



## **Item 3: Weatherization and Inspection Update**

*Woody Rickerson*

Vice President, System Planning and Weatherization

*David Kezell*

Director, Weatherization and Inspection

Special Board of Directors Meeting

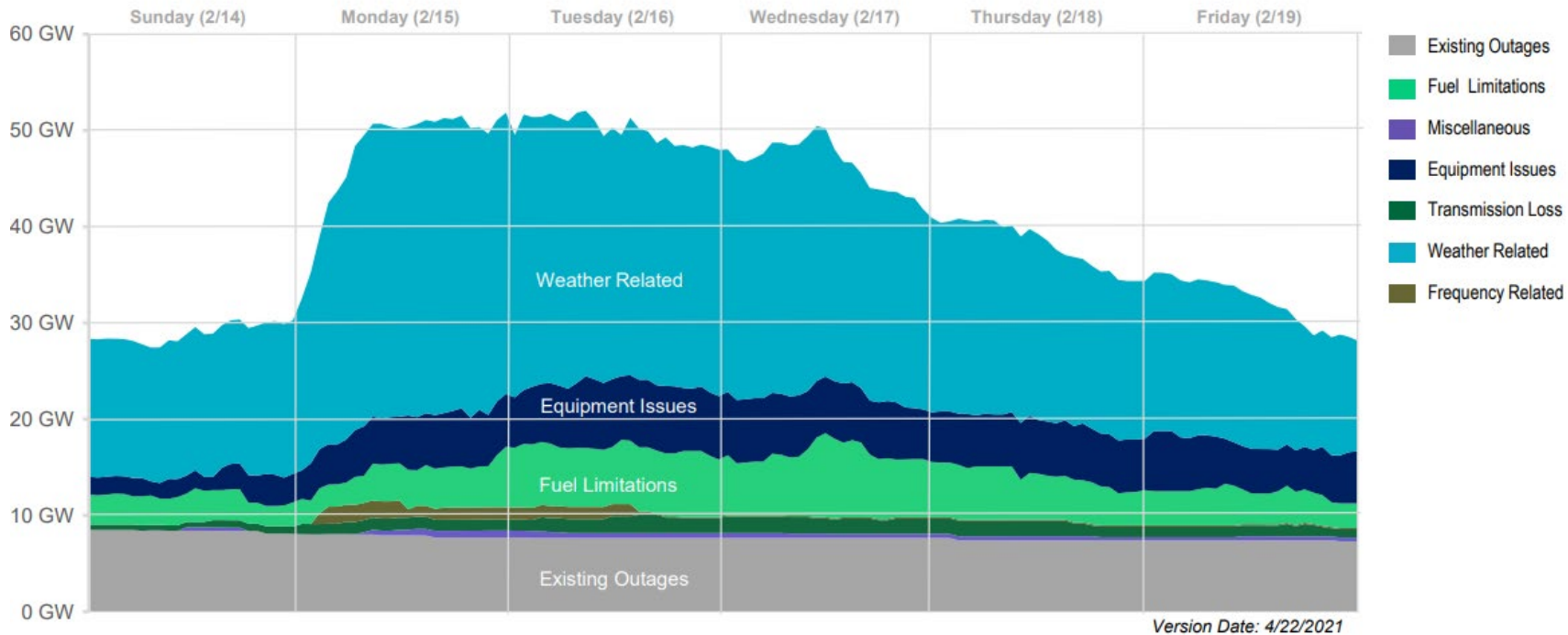
ERCOT Public

January 17-18, 2022

# Background

Winter Storm Uri: Between February 13 and 17, 2021, most parts of Texas experienced freezing temperatures for more than 100 hours. Power plant outages and natural gas infrastructure problems resulted in a prolonged period of rolling blackouts.

## Net Generator Outages and Derates by Cause (MW) February 14 – 19, 2021



Net generator outages at the beginning of each hour on February 14-19, 2021, by cause category.



# Weather Report

- ERCOT, in consultation with the Office of the Texas State Climatologist, developed a report providing various historical weather data. ERCOT submitted this report to the PUC on December 15, 2021.
- This report will inform the PUC's consideration of phase two weather emergency preparedness reliability standards.

## Low Temperature

Weather Zone	95 <sup>th</sup> Percentile Minimum Temperature	99 <sup>th</sup> Percentile Minimum Temperature	February 2021 Minimum Temperature Percentile Rank
North	-4°	-12°	95 <sup>th</sup>
North Central	1°	-7°	98 <sup>th</sup>
West	-4°	-9°	95 <sup>th</sup>
Far West	-1°	-11°	96 <sup>th</sup>
East	1°	-6°	99 <sup>th</sup>
Coast	11°	5°	93 <sup>rd</sup>
South Central	7°	-2°	95 <sup>th</sup>
Southern	17°	11°	95 <sup>th</sup>
Valley	21°	13°	94 <sup>th</sup>
Panhandle	-11°	-16°	95 <sup>th</sup>

Table 1: Historical Minimum Temperature Data

## Background

- Senate Bill 3 signed by Governor Abbott on June 8, 2021 requires weatherization of generation, transmission, and natural gas facilities.
- PUC Rule 25.55 (16 TAC § 25.55), finalized on October 19, 2021, established a first phase of weather emergency preparedness standards for generation and transmission facilities.
- ERCOT hired new Director of Weatherization and Inspection, David Kezell, who started October 11, 2021.
- Workshops held November 10 and 15, 2021 to instruct Market Participants on ERCOT Winter Weather Readiness Report (WWRR) forms.
- ERCOT distributed WWRR forms to Resource Entities on November 12, 2021 and to TSPs on November 16, 2021.

# Winter Weather Readiness Reports

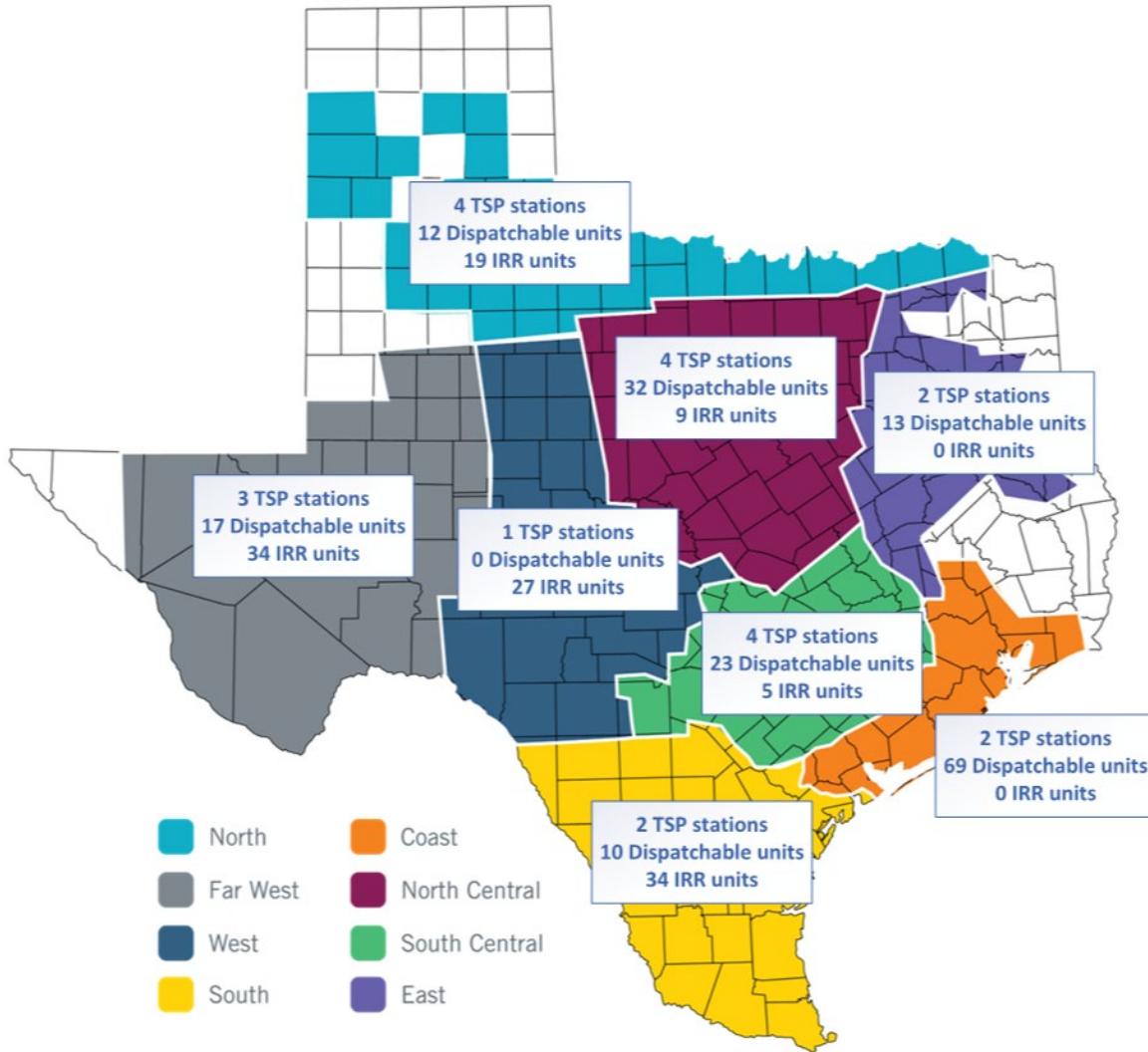
- 847 generators were required to submit WWRRs. 828 were submitted by PUC deadline of December 1, 2021; 19 were returned later. 3 additional WWRRs were submitted by generators that ended seasonal mothball outages early. A total of 850 generator WWRRs were received.
- Both dispatchable generation Resources and Intermittent Renewable Resources (IRRs) received the same WWRR form.
- 54 Transmission Service Providers (TSPs) were required to submit WWRRs. 53 were submitted by December 1, 2021; 1 was returned later.
- DocuSign platform utilized for WWRR submission. Allowed for quick aggregation of report data.

## Good Cause Exception Follow-Up

- PUC weatherization rule allows generation entities and TSPs to assert good cause for failing to comply with weatherization requirements by the December 1, 2021 deadline. The rule requires the entity to include a plan and timeline for coming into compliance.
- Generation Entities submitted 532 assertions of good cause for non-compliance with WWRRs on December 1, 2021.
  - 418 were satisfactorily resolved and closed by December 31, 2021.
  - 54 with later completion dates are being tracked by ERCOT.
  - 60 were referred to PUCT for evaluation and enforcement.
- ERCOT will track and resolve the remaining 54 to ensure Market Participants adhere to their compliance plan commitments. Entities that fail to comply with those commitments will be referred to the PUCT for evaluation/enforcement.
- Transmission Service Providers made 14 assertions of good cause exceptions for non-compliance submitted with WWRRs on December 1, 2021.
  - 12 satisfactorily resolved and closed by December 31, 2021.
  - 2 referred to PUCT for evaluation/enforcement.



# On-Site Inspections Across the State



## On-site Inspections

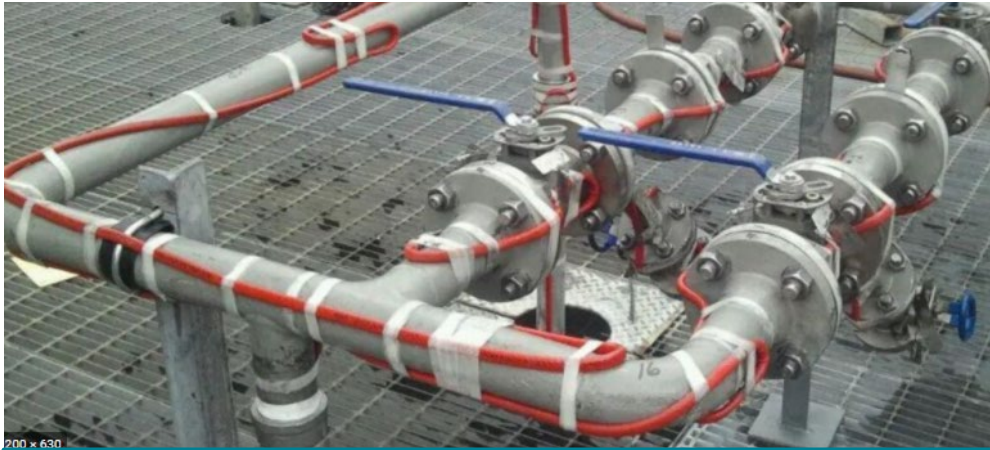
22 Transmission  
 174 Dispatchable  
128 IRR  
 324 Total

Completed between  
 December 2, 2021 and  
 December 22, 2021

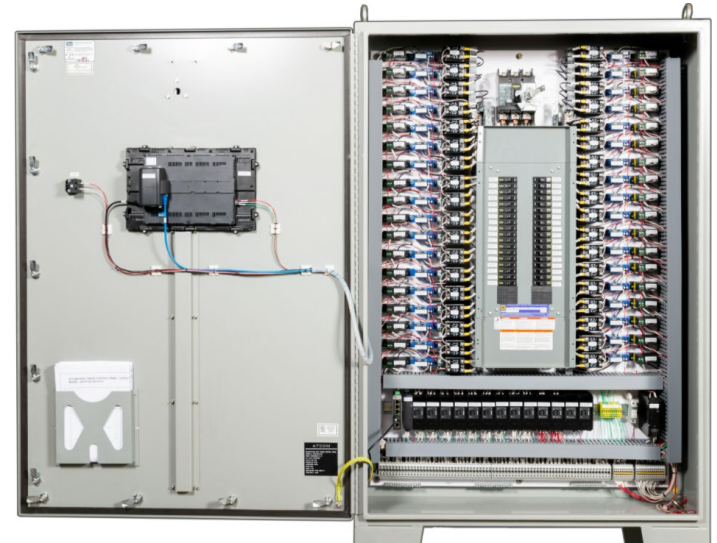




# Typical Inspection Focus Areas - Generation



Heat tracing applied to Water Lines  
(prior to applying insulation and cladding)



Heat Tracing Control Panel



# Typical Inspection Focus Areas - Generation



Temporary Wind Break Structures

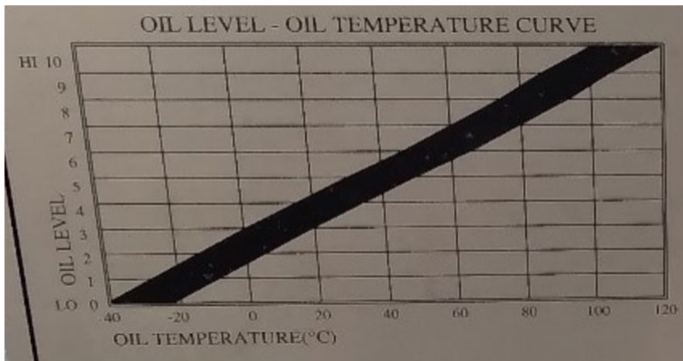


Incomplete Insulation Blanket above, "Clamshell" Instrument Enclosure below

# Typical Inspection Focus Areas - Transmission



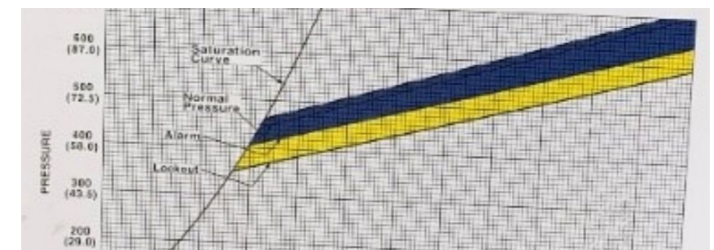
Transformer Bushing Oil Level



Oil Level/Temperature Curve



Local Pressure Gauge on SF6 Insulated Breaker



SF6 Pressure/Temperature Curve

## Inspections Follow-Up

- ERCOT inspections considered whether each entity performed the weatherization activities described in its WWRR.
- 10 potential deficiencies identified at dispatchable generation sites.
- 6 potential deficiencies identified at TSP facilities.
- No deficiencies were identified at Intermittent Renewable Resource sites.
- All potential deficiencies are being tracked, most have been resolved and closed. If Market Participants fail to timely address deficiencies, they will be referred to the PUCT for evaluation and enforcement.
- Weatherization and inspection work by ERCOT and ERCOT contractors required more than 3,600 hours in the fourth quarter of 2021.

## Next Steps

- Track and close out remaining good cause exceptions from WWRRs and potential deficiencies identified during inspections.
- Participate in PUC good cause exception proceedings and support PUC enforcement activities as necessary.
- Participate in development of phase two weather emergency preparedness reliability standards which will consist of a more comprehensive, year-round set of standards informed by the weather study conducted by ERCOT in consultation with the Office of the Texas State Climatologist.
- Optimize staff / consultant ratio for future work.
- Revise inspection procedures as standards change.