# 2023 Summer Weatherization Workshop for Generation Resources and Transmission Service Providers

ERCOT Staff

April 19, 2023

# Antitrust Admonition

**ANTITRUST ADMONITION**

ERCOT strictly prohibits market participants and their employees who are participating in ERCOT activities from using their participation in ERCOT activities as a forum for engaging in practices or communications that violate the antitrust laws. The ERCOT Board has approved guidelines for members of ERCOT Committees, subcommittees and working Groups to be reviewed and followed by each market participant attending ERCOT meetings. If you have not received a copy of these Guidelines, please take one now and review it at this time. Please remember your ongoing obligation to comply with all applicable laws, including the antitrust laws.

# Welcome and Opening Remarks

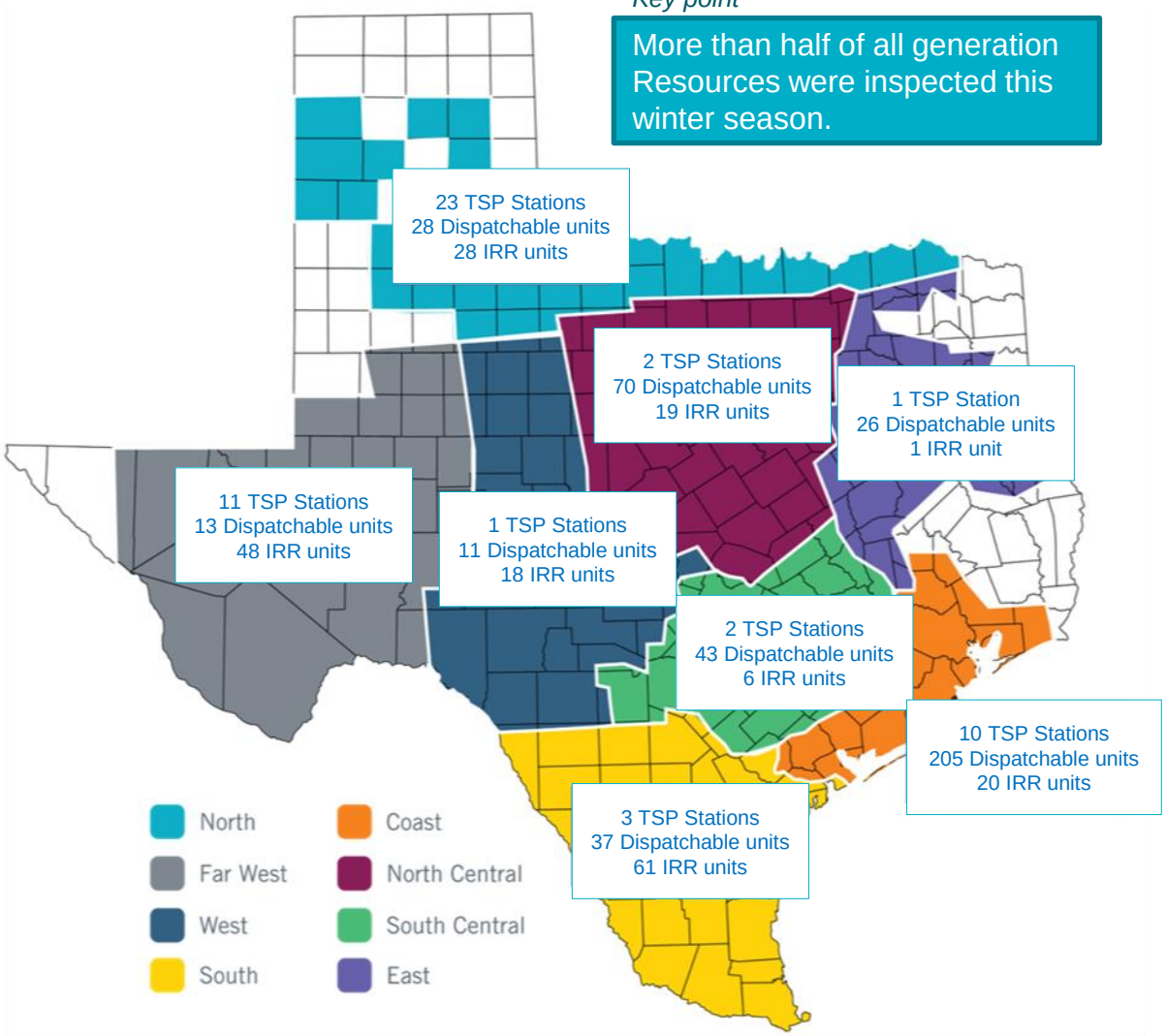
David Kezell
Director, Weatherization and Inspection

April 19, 2023

# Winter Inspections

*Key point*

More than half of all generation Resources were inspected this winter season.




## Winter 2022-23 On-site Inspections

Inspections Completed between December 2, 2022, and February 28, 2023

140 Transmission
433 Dispatchable
201 IRR *
774 Total

69 Facilities were assigned cure periods, most of which are already complete.

*IRR – Intermittent Renewable Resources

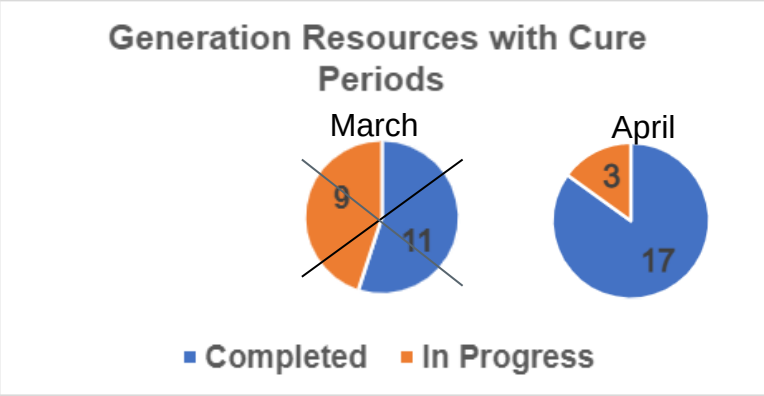
# Weatherization - Winter 2022-2023 Cure Periods

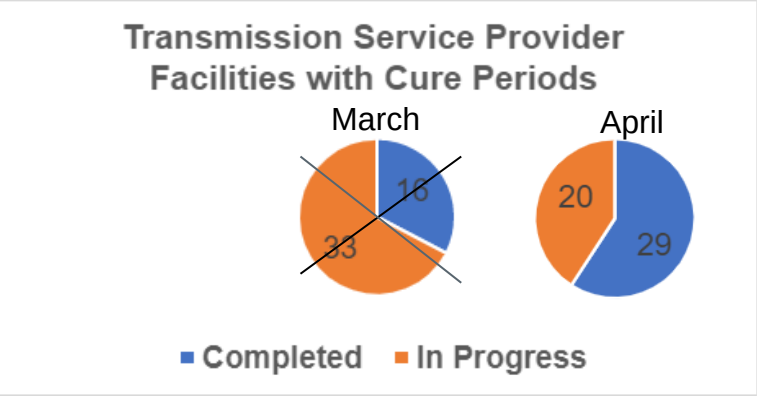
- 774 Inspections (both Generation and Transmission) completed since December 2022 resulting in 69 cure periods

- Cure Periods are assigned windows of opportunity to correct compliance deficiencies
- They vary in duration based upon site specific circumstances
- Deficiencies not corrected on time will be reported to the PUCT

| Generation Resources with Cure Periods | 20 | |
|---|---|---|
| Completed | ~~11~~ | 17 |
| In Progress | ~~9~~ | 3 |

| TSP Facilities with Cure Periods | 49 | |
|---|---|---|
| Completed | ~~16~~ | 29 |
| In Progress | ~~33~~ | 20 |




Key Takeaway: Cure periods are an effective way to collaboratively drive system reliability enhancing changes

# Key Points

- 16 TAC § 25.55 - the PUC Weather Emergency Preparedness Rule is having a beneficial effect on system reliability.

- Efforts to implement measures to comply with the rule's requirements have been widespread. Compliance levels have generally been high.

- Collaborative discussions during inspections have resulted in increased understanding and many simple and nearly immediate remedial actions.

- Utilization of Cure Periods has been effective in driving expeditious solutions to compliance deficiencies.

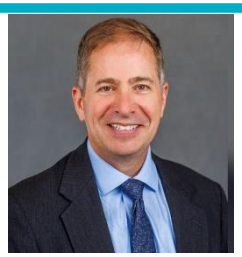
- Continued diligence in implementing winter and summer preparation measures, maintaining them throughout their respective seasons, and creating good compliance records will be critical to the ongoing success of this reliability enhancing program.

# Weatherization and Inspection Team Introduction

David Kezell and Raihan Khondker

April 19, 2023

# Weatherization & Inspection Organizational Chart



**David Kezell**
Director, Weatherization and Inspection

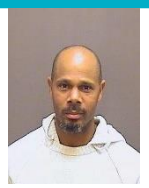
**Alan Allgower**
Inspector Analyst Lead

**Brandon Manley**
Weatherization PM Analyst

**Raihan Khondker**
Manager, Generation Facility Inspection

**TBA**
Manager, Transmission Facility Inspection

Kevin Harris



Jake Jacobs

Xander Mirin

Audie Proctor

Neil Quast

Greg Schwierking

James Whitman

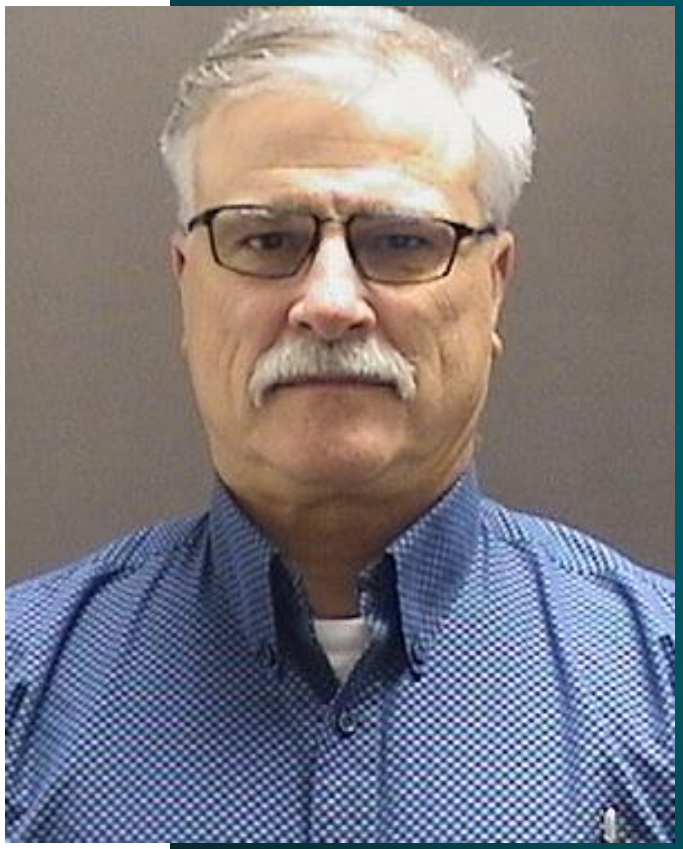
**TBA**
Inspector

# Brandon Manley
## Weatherization Project Management Analyst

- Joined ERCOT in April 2023
- Located out of Taylor, Texas
- Prior to ERCOT, worked in Gas and Electric Utilities for 7 years and Chemical Manufacturing for 2.5 years
  - 2.5 years as a Senior Operations Analyst
  - 4.5 years as a Gas Measurement Analyst
  - 2.5 years as a Chemical Technician
- Veteran of the US Marine Corps
  - Worked as an Ammunition Ordinance Technician, specializing in logistics operations and hazardous material transportation.

# Kevin Harris
## Weatherization Inspector, Lead

- Joined ERCOT in November of 2022
- North Central Region
- Prior to ERCOT, worked in Electrical Generation for 31 years:
  - 22 years as a Field Operator
  - 7 years as a Control Room Operator
  - 2 years as a Work Week Coordinator
- Veteran of the US Air Force
  - Worked as an Aircraft Mechanic, specializing in Flight Control, Landing, and Canopy Systems



# Jake Jacobs
## Weatherization Inspector, Senior

- 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

# Xander Mirin
## Weatherization Inspector, Senior

- Joined ERCOT in November of 2022
- Coastal Region
  - Located out of Lake Jackson, TX
- Prior to ERCOT, worked in Electrical Generation for 10 years:
  - 8 years as a Control Room Supervisor/Operator
  - 2 years as a Field Operator
- Veteran of the US Navy
  - 10 years as a nuclear operator and electrical technician

# Audie Proctor
## Weatherization Inspector, Lead

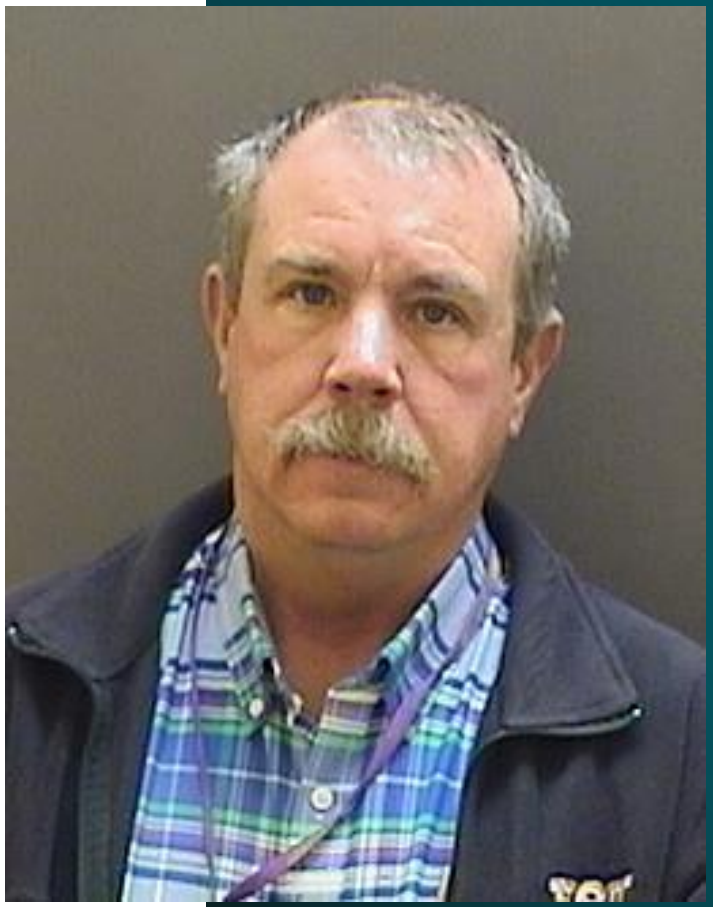
- Joined ERCOT in October 2022
- North Weather Region
  - Located out of Nocona, TX
- Prior to ERCOT, Worked in electrical generation for 24 years:
  - 10 years as a field operator
  - 9 years as a control room operator
  - 2 years as a control room supervisor
  - 3 years in work control/planning.
-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

# Neil Quast
## Weatherization Inspector, Senior

- 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

# Greg Schwierking
## Weatherization Inspector, Lead

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



# James Whitman
## Weatherization Inspector, Senior

- Joined ERCOT in November of 2022
- West Weather Region
  - 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

# Summer Season Preparation Requirements in the Weather Emergency Preparedness Rule

David Kezell
Director, Weatherization and Inspection

April 19, 2023

# Disclaimer

- Slides throughout the presentations in today's workshop contain paraphrased summaries of some of the rule's requirements. In case of a conflict between any of the information in our presentations and the rule, the rule prevails.

- ERCOT is not responsible for interpreting the rule for you and provides this information for convenience.

# 16 TAC § 25.55 Summer Requirement Highlights

- Phase II PUC Rule 25.55 – Weather Emergency Preparedness (adopted September 29, 2022) established a set of summer weather emergency preparedness standards in (c)(2) and (f)(2), for generation and transmission facilities respectively
- Summer weather preparation measures must be established by June 1 of each year and maintained throughout summer season
- Declarations of Preparedness with notarized attestations of completion of requirements and the accuracy/veracity of information in the declaration are due no later than June 1 of each year
- Review adequacy of staffing plans and perform training
- Highlighted Requirements for Transmission Service Providers:
  - Inspecting transformer cooling systems prior to and on a monthly basis during summer
  - Cleaning transformer cooling systems prior to and on a regular basis during summer
  - Verifying proper functioning of cooling fans and pump controls
  - Assuring sufficient chemicals, coolants and other materials are available and protected from heat and drought

# 16 TAC § 25.55 Summer Requirement Highlights

- And for Generation Resources:
  - Identification of regulatory and legal limitations of cooling capacity, water withdrawal, maximum discharge temperatures, and rights for additional water supply
  - Arrange and plan for the provision and storage 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
  - 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
  - Arrange and provide for the availability of sufficient chemicals, coolants, auxiliary fuels, and other materials necessary for sustained operations
  - Hot weather critical components must be maintained and their functionality verified prior to June 1 and monthly in June, July, August, and September
  - Hot weather critical components must be monitored

# 16 TAC § 25.55 Summer Requirement Highlights

- 16 TAC § 25.55 (c)(2)(B) and (f)(2)(B) require any additional preparation measures beyond those described in (c)(2)(A) and (f)(2)(A) that could reasonably be expected to ensure sustained operation of the resource (TSP's transmission facilities) during the greater of the maximum ambient temperature at which operations have been sustained or the 95$^{th}$ percentile maximum average 72-hour temperature reported in ERCOT's historical weather study for the appropriate weather zone
- Appendix A documents associated with the Declarations of Preparedness will require disclosure of the maximum ambient temperature at which operations has been sustained
- For natural gas fired generation resources, Attachment K and its supplemental spreadsheet must also be included with the Declaration of Preparedness
- A list of hot weather critical components must be developed
  - The list must be reviewed at least annually and updated as necessary

# ERCOT's Historical Weather Study
# Temperature Requirements
# and
# Preliminary Summer Weather Outlook

Chris Coleman
Lead Meteorologist

April 19, 2023

# Summer Weatherization Temperatures

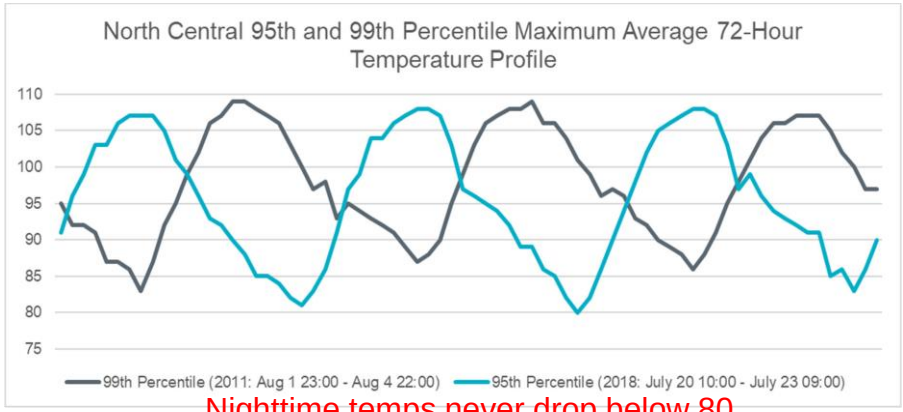
*All hours, rolling average*

**Page 37** on the PUC report, issued 7/13/22

| Weather Zone | 95th Percentile Maximum Average 72-Hour Temperature | 99th Percentile Maximum Average 72-Hour Temperature |
|---|---|---|
| North | 96.1° | 98.0° |
| North Central | 95.4° | 97.8° |
| West | 92.9° | 93.9° |
| Far West | 92.7° | 95.0° |
| East | 91.6° | 96.8° |
| Coast | 90.1° | 92.1° |
| South Central | 92.3° | 93.0° |
| Southern | 88.9° | 92.2° |
| Valley | 88.6° | 89.2° |
| Panhandle | 90.3° | 91.3° |

*Table 67: Historical Maximum Average 72-Hour Temperature Data*

"Please note that time frames for each 95th and 99th percentile profile shown in the charts throughout this report do not represent the same time of the day or the same days. For clarity, the legend for each chart identifies the time frames for each 95th and 99th percentile profile."




Nighttime temps never drop below 80

# What is Normal?

The most recent year Texas experienced a summer in the coolest half of all historical summers was **2008**

**1895-2022**
**128 historical summers**

What is normal?
20th hottest summer on record was ***below*** normal (of **128** historical Years; 15yr normal, 2008-2022)

The past 14 summers
Have all fallen in
The hottest half of
All historical summers

11 of the previous 14 summers have Been in the Hottest quarter of all Historical summers (1st thru 32nd)

Texas Average Tempera
*June-September*

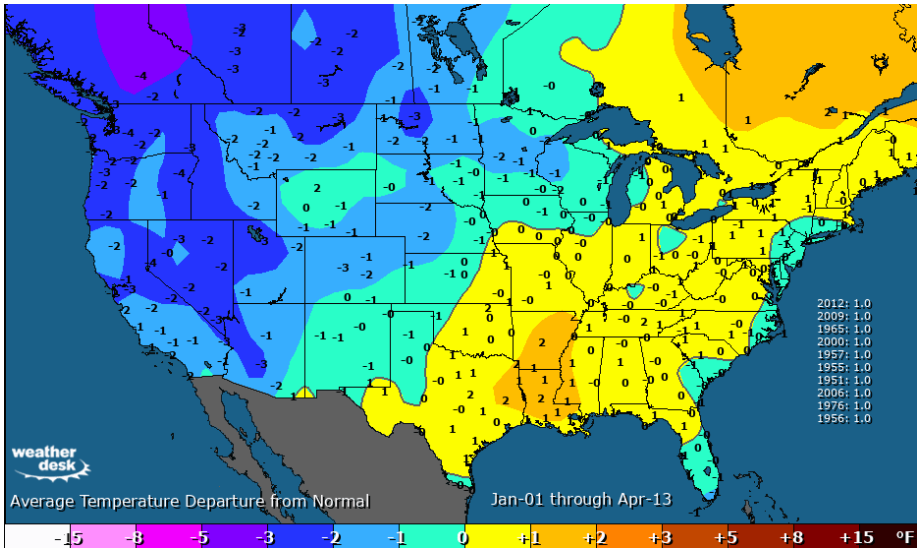
| Period | Average Temperature | Rank | Anomaly *2008-2022 Mean: 81.4°F* |
|---|---|---|---|
| June -September 2022 | 83.0°F | #2 127 | 1.6°F |
| June -September 2021 | 80.3°F | #54 75 | -1.1°F |
| June -September 2020 | 81.1°F | #27 102 | -0.3°F |
| June -September 2019 | 82.3°F | #5 124 | 0.9°F |
| June -September 2018 | 81.9°F | #9 120 | 0.5°F |
| June -September 2017 | 80.3°F | #54 75 | -1.1°F |
| June -September 2016 | 81.2°F | #24 105 | -0.2°F |
| June -September 2015 | 81.3°F | #20 109 | -0.1°F |
| June -September 2014 | 80.3°F | #54 75 | -1.1°F |
| June -September 2013 | 81.2°F | #24 105 | -0.2°F |
| June -September 2012 | 81.5°F | #15 114 | 0.1°F |
| June -September 2011 | 84.6°F | #1 128 | 3.2°F |
| June -September 2010 | 81.6°F | #13 116 | 0.2°F |
| June -September 2009 | 80.8°F | #32 97 | -0.6°F |
| June -September 2008 | 79.7°F | **#85** 44 | -1.7°F |

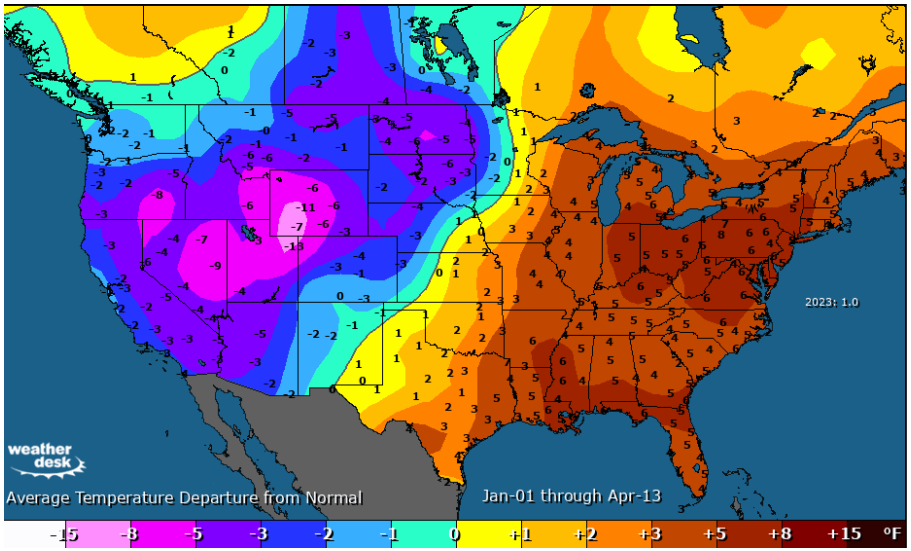
# Building the Summer 2023 Weather Outlook

Summer 2023 Analogs

2012, 2009, 2006, 2000
1976, 1965, 1957, 1956, 1955, 1951

Based on: ENSO (El Nino/La Nina), PDSI (drought), PDO (Pacific Ocean cycle), recent temperature and precipitation patterns (both in-state and continental)



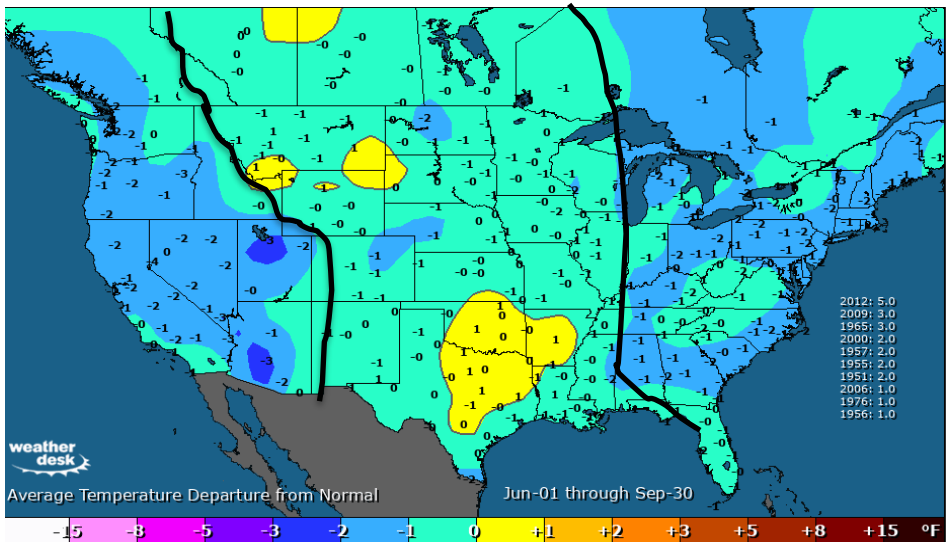

Backcast is very good

# Preliminary Summer Temperature Outlook

"Mild" years:
1965, 1957, 1955, 1976

"Hot" years:
2012, 2009, 2006,2000,
1951, 1956

More weight should be applied to recent years

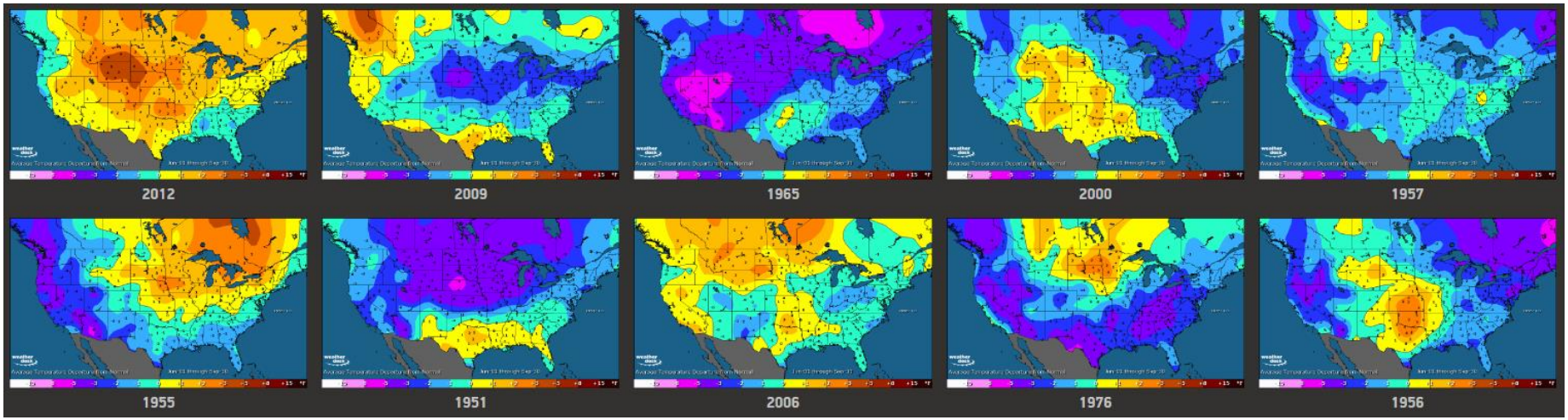



Most likely:
Above normal temperatures this summer

Unlikely to match last summer (2nd hottest on record)

Could be top 20 hottest
-- especially if a wet spring doesn't transpire
2012 was 15th hottest all-time (reasonable starting point)

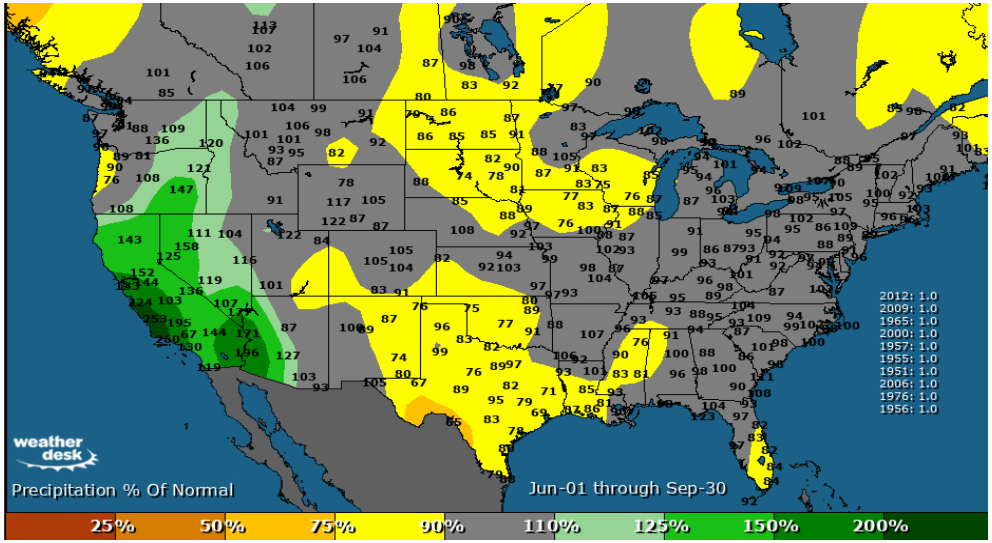
Note: Final Summer Weather Outlook will be released in May – coinciding with Summer SARA



# Preliminary Summer Precipitation Outlook

Below normal rainfall is more consistent among the analog summers than was the case with temperatures

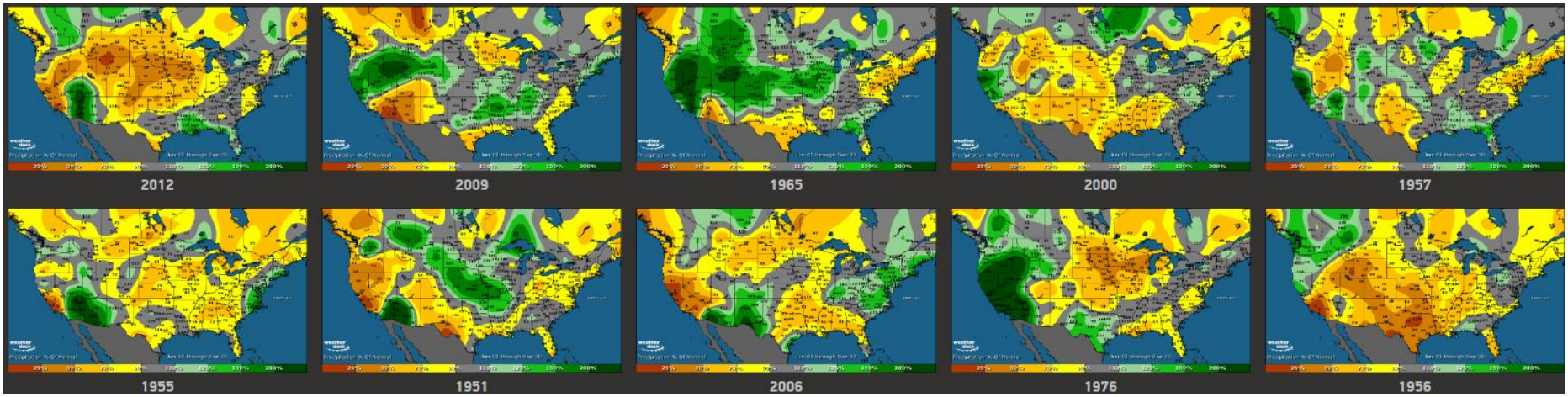
Only truly wet summer was 1976



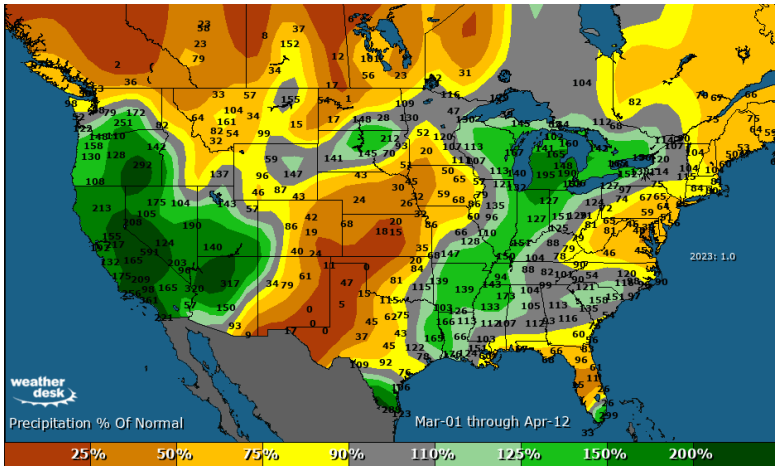

Most likely:
Dry summer (especially parts of West and South Texas)

Last summer was the 20th driest on record (of 128 historical summers)

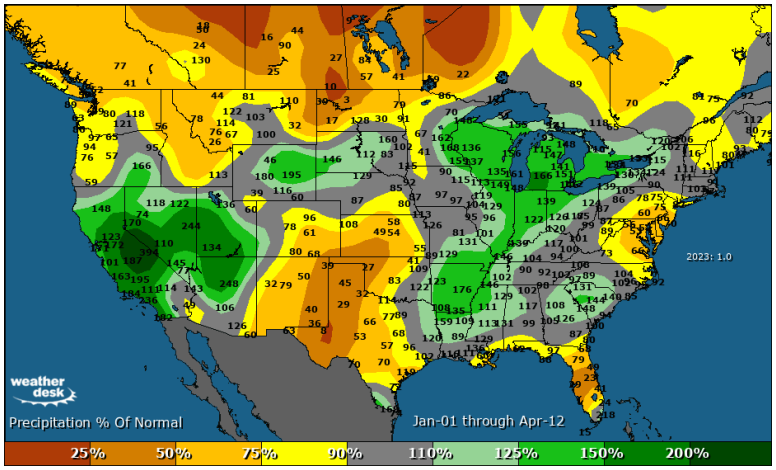
Note: Final Summer Weather Outlook will be released in May – coinciding with Summer SARA



# Drought and Wind



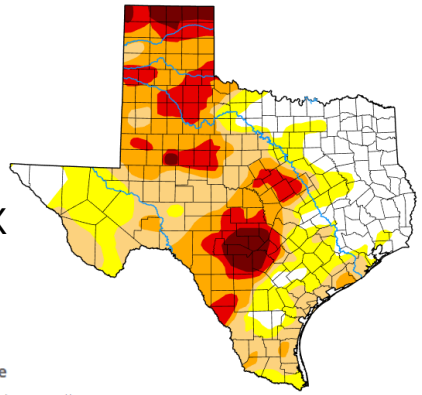

Spring precip through April 12



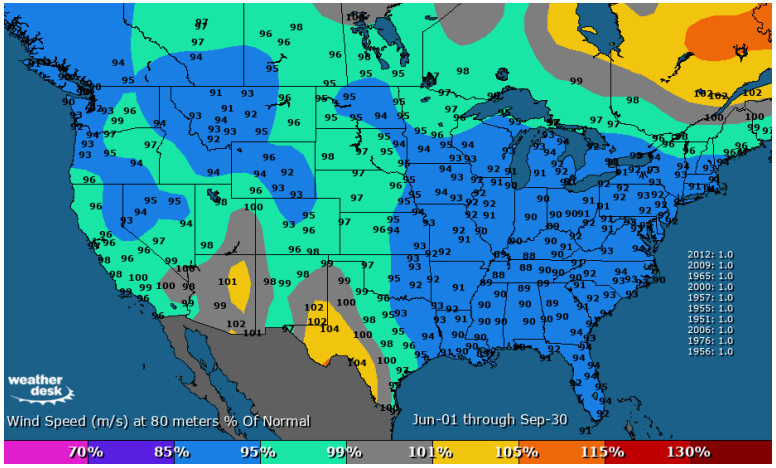

Year-to-date precip through April 12

Drought is currently projected to continue this summer – especially parts of South, Central, and West TX -- may increase elsewhere (but the next 6-8 weeks could have a lot to say about that)

Drought map, as of 4/13




78% of the state with drought concerns, 59% of the state in moderate drought or worse




Much of West Texas is expected to see normal to above normal wind – but more so Jun-Jul than Aug-Sep

# Generation Entity and Transmission Service Provider Summer Inspection Checklists

Raihan Khondker
Manager, Generation Facility Inspections

April 19, 2023

# Introduction

- 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.
- Inspection schedule to be developed in May 2023; schedule confidentiality maintained, access limited to ERCOT and PUCT.
- Market Notices for Summer Weatherization Preparedness Inspections to be disseminated in advance to Generation Entities (GE) and Transmission Service Providers (TSP) by ERCOT Weatherization and Inspection Team.
- Inspection scheduling period: June 5, 2023, to September 29, 2023.
- Inspection exclusions: Independence Day (Tuesday, 7/4/23) and Labor Day (Monday, 9/4/23)

# Basic Requirements

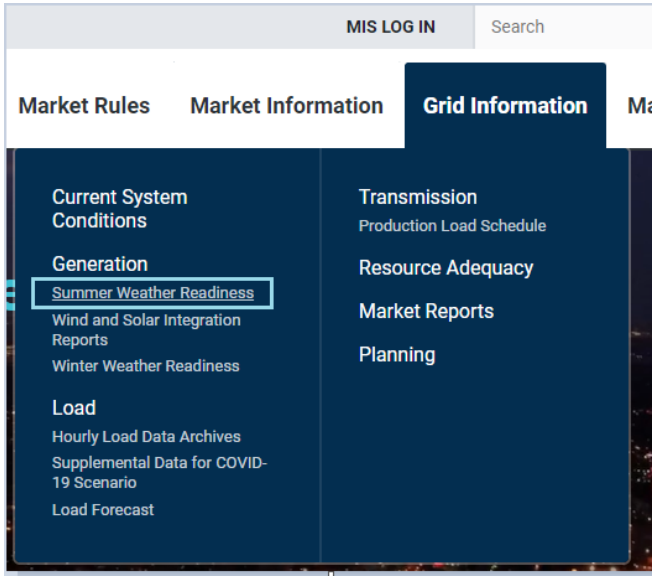
- 16 TAC §25.55 (c)(2) [(f)(2)] states:

❑ By June 1 each year, a generation entity [a TSP] must complete the following summer weather emergency preparation measures for each resource under its control [its transmission facilities].

❑ A generation entity [TSP] 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 [TSP] 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.

- The next four slides contain sample checklist questions.
- All draft questions for Resources and TSP Substations/Switchyards will soon be posted on the Summer Weather Readiness (ercot.com) website.



# GE Checklist Sample 1

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

The Checklist:
Records of arranging and providing for the availability of sufficient:

- Chemicals (e.g., biocides, coagulants, etc.)
- Coolants (e.g., glycol, hydrogen, transformer oils, etc.)
- Auxiliary fuels (e.g., diesel, propane, offsite NG storage, etc.)
- Other materials for sustained operation during a summer weather emergency

| Yes | No | N/A |
|---|---|---|
| ☐ | ☐ | ☐ |
| ☐ | ☐ | ☐ |
| ☐ | ☐ | ☐ |
| ☐ | ☐ | ☐ |

Comments:

# GE Checklist Sample 2

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

| Yes | No | N/A |
|---|---|---|
| ☐ | ☐ | ☐ |
| ☐ | ☐ | ☐ |

Comments:

# TSP Checklist Sample 1

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:

| Yes | No | N/A |
|---|---|---|
| ☐ | ☐ | ☐ |
| ☐ | ☐ | ☐ |

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

Comments:

# TSP Checklist Sample 2

The RULE:
16 TAC § 25.55 (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

| Yes | No | N/A |
|---|---|---|
| ☐ | ☐ | ☐ |

Comments:

# Communications

- Per (d)(1)(A) and (g)(1)(A), Within 24 hours of receiving notice of inspection, a TSP or GE must provide ERCOT, commission staff, and designated contractors all TSP or GE requirements for facility access. Upon provision of the required written notice, a TSP or GE must grant access to its facility to ERCOT and to commission staff, including an employee of a contractor designated by ERCOT or the commission to conduct, oversee, or observe the inspection.
- Selected GE(s) AR/BAR, and site contacts must route ALL inspections-related communications through:

  GenerationWeatherizationInspections@ERCOT.com

- Selected TSP(s) AR/BAR, and site contacts must route ALL inspections-related communications through:

  TSPWeatherizationInspections@ERCOT.com

# Conclusion

- 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, substations, or switchyards.
- Provide well-organized records to Inspector/Inspection Team for a seamless summer inspection process.

# Declarations of Preparedness Review

## Generation Resources
## and
## Transmission Service Providers

Andrew Gallo
Assistant General Counsel, Regulatory

April 19, 2023

# PUCT Rule § 25.55 Declaration Requirements

- Applies to generation entities and transmission service providers (TSPs) in ERCOT power region
  - Exceptions
    - Resource w/ ERCOT-approved Notice of Suspension of Operations (NOSO) for upcoming season ***until*** return to service date in notice of change of generation resource designation
    - New/repowered Resource scheduled to begin commercial operations during upcoming season must comply *prior to* commissioning date
    - Transmission facility scheduled for initial energization during the upcoming season must meet requirements *prior to initial energization*

# Transmission Facilities Covered by the Rule

## PUC Electric Substantive Rules

- § 25.5(142) - Transmission system is transmission facilities ≥ 60 kV owned, controlled, operated, or supported by a transmission service provider to provide transmission service
- § 25.5(141) - Transmission service provider (TSP) is an electric utility, municipally-owned utility, or electric cooperative that owns or operates facilities used for transmitting electricity
- § 25.5(138) - Transmission line is a power line operated at ≥ 60 kV

# Summer Declaration Requirements

By June 1 each year:

- Complete summer weather emergency preparation measures
  - Maintain through summer season
  - Complete on-going or monthly requirements
- Implement weather emergency preparation measures *reasonably expected to ensure* ***sustained*** *operation of hot weather critical components during summer weather conditions* (using personnel or automated systems)
- Includes items in § 25.55(c)(2) referenced by David and Raihan (*not* exclusive list!):

# Summer Prep Activities - Resources

- Identify regulatory/legal limitations of cooling capacity, water withdrawal, maximum discharge temperatures, and rights for additional water supply
- Arrange/plan to provide and store adequate water *supplies* for cooling towers, reservoirs, heat exchangers, and adequate *cooling capacity of water supplies*
- Arrange/plan to provide and store (and safekeeping of) adequate equipment to remove heat and moisture from hot weather critical components
- Arrange and provide for sufficient chemicals, coolants, auxiliary fuels, and other items for sustained operations
- Maintain hot weather critical components (including air flow or cooling systems) and verify component functionality prior to the summer season and monthly thereafter
- Monitor hot weather critical components
- Review staffing plans for weather emergency and revise, as appropriate
- Train operational personnel on weather preparations and operations

# Summer Prep Activities - TSPs

- Inspect transformer cooling systems prior to summer season and monthly thereafter
- Clean transformer cooling systems prior to summer season and on regular basis during season
- Verify proper cooling fan and pump control functioning
- Arrange/provide for sufficient chemicals, coolants, and other materials for sustained operations during weather emergency
- Protect from heat and drought all chemicals, coolants, and other materials for sustained operations
- Review staffing plans for weather emergency and revise, as appropriate
- Train relevant operational personnel on weather preparations and operations

# Summer Requirements

**IMPORTANT**

Beginning 2023:

- **Resources and TSPs**:
  - Implement weather emergency preparation measures by June 1 ***in addition to the weather emergency preparation measures required above*** that could be ***reasonably expected*** to ensure ***sustained operations*** during:
    - **>** max. ambient temperature at which resource had sustained operations ***or***
    - 95th percentile max. avg. 72-hour temp. in ERCOT historical weather study for resource's weather zone
  - Create list of hot weather critical components
    - Review list at least annually before summer season and update as necessary

# Summer Requirements in Declaration - Resources

- Between May 1 and June 1, submit declaration:
  - Include resources under your control
  - Summarize activities performed to meet rule requirements
  - Provide ***max.*** *ambient temperature* at which resource had sustained operations (at resource site or closest weather station)
  - Include additional information required by ERCOT protocols
    - Includes *Attachment K: Declaration of Natural Gas Pipeline Coordination* for thermal units and its supplement
  - Must be sworn to by highest ranking representative, official, or officer with binding authority and notarized

**NOTE**: Submit declaration before returning mothballed, outaged, or decommissioned resource to service; for new/repowered resource, submit declaration prior to commissioning date

# Sample Declaration - Resources

**Instructions:** Complete this Declaration in its entirety. Leave nothing blank. Add the year in the appropriate spot. ***You must submit a declaration prior to returning a mothballed, outaged or decommissioned resource to service during the summer season.***

If generation entity (see § 25.55(b)(2)) has generation resources (see § 25.55(b)(3)) under its control that rely on natural gas as the primary fuel source, mark the "does" box in Section 2, below and complete Attachment K, Declaration of Natural Gas Pipeline Coordination and its supplement (spreadsheet); otherwise, mark the "does not" box.

This Declaration must be signed by generation entity's highest-ranking representative, official, or officer *with binding authority* over generation entity attesting to completion of all activities described in Appendix B and the accuracy and veracity of the information provided herein.

**Section 1**

**Summer Season: 20_____**
[year]

**Generation entity Name: _____**

**This Declaration applies to all generation resources listed in Appendix A.**

# Sample Declaration – Resources (cont'd)

**Section 2**

Generation entity conducted the activities listed in Appendix A in connection with the requirements in 16 Texas Administrative Code § 25.55(c)(2).

**[Insert summary of activities for each Resource in Appendix A]**

Generation entity [☐ does] [☐ does not] have generation resources under its control that rely on natural gas as the primary fuel source. [If you marked "does," you must provide Attachment K.]

**Section 3**

I hereby attest to the following:

1. Generation entity performed the activities set forth in Appendix A.
2. The maximum ambient temperature at which each generation resource has experienced sustained operations as measured at its site or weather station nearest to the site is listed in the Maximum Ambient Temperature column in Appendix A.
3. If Generation Entity checked the "does" box in Section 2, I attest generation entity coordinated with the operator of each natural gas pipeline directly connected to the generation resources listed in the supplement to Attachment K, *Declaration of Natural Gas Pipeline Coordination* regarding the summer Peak Load Season stated above as required in ERCOT Protocols Section 3.21.1 and further attest all natural gas pipeline activities or conditions disclosed by the natural gas pipeline operator anticipated to cause a materially increased risk of unavailability were disclosed in Attachment K.

# Sample Declaration – Resources (cont'd)

I certify I am the highest-ranking representative, official, or officer with binding authority over the above-referenced Generation Entity, I am authorized to execute and submit this Declaration and, based on my investigation and review, I attest to the accuracy and veracity of the information provided herein.

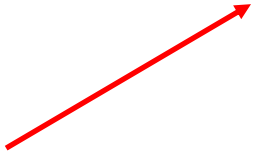
Signature

Printed Name

Title

Date

# Sample Declaration – Resources (cont'd)



**Notary Acknowledgement**

STATE OF _____ §
§
COUNTY OF _____ §

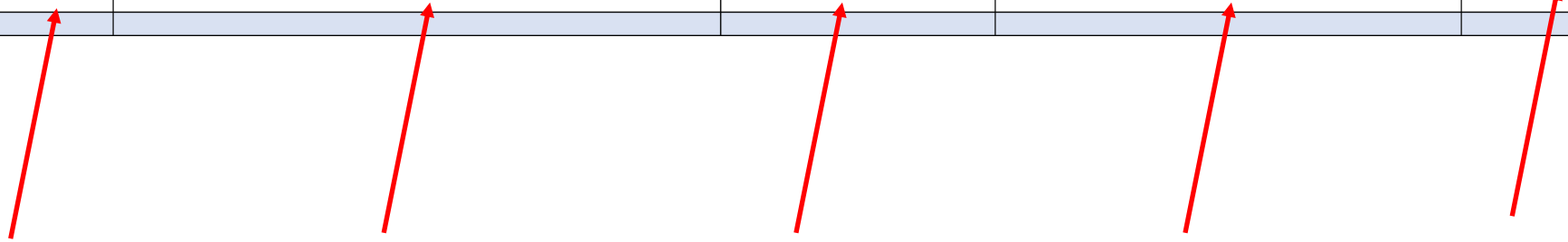
Before me, the undersigned notary, on this day personally appeared _____, known to me (or proven to me) to be the person whose name is subscribed to the foregoing Declaration and acknowledged to me s/he executed it for the purposes therein expressed.

Given under my hand and seal this _____ day of _____, 20_____.

Notary Public in and for the State of _____.

# Sample Appendix A

| Appendix A: Summer - Generation Entity Declaration of Weatherization Preparedness<br>Generation Entity: <Name> | | | | |
|---|---|---|---|---|
| Generation Resource | If a Resource is not covered by this declaration, please indicate the reason below and explain in the Comments column | Maximum Ambient Temperature (F) | Activities to Complete the Requirements of 16 TAC 25.55(c)(2) | Comments |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |



**NOTE**: Work in progress – subject to change

# Attachment K and Supplement

**Declaration of Natural Gas Pipeline Coordination**

**This declaration applies to the following Generation Resources (list by Resource Site Code):**
List Generation Resource(s) by Resource Site Code

**Natural Gas Pipeline Coordination**

***INSTRUCTIONS: Use this section for Generation Resources relying on natural gas as the primary fuel source. Repeat the following for each applicable Generation Resource.***

Generation Resource (provide Resource Site Code):

(1) Identify the natural gas pipelines directly connected to the Generation Resource and contact information (name, phone number, and email) for each natural gas pipeline operator:

(2) If a natural gas pipeline operator did not respond to the Resource Entity's documented effort to coordinate, check the box below and identify the natural gas pipeline operator.

☐ No response was received from the following natural gas pipeline operator:

(3) If a natural gas pipeline operator responded to the Resource Entity's documented effort to coordinate and disclose activities or conditions materially increasing the risk of Generation Resource unavailability in the summer Peak Load Season, please disclose the following information:

(a) The name or identifier of the natural gas pipeline:

(b) The operator of the natural gas pipeline:

(c) Impacts the activity or condition may have on the Generation Resource's availability (e.g., could cause an Outage or derate):

(d) The time period during which the activity or condition is expected to occur, including expected duration:

(e) Other useful information:

(4) If contract language prohibits the Resource Entity from disclosing any of the information requested in 3(a)-(e) above and the natural gas pipeline operator refused the Resource Entity's documented effort to obtain consent to disclose that information to ERCOT, check the box below and identify the natural gas pipeline operator.

☐ Contract language prohibits disclosure and the following natural gas pipeline operator(s) would not consent to information disclosure:

Instructions:
- Every row requires a response.
- Existing rows cannot be deleted.
- Rows can be added by right-clicking on the row number and selecting "Insert".

Definitions:
- **Site Code (Column A)** - Name of the site. Also known as "Plant Name". Add rows for additional sites as necessary.
- **Generation Resource Heat Rate (Column G)** - Use the 'typical' heat rate at normal operation. Do not provide detailed heat rate curve
- **Resource Entity Contact (Column D)** - An operations/scheduling person with direct contact to the site containing the Generation Resource(s); typically a trader, scheduler, or 24 hour desk.
- **Pipeline Name (Columns H-K)** - If the Generation Resource has multiple pipelines for gas supply, list all pipelines in the columns beginning with Column H.

**Supplement to Attachment K: Declaration of Natural Gas Pipeline Coordination**
Resource Entity: <resource_entity>

| Site Code | Does any Resource Use Natural Gas as Fuel? | Resource Entity Primary Contact for Gas Supply Operations / Questions | Resource Entity Operations Contact Phone # | Resource Entity Operations Contact Email | Generation Resource Heat Rate | Primary Pipeline |
|---|---|---|---|---|---|---|
| | Yes | | | | | Please select delivery pipeline... |

All generation resources using natural gas as their primary fuel must complete and return Attachment K and its Supplement.

# Summer Requirements in Declaration - TSPs

- Between May 1 and June 1, submit declaration:
  - Include transmission substations/switchyards you maintain
  - Summarize activities performed to meet rule requirements
  - Provide ***max.*** *ambient temperature* at which each facility had sustained operations (at facility site or closest weather station)
  - Include additional information required by ERCOT protocols
  - Must be sworn to by highest ranking representative, official, or officer w/ binding authority and notarized

**NOTE**: Submit declaration before initial energization of new transmission facility

# Sample Declaration - TSPs

**Instructions:** Complete this Declaration in its entirety. Leave nothing blank. Add the year in the appropriate spot.

This Declaration must be signed by the highest-ranking representative, official, or officer of the transmission service provider (TSP) *with binding authority* over the TSP attesting to the completion of all applicable activities described in Appendix A and the accuracy and veracity of the information provided herein.

**Section 1**

**Summer 20_____**
[year]

**TSP Name:** _____

**This Declaration applies to all transmission facilities listed in Appendix A.**

**Section 2**

TSP conducted the activities listed in Appendix A in connection with the requirements in 16 TAC § 25.55(f)(2).

**[Insert summary of activities for each transmission facility in Appendix A]**

# Sample Declaration - TSPs

**Section 2**

TSP conducted the activities listed in Appendix A in connection with the requirements in 16 TAC § 25.55(f)(2).

**[Insert summary of activities for each transmission facility in Appendix A]**

**Section 3**

**Declaration of Weatherization Preparations**

I hereby attest to the following:

1. TSP performed the activities set forth in Appendix A.

2. The maximum ambient temperature at which each transmission facility has experienced sustained operations as measured at the substation or switchyard or the weather station nearest to the substation or switchyard is listed in the Maximum Ambient Temperature column in Appendix A.

# Sample Declaration - TSPs (cont'd)

I certify I am the highest-ranking representative, official, or officer *with binding authority* over the above-referenced TSP, I am authorized to execute and submit this Declaration and, based on my investigation and review, I attest to the accuracy and veracity of the information provided herein.

Signature

Printed Name

Title

Date

# Sample Declaration – TSPs (cont'd)

**Notary Acknowledgement**

STATE OF _____ §
§
COUNTY OF _____ §

Before me, the undersigned notary, on this day personally appeared _____, known to me (or proven to me) to be the person whose name is subscribed to the foregoing Declaration and acknowledged to me s/he executed it for the purposes therein expressed.

Given under my hand and seal this _____ day of _____, 20_____.

Notary Public in and for the State of _____.

# Sample Appendix - TSP

| Appendix A: Summer - Transmission Service Provider Declaration of Weatherization Preparedness<br>Transmission Service Provider: <TSP> | | | | |
|---|---|---|---|---|
| Substation/Switchyard | If a Transmission Substation or Switchyard is not covered by this declaration, please indicate the reason below and explain in the Comments column. | Maximum Ambient Temperature (F) | Summary of activities to Complete the Requirements of 16 TAC 25.55(f)(2) | Comments |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**NOTE**: Work in progress – subject to change

# Annual Gas Declaration Worksheet (Supplement to Attachment K)

Jim Stevens
Gas Coordination Lead

April 19, 2023

# Supplemental Gas Attestation Worksheet

- Purpose
  - Facilitate transfer of complete and correct supply pipeline information
  - Provide additional description regarding desired information
- Features
  - Drop down list of pipelines available in the Texas market
  - Ability to select multiple pipelines supplying a single facility
  - Simplified layout
  - Facilitates information storage
  - Provides for resource and pipeline contact person information

# Supplemental Gas Attestation Worksheet

Instructions:

- Every row requires a response.
- Existing rows cannot be deleted.
- Rows can be added by right-clicking on the row number and selecting “Insert”.

Definitions:

- **Site Code (Column B)** - Name of the site. Also known as "Plant Name". Add rows for additional sites as necessary.
- **Generation Resource Heat Rate (Column G)** - Use the 'typical' heat rate at normal operation. Do not provide detailed heat rate curve
- **Resource Entity Contact (Column D)** - An operations/scheduling person with direct contact to the site containing the Generation Resource(s); typically a trader, scheduler, or 24 hour desk.
- **Pipeline Name (Columns H-K)** - If the Generation Resource has multiple pipelines for gas supply, list all pipelines in the columns beginning with Column H.

**Supplement to Attachment K: Declaration of Natural Gas Pipeline Coordination**

**Resource Entity: <resource_entity>**

| Site Code | Does any Resource Use Natural Gas as Fuel? | Resource Entity Primary Contact for Gas Supply Operations / Questions | Resource Entity Operations Contact Phone # | Resource Entity Operations Contact Email | Generation Resource Heat Rate | Primary Pipeline |
|---|---|---|---|---|---|---|
| | Yes | | | | | Please select delivery |

# Supplemental Gas Attestation Worksheet

| Secondary Pipeline | Tertiary Pipeline | Additional Pipe (add if not shown on dropdown list) | Primary Pipeline Rep / Contact Name | Primary Pipeline Rep / Contact Phone # | Primary Pipeline Rep / Contact Email |
|---|---|---|---|---|---|
| | | | | | |

| Secondary Pipeline Rep / Contact Name | Secondary Pipeline Rep / Contact Phone # | Secondary Pipeline Rep / Contact Email | Tertiary Pipeline Rep / Contact Name | Tertiary Pipeline Rep / Contact Phone # | Tertiary Pipeline Rep / Contact Email | Other Pipeline Rep / Contact Name | Other Pipeline Rep / Contact Phone # | Other Pipeline Rep / Contact Email |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

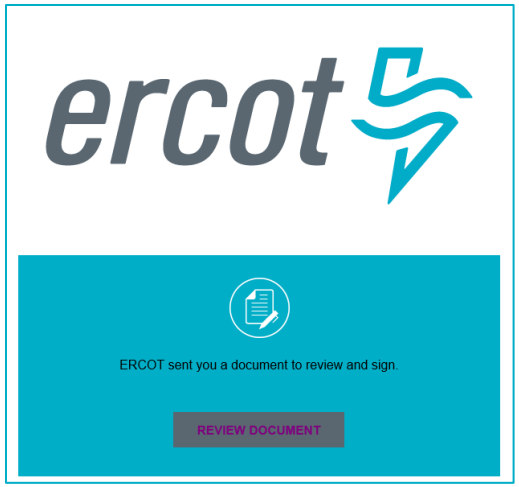
# Mechanics for Transfer of Information

Joel Koepke
Senior Manager, Grid Coordination

April 19, 2023

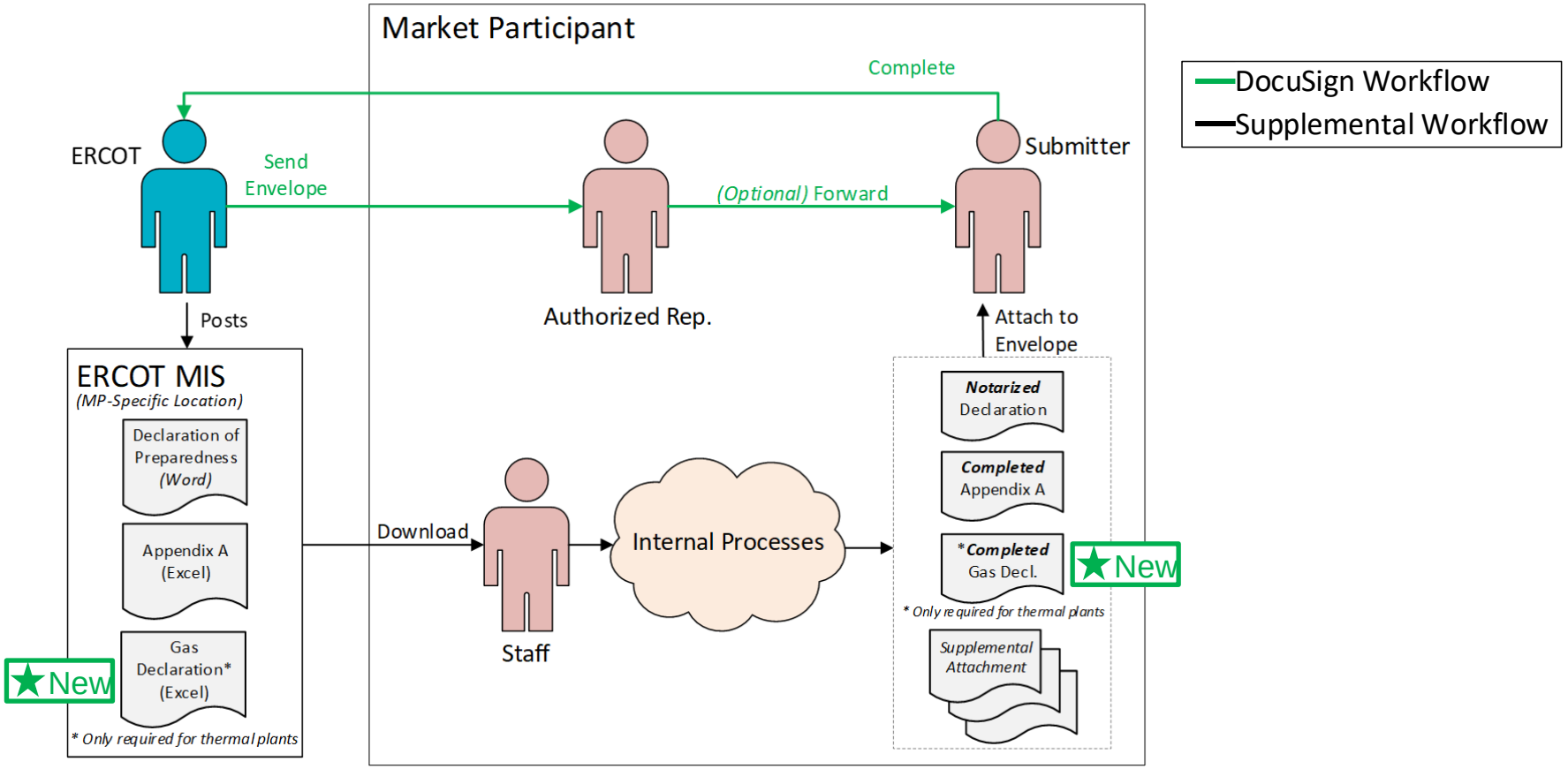
# Declarations of Preparedness via DocuSign

ERCOT will use DocuSign to collect Declarations of Preparedness responses.



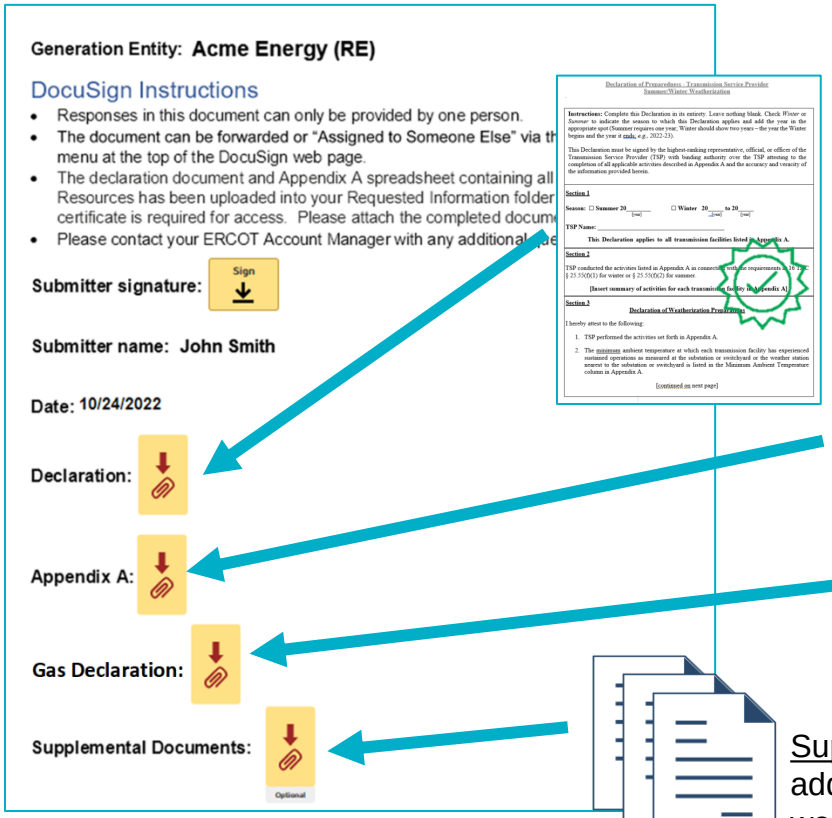

The DocuSign envelope will be sent to the Authorized Representative of the Resource Entity or Transmission Service Provider.

# DocuSign and Supplemental Workflows



# DocuSign Attachments

There are up to four different attachment locations within the envelope






Declaration: The notarized Declaration must be attached prior to submission

| Generation Resource |
|---|
| ACME1_ST1 |
| ACME1_CT1 |
| ACME2_UNIT1 |
| ACME2_UNIT2 |
| ACME3_DGR1 |
| ACME3_DGR2 |
| ACME4_ST1 |
| ACME4_CT1 |

Appendix A: The completed Appendix A must be attached prior to submission

| Site Code | Does any Resource Use Natural Gas as Fuel? |
|---|---|
| ACME1 | Yes |
| ACME2 | No |
| ACME4 | Yes |

★New

Gas Declaration: REs with nature gas sites must attach the completed Gas Declaration prior to submission with Attachment K and Supplement

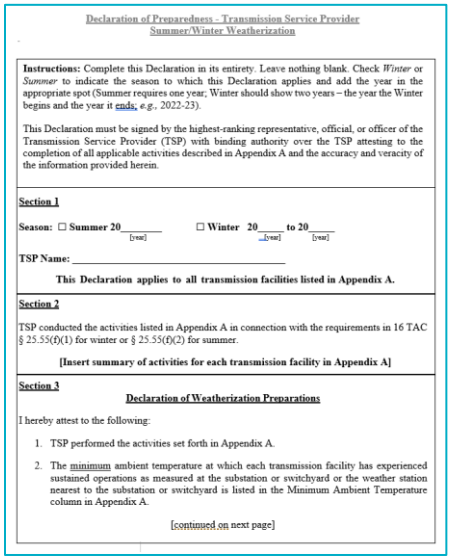
Supplemental Documents: Multiple additional files summarizing weatherization activities can be attached.

*DocuSign attachment limits*
Max size: 25MB
Total max size: 100MB
Max attachments: 20 files

# RE - One DocuSign Response Per Resource Entity

One DocuSign envelope will be used to provide responses for all Resources associated to the RE

*Declaration of Preparedness*



Declaration of Preparedness - Transmission Service Provider
Summer/Winter Weatherization

**Instructions:** Complete this Declaration in its entirety. Leave nothing blank. Check *Winter* or *Summer* to indicate the season to which this Declaration applies and add the year in the appropriate spot (Summer requires one year; Winter should show two years – the year the Winter begins and the year it ends, *e.g.*, 2022-23).

This Declaration must be signed by the highest-ranking representative, official, or officer of the Transmission Service Provider (TSP) with binding authority over the TSP attesting to the completion of all applicable activities described in Appendix A and the accuracy and veracity of the information provided herein.

**Section 1**

**Season:** ☐ **Summer 20**_____ [year] ☐ **Winter 20**_____ [year] **to 20**_____ [year]

**TSP Name:** _____

**This Declaration applies to all transmission facilities listed in Appendix A.**

**Section 2**

TSP conducted the activities listed in Appendix A in connection with the requirements in 16 TAC § 25.55(f)(1) for winter or § 25.55(f)(2) for summer.

**[Insert summary of activities for each transmission facility in Appendix A]**

**Section 3**

**Declaration of Weatherization Preparations**

I hereby attest to the following:

1. TSP performed the activities set forth in Appendix A.
2. The minimum ambient temperature at which each transmission facility has experienced sustained operations as measured at the substation or switchyard or the weather station nearest to the substation or switchyard is listed in the Minimum Ambient Temperature column in Appendix A.

[continued on next page]

*Appendix A*

**Appendix A: Summer - Generation Entity Declaration of Weatherization Preparedness**
**Generation Entity: Acme Energy (RE)**

| Generation Resource | If a Resource is not covered by this declaration, please indicate the reason below. | Maximum Ambient Temperature (°F) | Activities to Complete the Requirements of 16 TAC §25.55(c)(1) | Comments |
|---|---|---|---|---|
| ACME1_ST1 | | | | |
| ACME1_CT1 | | | | |
| ACME2_UNIT1 | | | | |
| ACME2_UNIT2 | | | | |
| ACME3_DGR1 | | | | |
| ACME3_DGR2 | | | | |
| ACME4_ST1 | | | | |
| ACME4_CT1 | | | | |

Up to three attachments will be required with the submission. Pre-populated templates will be posted to the ERCOT MIS.

# Appendix A – Which Resources Require a Response?

Appendix A will be pre-populated with the RE's individual Resources per the Network Operations Model

- Combined Cycles
  - Each physical Resource (e.g. GT, ST) will be on a separate row
- Jointly-Owned Units
  - Only the Master RE will have a row for the Resource
- Intermittent Renewable Resources
  - Each Resource, as modeled in the Network Operations Model, will be on a separate row

# Appendix A – Excluding Resources from the Declaration

To exclude a Resource from the Declaration, a reason from a pre-defined list must be selected.

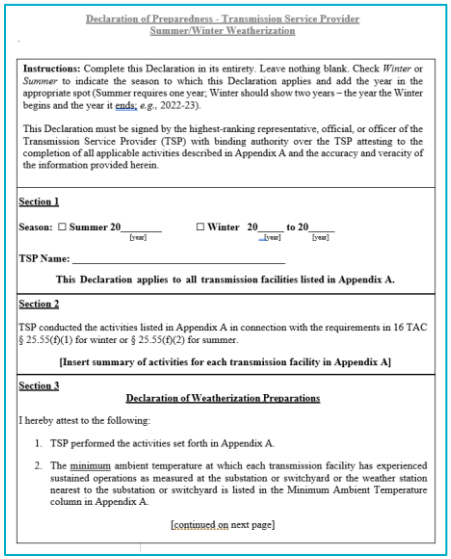
| Generation Resource | If a Resource is not covered by this declaration, please indicate the reason below. |
|---|---|
| ACME_ST1 | Resource in Scheduled Outage as of June 1 |
| ACME_CT1 | Resource Operations Suspended as of June 1 |
| ACME2_UNIT1 | Resource Has Not Completed Step 3 of Commissioning Process as of June 1 |
| DELAY_UNIT1 | Summer Weather Readiness Not Complete |

*Reasons for excluding the Resource can be selected via a drop down in Excel*

# TSP - One DocuSign Response Per TDSP

One DocuSign envelope will be used to provide responses for all substations and switchyards associated to the TDSP.

*Declaration of Preparedness*



Declaration of Preparedness - Transmission Service Provider
Summer/Winter Weatherization

**Instructions:** Complete this Declaration in its entirety. Leave nothing blank. Check *Winter* or *Summer* to indicate the season to which this Declaration applies and add the year in the appropriate spot (Summer requires one year; Winter should show two years – the year the Winter begins and the year it ends, *e.g.*, 2022-23).

This Declaration must be signed by the highest-ranking representative, official, or officer of the Transmission Service Provider (TSP) with binding authority over the TSP attesting to the completion of all applicable activities described in Appendix A and the accuracy and veracity of the information provided herein.

**Section 1**

**Season:** ☐ **Summer 20**____ [year] ☐ **Winter 20**____ [year] **to 20**____ [year]

**TSP Name:** _____

**This Declaration applies to all transmission facilities listed in Appendix A.**

**Section 2**

TSP conducted the activities listed in Appendix A in connection with the requirements in 16 TAC § 25.55(f)(1) for winter or § 25.55(f)(2) for summer.

**[Insert summary of activities for each transmission facility in Appendix A]**

**Section 3**

**Declaration of Weatherization Preparations**

I hereby attest to the following:

1. TSP performed the activities set forth in Appendix A.
2. The minimum ambient temperature at which each transmission facility has experienced sustained operations as measured at the substation or switchyard or the weather station nearest to the substation or switchyard is listed in the Minimum Ambient Temperature column in Appendix A.

[continued on next page]

*Appendix A*

| Transmission Substations/Switchyards covered by this declaration | Substation/Switchyard Description | If a Transmission Substation or Switchyard is not covered by this declaration, please indicate the reason below and explain in the Comments column. | Minimum Ambient Temperature (°F) | Summary of activities per the requirements of 16 TAC §25.55(f)(1) for Winter | Comments |
|---|---|---|---|---|---|
| AIRPORT | Airport Substation | | | | |
| SCHOOL | School Substation | | | | |
| DEPOT | Depot Substation | | | | |
| WIDGET | Widget Factory | | | | |
| PUMP | Pumping Station | | | | |
| FACTORY | Important Factory | | | | |

Two attachments will be required with the submission. Pre-populated templates will be posted to the ERCOT MIS.

# Appendix A – Excluding Substations from the Declaration

To exclude a substation from the Declaration, a reason from a pre-defined list must be selected.

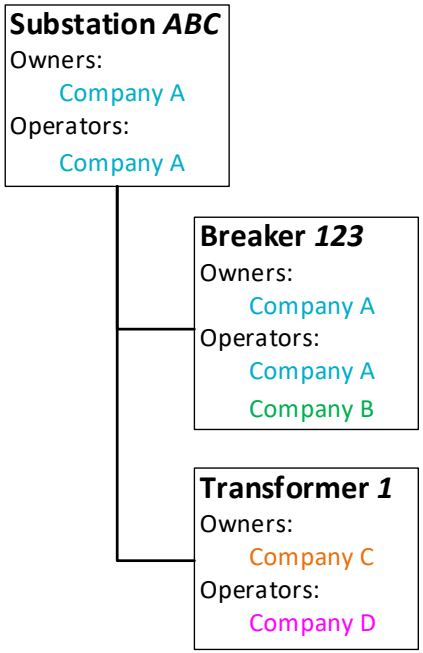
| Transmission Substations/Switchyards covered by this declaration | Substation/Switchyard Description | If a Transmission Substation or Switchyard is not covered by this declaration, please indicate the reason below and explain in the Comments column. |
|---|---|---|
| AIRPORT | Airpot Substation | No Owned or Operated Equipment at This Substation |
| SCHOOL | School Substation | Substation Has Not Been Energized as of June 1 |
| DEPOT | Depot Substation | Summer Weather Readiness Not Complete |
| WIDGET | Widget Substation | Another Entity Performs the Required Weatherization Activities for this Substation (Identify Responsible Entity in Comments Field) |

★New

*Reasons for excluding the substation can be selected via a drop down in Excel*

# Appendix A – Which Transmission Facilities Require a Response?

Transmission facilities are associated to TSPs based on the ownership or operatorship of equipment within the ERCOT model.




- A substation will be associated if any equipment is owned or operated by the TSP
- A substation may require a response from multiple TSPs

Example: A response for substation ABC will be required by Company A, Company B, Company C, and Company D

# Review of Frequently Asked Questions

## Generation Resources
## and
## Transmission Service Providers

David Kezell
Director, Weatherization and Inspection

April 19, 2023

# Thank You

We appreciate your attendance and compliance efforts

# Supplemental Declaration and DocuSign Information

# RE - Gas Declaration

★ New

Sites associated with “thermal” generation will be pre-populated in the gas declaration form.

**Supplement to Attachment 22K: Summer - Resource Entity Gas Declaration**
**Resource Entity: ACME Energy (RE)**

| Site Code | Does any Resource Use Natural Gas as Fuel | Resource Entity Primary Contact for Gas Supply Operations / Questions | Resource Entity Operations Contact Phone # | Resource Entity Operations Contact Email | Generation Resource Heat Rate | Primary Pipeline | Secondary Pipeline |
|---|---|---|---|---|---|---|---|
| ACME1 | Yes | Edwin Drake | 555-123-4567 | E@acme.com | 10,500 | 1849 MIDSTREAM PARTNERS, LLC | AGUA BLANCA, LLC |
| ACME2 | No | | | | | | |
| ACME4 | Yes | Robert Bunsen | 555-123-4567 | R@acme.com | 7,500 | AGRITEXGAS, LP | |

Sites will not be included if they are only associated to storage, nuclear, hydro, wind, and/or solar generation.

# RE Appendix A – Which Resources Require a Response?

Every Resource in Appendix A requires a response. Rows cannot be deleted.

**Appendix A: Summer Generation Entity Declaration of Weatherization Preparedness**
**Generation Entity: Acme Energy (RE)**

| Generation Resource | If a Resource is not covered by this declaration, please indicate the reason below. | Minimum Ambient Temperature (°F) | Activities to Complete the Requirements of 16 TAC §25.55(c)(1) | Comments |
|---|---|---|---|---|
| ACME1_ST1 | | | | |
| ACME1_CT1 | | | | |
| ACME2_UNIT1 | | | | |
| ACME2_UNIT2 | | | | |
| ACME3_DGR1 | | | | |
| ACME3_DGR2 | | | | |
| ACME4_ST1 | | | | |
| ACME4_CT1 | | | | |

Reason Resource is not covered by the declaration

Brief summary of activities or references to supplemental files

Maximum experienced temperature value

# RE Appendix A – Summary of Activities

A summary of weatherization activities must be provided within the Excel file.

**Appendix A: Summer - Generation Entity Declaration of Weatherization Preparedness**
**Generation Entity: Acme Energy (RE)**

| Generation Resource | If a Resource is not covered by this declaration, please indicate the reason below. | Maximum Ambient Temperature (°F) | Activities to Complete the Requirements of 16 TAC §25.55(c)(1) | Comments |
|---|---|---|---|---|
| ACME1_ST1 | Resource in Scheduled Outage as of June 1 | | | Cannot perform weatherization activities until outages have concluded |
| ACME1_CT1 | Resource Operations Suspended as of June 1 | | | NSO submitted on 3/16 for Summer season |
| ACME2_UNIT1 | Resource Has Not Completed Step 3 of Commissioning Process as of June 1 | | | Target commisioning date of 8/16 |
| ACME2_UNIT2 | | 105 | • Inspected pumps<br>• Executed scheduled maintenance activities | |
| ACME3_DGR1 | | 110 | • Visually inspected the ESR enclosure<br>• Performed maintenance on climate control system | |
| ACME3_DGR2 | | 110 | • Visually inspected the ESR enclosure<br>• Performed maintenance on climate control system | |
| ACME4_ST1 | | 105 | See attachment "Weatherization_Activities.pdf" | |
| ACME4_CT1 | | 95 | See attachment "Weatherization_Activities.pdf" | |

Activities can be listed within the cell…

…or supplemental attachments can be referenced

# TSP Appendix A – Which Substations Require a Response?

Appendix A will be pre-populated with substations associated to the TDSP per the Network Operations Model

| Transmission Substations/Switchyards covered by this declaration | Substation/Switchyard Description | If a Transmission Substation or Switchyard is not covered by this declaration, please indicate the reason below and explain in the Comments column. | Maximum Ambient Temperature (°F) | Summary of activities per the requirements of 16 TAC §25.55(f)(1) for Winter | Comments |
|---|---|---|---|---|---|
| AIRPORT | Airpot Substation | | | | |
| SCHOOL | School Substation | | | | |
| DEPOT | Depot Substation | | | | |
| WIDGET | Widget Substation | | | | |
| PUMP | Pump Substation | | | | |
| FACTORY | Factory Substation | | | | |

# TSP Appendix A – Which Substations Require a Response?

Every substation in Appendix A requires a response; rows cannot be deleted.

**Appendix A: Summer - Transmission Service Provider Declaration of Weatherization Preparedness**
**Transmission Service Provider: Acme Transmission (TDSP)**

| Transmission Substations/Switchyards covered by this declaration | Substation/Switchyard Description | If a Transmission Substation or Switchyard is not covered by this declaration, please indicate the reason below and explain in the Comments column. | Maximum Ambient Temperature (°F) | Summary of activities per the requirements of 16 TAC §25.55(f)(1) for Winter | Comments |
|---|---|---|---|---|---|
| AIRPORT | Airpot Substation | | | | |
| SCHOOL | School Substation | | | | |
| DEPOT | Depot Substation | | | | |
| WIDGET | Widget Substation | | | | |
| PUMP | Pump Substation | | | | |
| FACTORY | Factory Substation | | | | |

Reason substation is not covered by the declaration

Brief summary of activities or references to supplemental files

Maximum experienced temperature value

# TSP Appendix A – Summary of Activities

A summary of weatherization activities must be provided within the Excel file.

**Appendix A: Summer - Transmission Service Provider Declaration of Weatherization Preparedness**
**Transmission Service Provider: Acme Transmission (TDSP)**

| Transmission Substations/ Switchyards covered by this declaration | Substation/Switchyard Description | If a Transmission Substation or Switchyard is not covered by this declaration, please indicate the reason below and explain in the Comments column. | Maximum Ambient Temperature (°F) | Summary of activities per the requirements of 16 TAC §25.55(f)(1) for Winter | Comments |
|---|---|---|---|---|---|
| AIRPORT | Airpot Substation | No Owned or Operated Equipment at This Substation | | | Recently sold all assets |
| SCHOOL | School Substation | Substation Has Not Been Energized as of June 1 | | | Substation modeled but yet to be energized |
| DEPOT | Depot Substation | Summer Weather Readiness Not Complete | | | |
| WIDGET | Widget Substation | Another Entity Performs the Required Weatherization Activities for this Substation (Identify Responsible Entity in Comments Field) | | | ACME TDSP only provides modelling services for this equipment. Weatherization activities are done by Municipality X. |
| PUMP | Pump Substation | | 105 | • Verified SF6 pressure based on ambient temperature<br>• Verified transformer oil levels | |
| FACTORY | Factory Substation | | 105 | See attachment "Region_1_Weatherization.pdf" | |

Activities can be listed within the cell…

…or supplemental attachments can be referenced