



Generation Entity and Transmission Service Provider Summer Inspection Checklists

Weatherization and Inspection Team

April 26, 2024

Godswill Peter

Program Analyst II

- Joined ERCOT in November 2023
- Located out of College Station, Texas
- Pre-ERCOT Experiences
 - 2 Years as a project development Analyst in the Renewable Energy Industry
 - 1 year in the Telecom Industry as a Project Planner/Analyst
- Education
 - Bachelor of Engineering in Civil and Geophysical Engineering
 - Masters Of Science and Engineering in Renewable Energy



Introduction

- Summer Weatherization Checklist developed in accordance with PUCT 16 TAC §25.55 Weather Emergency Preparedness; predominantly per subsection (c)(2) and (f)(2).
- Weatherization and Inspection Team refrains from providing a legal interpretation of §25.55 Weather Emergency Preparedness.
- Maintained schedule confidentiality, access limited to ERCOT and PUCT.
- Inspection scheduling period: June 3, 2024, to September 30, 2024. As we are in the process of preparing and finalizing our schedules.
- Inspection exclusions: We at ERCOT respect Holidays or significances as we do not inspect on certain days, for this summer season it will be Juneteenth(6/19/24), Independence Day (Tuesday, 7/4/24) and Labor Day (Monday, 9/4/24).

Audie Proctor

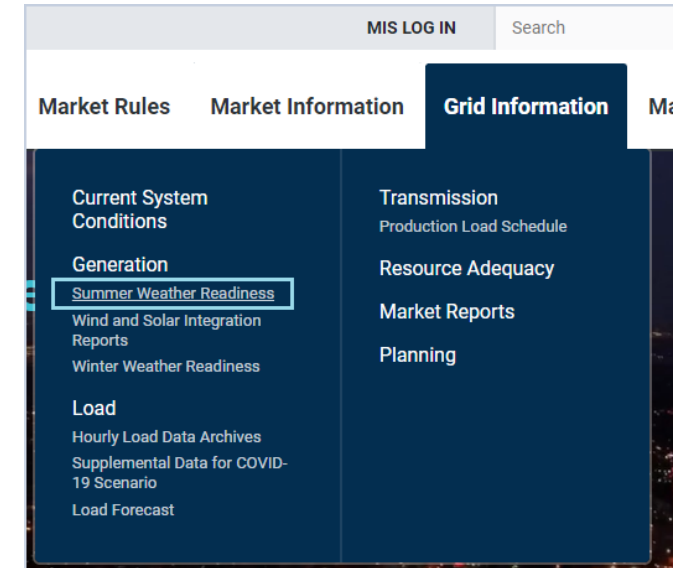
Weatherization Inspector Lead

- Joined ERCOT in October 2022
- North Weather Region
- Located out of Nocona, TX
- Prior to ERCOT, Worked in electrical generation for 24 years:
 - 10 years as a field operator
 - 9 years as a control room operator
 - 2 years as a control room supervisor
 - 3 years in work control/planning.
- Building trades installing commercial and industrial insulation for 8 years



Basic Requirements

- 16 TAC § 25.55 (c)(2) states:
 - By June 1 each year, a generation entity must complete the following summer weather emergency preparation measures for each resource under its control.
 - A Generation Entity (GE) must maintain these measures throughout the summer season and complete any ongoing or monthly requirements at the appropriate time.
 - If necessary to come into compliance, a generation entity must update its summer weather emergency preparation measures no later than one year after ERCOT files a historical weather study report under subsection (i) of this section.



GE Checklist

The RULE:

16 TAC § 25.55 (c) (2) (A) (i) - Identification of regulatory and legal limitations of cooling capacity, water withdrawal, maximum discharge temperatures, and rights for additional water supply;

The Checklist:

Records it identified regulatory and legal limitations of:

- Cooling capacity
- Water withdrawal
- Maximum discharge temperatures
- Rights for additional water supply

Comments:

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GE Checklist

The RULE:

16 TAC § 25.55 (c) (2) (A) (ii) - Arrange and plan for the provision and storage of adequate water supplies for cooling towers, reservoirs, heat exchangers, and adequate cooling capacity of the water supplies used in the cooling towers, reservoirs, and heat exchangers;

The Checklist: Part 1

Records it arranged and planned for provision and storage of adequate water supplies for:

- Cooling towers
- Reservoirs
- Heat exchangers

Comments:

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GE Checklist

The RULE:

16 TAC § 25.55 (c) (2) (A) (ii) - Arrange and plan for the provision and storage of adequate water supplies for cooling towers, reservoirs, heat exchangers, and adequate cooling capacity of the water supplies used in the cooling towers, reservoirs, and heat exchangers;

The Checklist: Part 2

Records it has adequate cooling capacity of the water supplies used in:

- Cooling towers
- Reservoirs
- Heat exchangers

Comments:

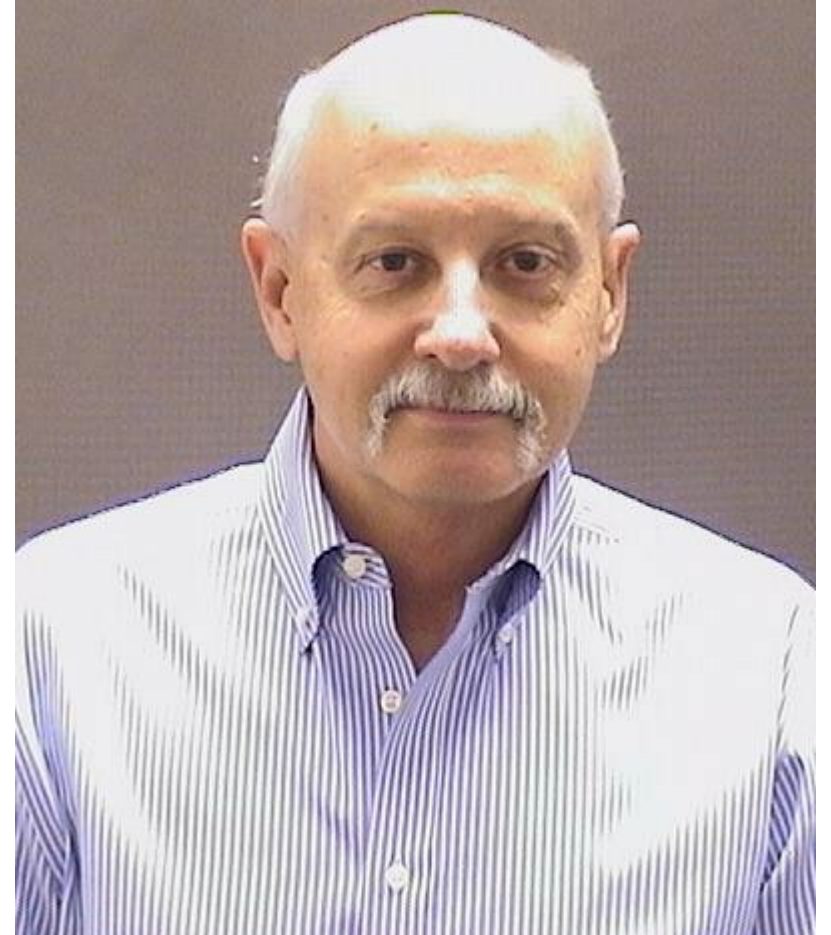
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Darryl Nitschke

(Weatherization Inspector Lead)

- Joined ERCOT in October 2023
- Located out of DFW area
- Worked in Power Generation for 37 years
 - 17 years as Plant Manager of Combined Cycle Plants
 - 4 years as a Plant Operations Manager
 - 5 years as a Plant Operations Supervisor
- North Central Weather Zone



GE Checklist

The RULE:

16 TAC § 25.55 (c) (2) (A) (iii) - Arrange and plan for the provision and storage of availability and appropriate safekeeping of adequate equipment to remove heat and moisture from all hot weather critical components;

The Checklist:

To remove heat and moisture from all hot weather critical components (as applicable), are there records of arranging and planning for:

- Provision of adequate equipment
- Storage of adequate equipment
- Appropriate safekeeping of adequate equipment

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Comments:

GE Checklist

The RULE:

16 TAC § 25.55 (c) (2) (A) (v) - Maintenance of all hot weather critical components, including air flow or cooling systems, and verifying the functionality of all components prior to and on a monthly basis during the summer season;

The Checklist: Part 1

Records of maintaining:

- Hot weather critical components
- Air flow or cooling systems (e.g., condensers, cooling towers, heat exchangers, pumps, etc.)
- HVAC for rooms/cabinets with hot weather critical components

Comments:

| Yes | No | N/A |
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GE Checklist

The RULE:

16 TAC § 25.55 (c) (2) (A) (v) - Maintenance of all hot weather critical components, including air flow or cooling systems, and verifying the functionality of all components prior to and on a monthly basis during the summer season;

The Checklist: Part 2
Records of verifying:

- functionality of all components prior to summer season
- functionality of all components each month during summer season

Comments:

| Yes | No | N/A |
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GE Checklist

The RULE:

16 TAC § 25.55 (c) (2) (A) (vi) - Monitoring of all hot weather critical components.

The Checklist:

- Records entity has monitored all hot weather critical components
- Entity can demonstrate it monitors hot weather critical components

Comments:

| Yes | No | N/A |
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James Whitman

Weatherization Inspector, Sr.

- Joined ERCOT in November of 2022
- Located out of Abilene, TX
- Prior to ERCOT, worked 13 years in electrical generation
 - 8 years in the field in as a plant (auxiliary) operator
 - 5 years as a Control Room Operator
- West Weather Zone



TSP Basic Requirements

- 16 TAC § 25.55 (f)(2) states:
 - By June 1 each year, a TSP must complete the following summer weather preparation measures for its transmission facilities.
 - A TSP must maintain these measures throughout the summer season and complete any ongoing, monthly, or regular requirements at the appropriate time.
 - If necessary to come into compliance, a TSP must update its summer weather preparation measures no later than one year after ERCOT files a historical weather study report under subsection (i) of this section.



TSP Checklist

The RULE:

16 TAC § 25.55 (f) (2) (A) (i) - Inspecting transformer cooling systems prior to and on a monthly basis during the summer season;

The Checklist:

- Records of inspecting transformer cooling systems prior to summer season
- Records of inspecting transformer cooling systems monthly

Comments:

| Yes | No | N/A |
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TSP Checklist

The RULE:

16 TAC § 25.55 (f) (2) (A) (ii) - Cleaning transformer cooling systems prior to and on a regular basis during the summer season;

The Checklist:

- Records of cleaning transformer cooling systems prior to summer season
- Records of cleaning transformer cooling systems on regular basis

Comments:

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TSP Checklist

The RULE:

16 TAC § 25.55 (f) (2) (A) (iii) - Verifying proper functioning of cooling fans and pump controls

The Checklist:

- Records of verifying proper functioning of cooling fans
- Records of verifying proper functioning of pump controls

NOTE: Includes HVAC units for rooms with hot weather critical components

Comments:

| Yes | No | N/A |
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Neil Quast

Weatherization Inspector, Sr

- Joined ERCOT in November of 2022
- East Weather Region
 - Located out of College Station, TX
- Prior to ERCOT, worked in Electrical Generation for 11 years:
 - 2 years Licensed Reactor Operator
 - 5 years field operator
 - 4 years Ops Training Instructor
- Veteran of the US Navy
 - 10 years as an operator and Electronics Technician



GE / TSP Checklist

The RULE:

16 TAC § 25.55 (c) (2) (A) (iv) and (f) (2) (A) (iv) - Arrange and provide for the availability of sufficient chemicals, coolants, and other materials necessary for sustained operations during a summer weather emergency;

The Checklist:

Records of arranging and providing for availability of sufficient:

- Chemicals
- Coolants
- Auxiliary Fuels (GE only)
- Other materials

Comments:

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GE / TSP Checklist

The RULE:

16 TAC § 25.55 (c) (2) (A) (iv) and (f) (2) (A) (v) - Confirmation that sufficient chemicals, coolants, and other materials necessary for sustained operations during a summer weather emergency are protected from heat and drought.

The Checklist:

TSP has confirmed the following are protected from heat and drought:

- Sufficient chemicals
- Coolants
- Auxiliary Fuels (GE only)
- Other Materials

Comments:

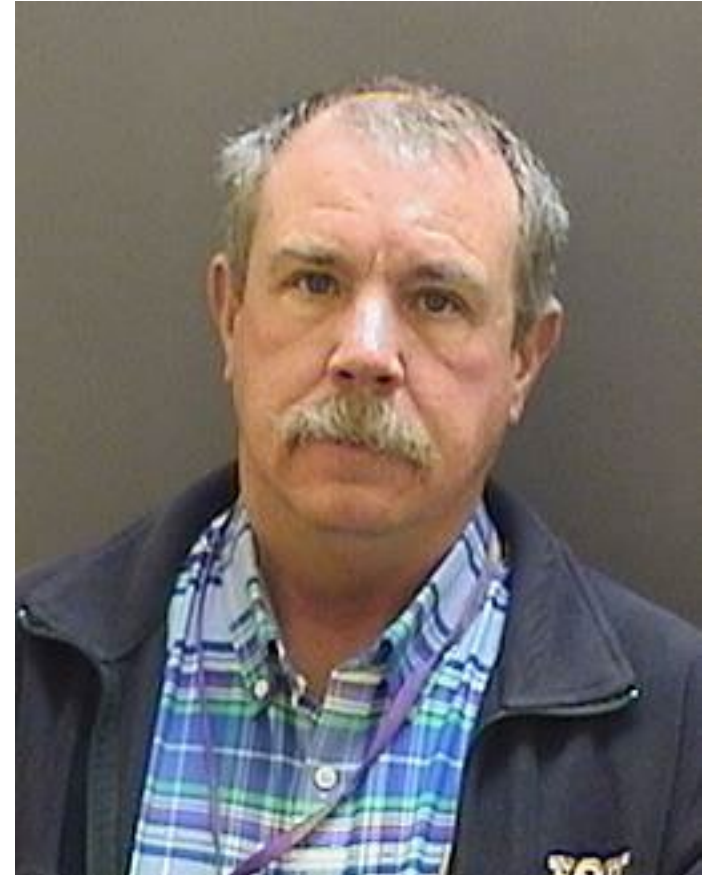
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Greg Schwierking

Weatherization Inspector Lead

- Transitioned within ERCOT in December of 2022
- Southern Weather Region
 - Located out of Corpus Christi, TX
- Prior to Weatherization,
 - ERCOT System Operations
- Prior to ERCOT, QSE Day Ahead and Real Time Operation, Power Plant Operations/Maintenance.



GE/TSP Checklist

The RULE:

16 TAC § 25.55 (c) (2) (C) and (f) (2) (C) - Review the adequacy of staffing plans to be used during a summer weather emergency and revise the staffing plans, as appropriate.

The Checklist:

- Records of reviewing adequacy of staffing plans for a summer weather emergency.
- If appropriate, revised staffing plans

Comments:

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GE/TSP Checklist

The RULE:

16 TAC § 25.55 (c) (2) (D) and (f) (2) (D) - Train relevant operational personnel on summer weather preparations and operations.

The Checklist:

- Records of training personnel on summer weather preparations and operations

Comments:

| Yes | No | N/A |
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Jake Jacobs

Weatherization Inspector, Sr

- Transitioned within ERCOT in November of 2022
- South Central Weather Region
 - Located out of McDade, TX
- Prior to Weatherization,
 - 12 years as a Market Analyst, helped implement Zonal to Nodal market, assisted in Black-Start testing
 - 10 years as an ERCOT System Operator, Real-Time, Day-Ahead, and Transmission Desks
- Prior to ERCOT, worked three years as a Substation Electrician, three years as a System Operator.
- Veteran of the US Marine Corps
 - 6 years as an aircraft avionics technician



TSP/GE Checklist

The RULE:

16 TAC § 25.55 (c) (2) (B) and (f) (2) (B) - Beginning in 2023, implement weather emergency preparation measures by June 1 each year, in addition to the weather emergency preparation measures required by subparagraph (A) of this paragraph on, that could reasonably be expected to ensure the sustained operation of the TSP/RE transmission facilities during the greater of the maximum ambient temperature at which the facility has experienced sustained operations or the 95th percentile maximum average 72-hour temperature reported in ERCOT's historical weather study, required under subsection (i) of this section, for the weather zone in which the facility is located.

The Checklist: Part 1

- Records of implementing additional measures reasonably expected to ensure sustained operation at maximum ambient temperature resource has experienced sustained operations

Comments:

| Yes | No | N/A |
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TSP/GE Checklist

The RULE:

16 TAC § 25.55 (c) (2) (B) and (f) (2) (B) - Beginning in 2023, implement weather emergency preparation measures by June 1 each year, in addition to the weather emergency preparation measures required by subparagraph (A) of this paragraph on, that could reasonably be expected to ensure the sustained operation of the TSP/RE transmission facilities during the greater of the maximum ambient temperature at which the facility has experienced sustained operations or the 95th percentile maximum average 72-hour temperature reported in ERCOT’s historical weather study, required under subsection (i) of this section, for the weather zone in which the facility is located.

The Checklist: Part 2

- Records of implementing additional measures reasonably expected to ensure sustained operation at the temperature in ERCOT’s historical weather study
- Comments:

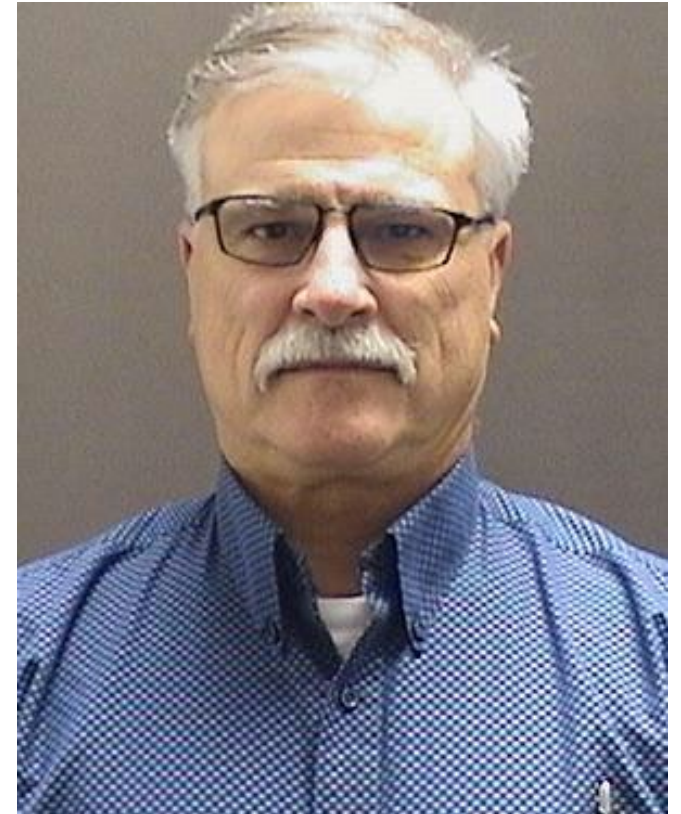
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Kevin Harris

Weatherization Inspector Lead

- Joined ERCOT in November 2022
- Worked in Operations/Generation for 31 years
 - 22 years as a Field Operator
 - 7 years as a Control Room Operator
 - 2 years as a Work Week Coordinator/Control/Room Operator
- Coastal Region
 - Located out of Bay City



GE/TSP Checklist

The RULE:

16 TAC § 25.55 (c) (2) (E) and (f) (2) (E)- Beginning in 2023, create a list of all hot weather critical components, review the list at least annually prior to the beginning of the summer season, and update the list as necessary

The Checklist:

- List of all hot weather critical components
- Mechanism to review list at least annually before summer season
- Mechanism to update list as necessary

Comments:

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GE/TSP Checklist

The RULE:

16 TAC § 25.55 (c) (2) (A) and (f) (2) (A) - Implement weather emergency preparation measures that could reasonably be expected to ensure the sustained operation of **all hot weather critical components** during summer weather conditions. Where appropriate, such measures may be implemented using either personnel or automated systems.

The Checklist:

- Does the GE/TSP have records it implemented weather emergency preparation measures that could reasonably be expected to ensure the sustained operation of all hot weather critical components during summer weather conditions using either personnel or automated systems where appropriate?

| Yes | No | N/A |
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Comments:

GE/TSP Checklist

The RULE:

16 TAC § 25.55 (d) (2) (B) (i) and (g) (2) (B) (i) - The cure period determined by ERCOT must consider what weather emergency preparation measures the generation entity may be reasonably expected to have taken before ERCOT's inspection, the reliability risk of the resource's noncompliance, and the complexity of the measures needed to cure the deficiency.

The Checklist:

- If the GE/TSP has not complied with any part of 25.55(c)(2)/(f)(2), confer with the GE/TSP on a cure period to address identified deficiencies and document accordingly. The weatherization team will discuss the factors, determine an appropriate cure period, and inform the GE/TSP of the cure period.

Comments:

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Best Inspection Preparation Practices

- Effective communication and collaboration between the Market Participant's personnel and the Weatherization and Inspection Team will support successful completion of summer inspections.
- Creating and maintaining systematic and logical records of items relevant to PUCT 16 TAC § 25.55 Weather Emergency Preparedness regulations will facilitate the inspection process.
- Ensure specificity of records regarding resources.
- Provide well-organized records to Inspector/Inspection Team for a seamless summer weatherization inspection process.
- For ALL other inquiries, contact your ERCOT Account Manager or ERCOT Client Services at (512) 248-3900 or clientservices@ercot.com.