert is issued?
  - How do you find out about it?
  - Where is your plan?

Inject #2: Your site has the crew from Houston on its way….what action(s) should you take regarding that crew?

Points that could be covered in the discussion of Inject #2 include:

- Expectation: Stop the crew - they are from a high-problem flu area…
- Actions: Notify the ICC and Asset Mgr. the WTG outage will extend due to the flu problem

Inject #3: Site personnel report for work and someone indicates (at the morning meeting of all Techs) they have a family member with flu-like symptoms

Points that could be covered in the discussion of Inject #3 include:

- What actions should you take?
  - Expectation: Individual sent home…equipment, doors, etc. disinfected…HR notified.
- Question: Where are your supplies for disinfecting workstations, etc…?
  - Review what should be available at normal times (disinfecting wipes, etc…)
- Question: Your plan includes a suggestion to import labor to help run the site if too many people are ill. Would you consider this a good idea? Why or why not?

Inject #4: Upon trying to notify the ICC via phone that the site has an extended WTG outage you hear the Operator indicate weakly…"I'm sick…the Scheduler left due to the flu and we are short manpower…can you call the outage in?"

Points that could be covered in the discussion of Inject #4 include:

- What actions should you take at your site?
- Can your site act as the operator for the facility if the ICC is unresponsive?
- Are there alternatives to operation of the wind fleet other than the Lombard ICC?
  - Answer: Yes – the downtown Chicago office could perform the same duties for some amount of time….GE ROCC could be considered for WTG resets if feasible.

Inject #5: Assuming the site personnel remain healthy, should routine maintenance activities continue or be re-scheduled?

Points that could be covered in the discussion of Inject #5 include:

- How do you reschedule maintenance if it is missed(or delayed)
  - Do you need the CMMS Coordinator?
- Assume you need the CMMS Coordinator and he is out sick…who do you contact? Are there other internal or external resources that can help?
  - Answer: Yes – internal SME's are identified in the RASCI…contact Ops Support. Alternative: Contact Infor directly…

Appendix I: Drill/Exercise Summary

Date of Drill: / /

Drill Facilitator:

Participants:

Scenario(s):

Results/Lessons Learned:

Participant Comments/Feedback:

Action items, if applicable (if not applicable, enter N/A):

Drill Facilitator Signature – drill complete: _____

Appendix J: Emergency Operating Plan Affidavit

Pursuant to 16 TAC § 25.53(c)(4)(A), the below individuals have received access to, and training on, the Emergency Operations Plan.

List of Relevant Operating Personnel		
Entity Name:		
Name	**Title**	**Date**

All relevant operating personnel within the market entity are familiar with the contents of the emergency operations plan; and such personnel have been instructed to following the plan and the provisions contained therein in the event of a system-wide or local emergency, except to the extent deviations are appropriate under the circumstances during the course of an emergency.

Name: _____

Title: _____

Signature: _____

Date: _____

Appendix K: Emergency Plan Training Summary

Training applies to:

- Texas: Generating Facility Office/Administrative Personnel
- Texas O&M Technicians
- ICC Control Room Operators
- Texas Asset Supervisory Personnel (i.e. Asset Manager, Director, Wind Regional O&M)
- Texas EHS Personnel

Summary/Outline:

a. Purpose: Provide training and guidance for facility actions during infrequent, emergency events

b. Applicability
   i. Texas wind generation assets

c. References
   i. Texas PUC Rule 16 Texas Administrative Code §§ 25.53 and 25.55

d. Plan
   i. Weatherization: Operations and Critical Failure Points and Cold Weather Critical Components
   ii. Identification of Severe Weather Events
   iii. Severe Weather Staffing
   iv. Recovery of Generation Capacity
   v. Pandemic Response: use of the checklist, expected actions
   vi. Winter Weather Readiness: use of the checklist, expected actions
   vii. Wildfire Plan: use of the checklist, expected actions

e. Responsibilities
   i. O&M Personnel
   ii. Asset Management
   iii. Operations Engineering Personnel

f. Training Requirements
   i. Affidavit of training

g. Documentation
   i. Contacts with Authorities: Schedule Annual Drill
   ii. Logs and log-keeping
   iii. Drill records
   iv. Emergency contact list
   v. Affidavit to PUCT
   vi. Declarations to ERCOT
   vii. Reports made to other Parties, if applicable

Appendix L: Emergency Plan Contact Forms:

Emergency Contact Information Form	
Legal Name	Castle Gap Wind Power, LLC
DUNS	117476300300
Entity Type	Power Generation Company
Description	Wind Generation Resource comprised of 41 Nordex N149 4.8 MW Wind Turbine Generators
Contact	Keylin Merritt
Address	1435 FM 572 E Goldthwaite, TX 76844
Phone	(806) 577-2807
Fax	N/A

Emergency Contacts					
Title	**Name**	**Location**	**Primary Phone**	**Secondary Phone**	**Email**
24 Hour Control Center (Primary Contact)	(Multiple contacts)	Chicago, IL	312-582-1888	312-582-1204	ControlRoomOperator@invenergy.com
ICC Manager	Paul Aplington	Chicago, IL	312-582-1979	309-706-9772	paplington@invenergy.com
Field Technical Representative	Keylin Merritt	Goldthwaite, TX	806-577-2807	N/A	kmerritt@invenergy.com
Director, Wind Regional O&M	Forrest Hubbard	Garden City, TX	325-863-0266	325-574-1681	fhubbard@invenergy.com
Director, EHS	Dustin Luensmann	Blackwell, TX	325-793-3242	325-720-8837	dluensmann@invenergy.com
Regional EHS Manager	Zay McCasland	Dimmitt, TX	806-831-1764		zmccasland@invenergy.com
Owner Representative	Tyler Arnett	Goldthwaite, TX	816-708-7401		tarnett@swiftcurrentenergy.com
Asset Manager	Rick Knauth (Executive Vice President) William Gheorghita	Houston, TX Chicago, IL	713-628-5514 312-582-1290		rknauth@swiftcurrentenergy.com CastleGapAssetManager@invenergyllc.com

Appendix M: Revision Control Summary

Version:	Description:	Date:
1.0	Original Document	02/17/2023
1.1	Contact update	7/18/2023