2025-2026 Generator Winterization Survey

Survey Results

Reliability Subcommittee

November 20, 2025

Purpose & Key Takeaways

Purpose:

Review survey results

Key Takeaways:

- 98% of generating MWs have provided survey data
- Generally high level of preparedness for winter, 91%
- Satisfies NERC IRO-010 R1.3.2 for reporting generating unit minimum temperature to Reliability Coordinator

Executive Summary

- MISO appreciates stakeholder participation in the 7th Annual Generation Winterization Survey
- MISO generation generally prepared for winter operations
- Have survey data on 98% of generating MWs

Survey data as % of MW	Generator Winterization	Gas Fuel Specific Questions[1]
2025	98%	99%
2024	96%	95%
2023	92%	93%
2022	96%	99%
2021	90%	91%
2020	71%	83%
2019	60%	72%

[1]Prior to 2021 this was a separate survey

New for 2025

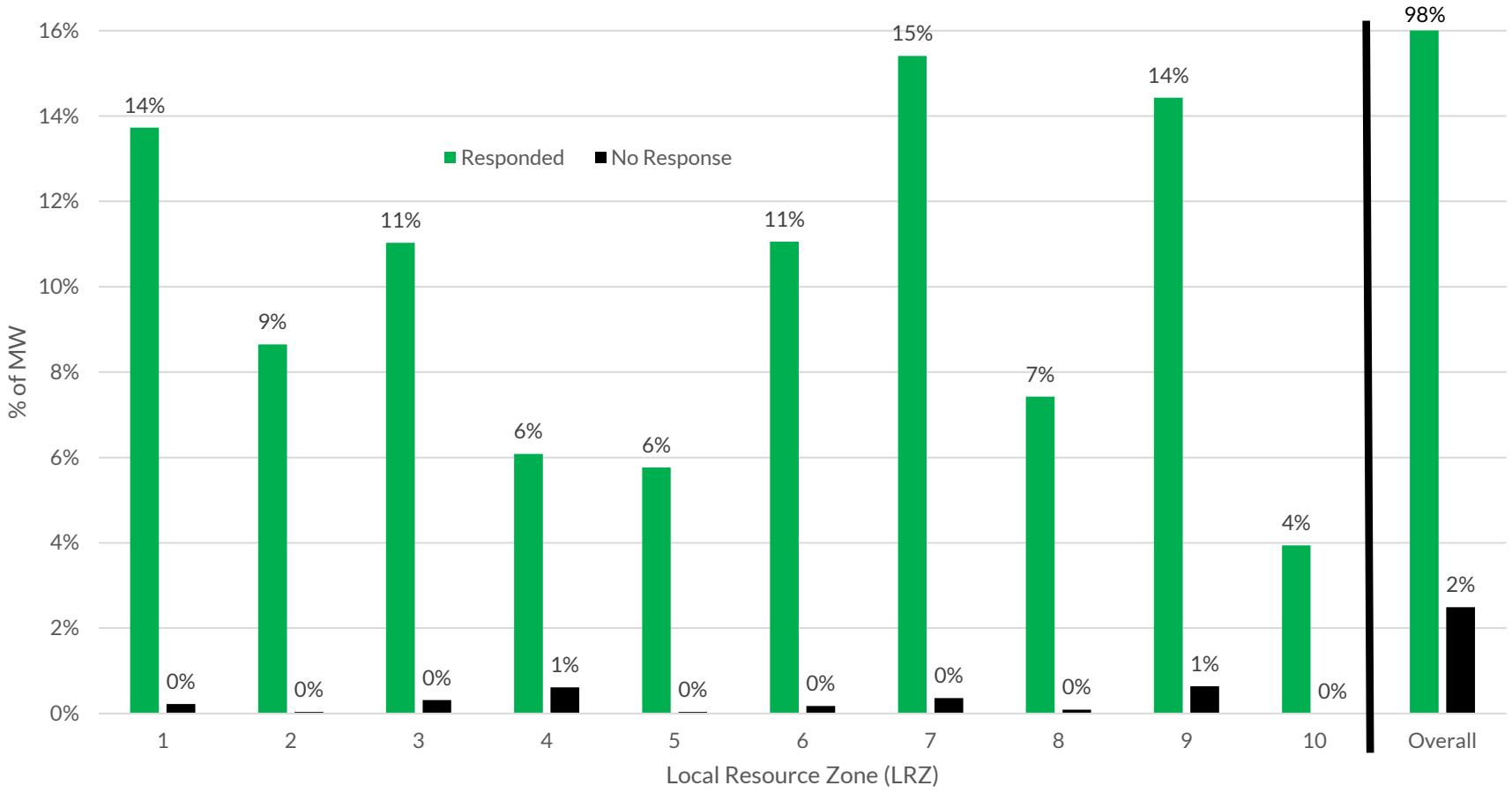
- Added a week to survey window, 6 weeks
- Ability to view/download survey data after survey is closed
- Non-market and behind the meter generation available in survey .
- Contact information pre-filled from misoenergy.org profile information – web interface survey only
- Various bug fixes and behind the scenes improvements

Generator Winterization Preparations

- 91% have a plan to prepare for winter
- 91% have reviewed NERC's Guidelines for Unit Winter Weather Readiness
- 91% have a severe cold weather checklist
- Improvement observed over time in minimum operating temperature capability

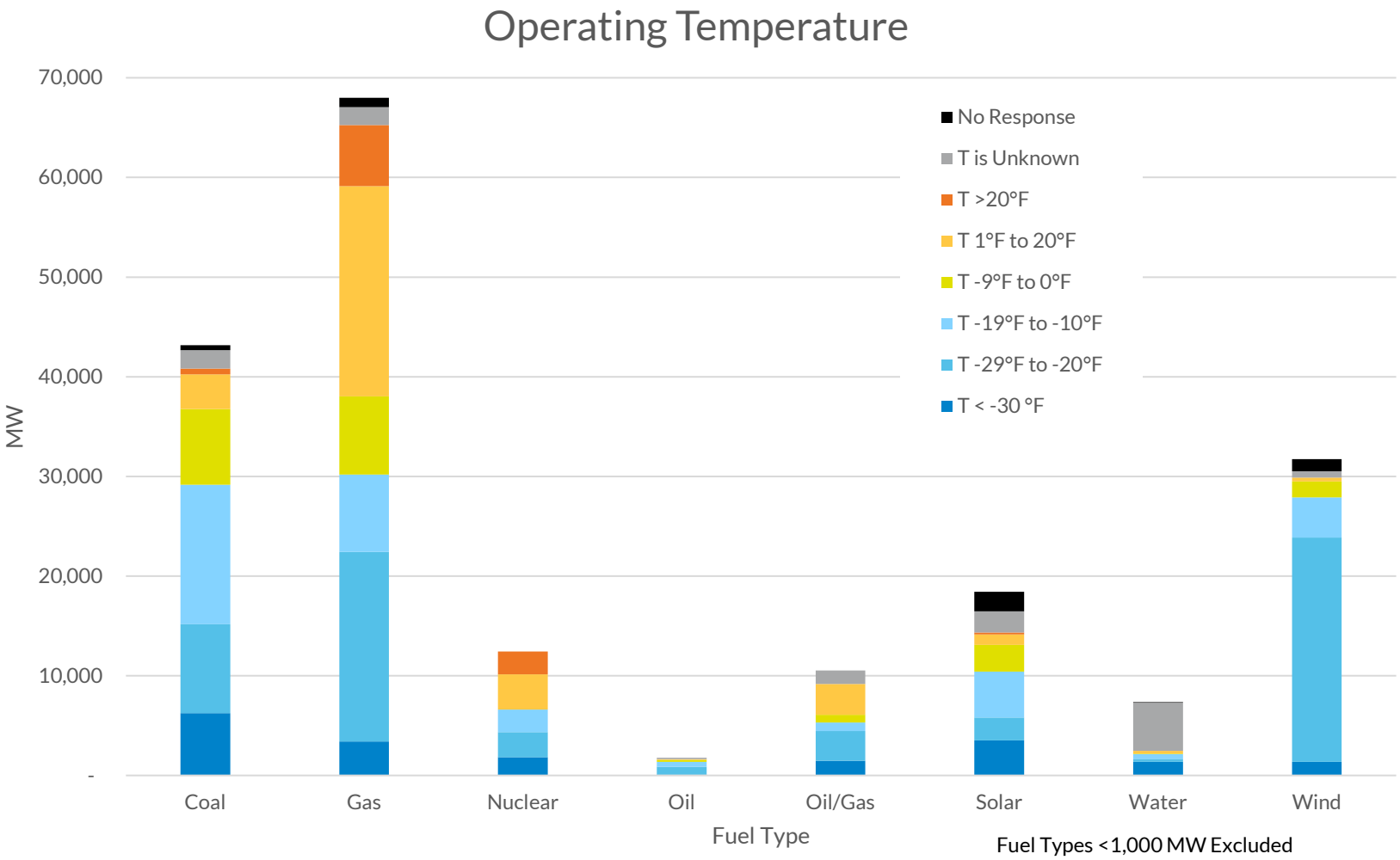
Note values are as a % of MW

Survey Data by LRZ

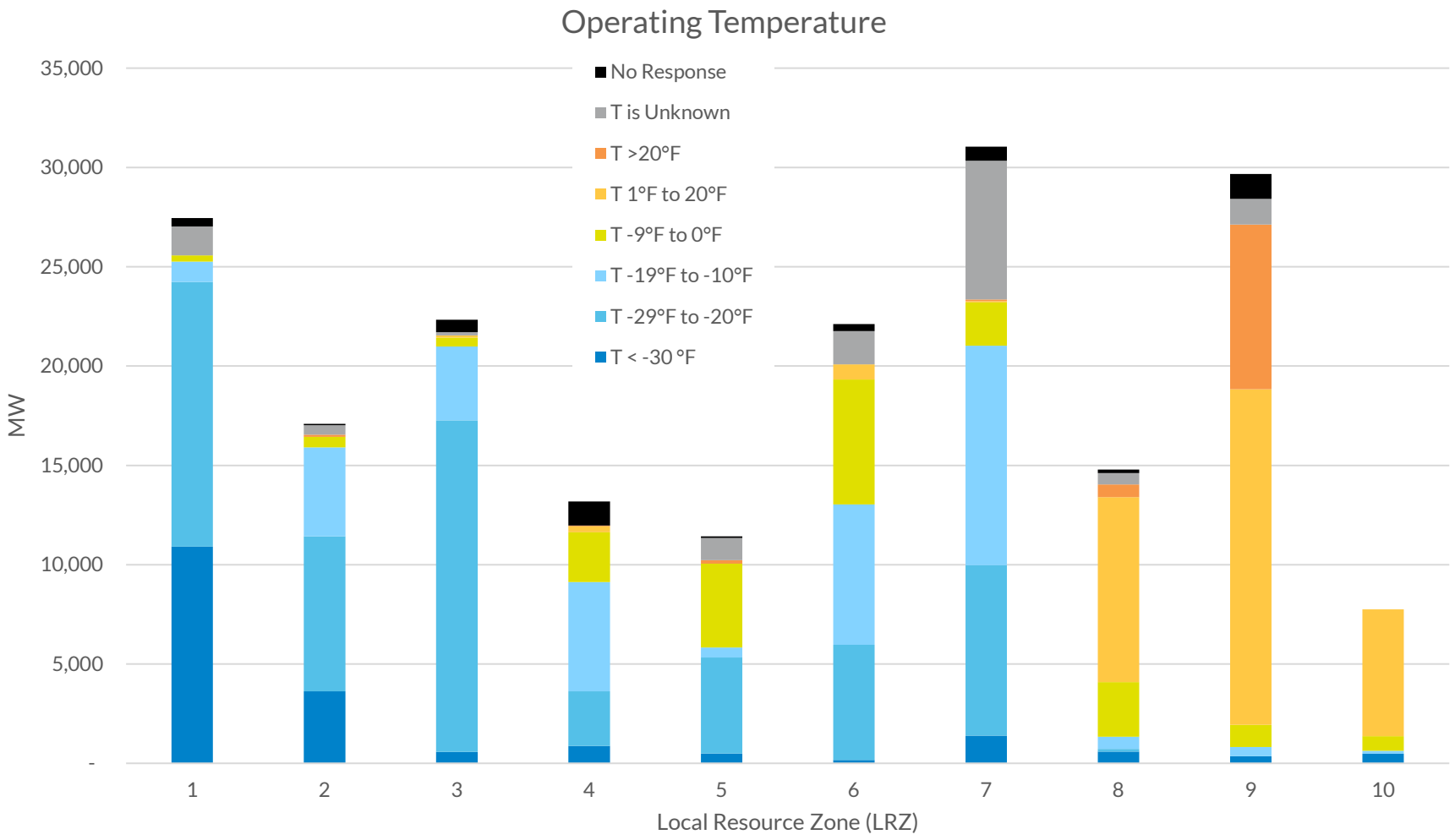


Note: Does not include units that opted out of survey.

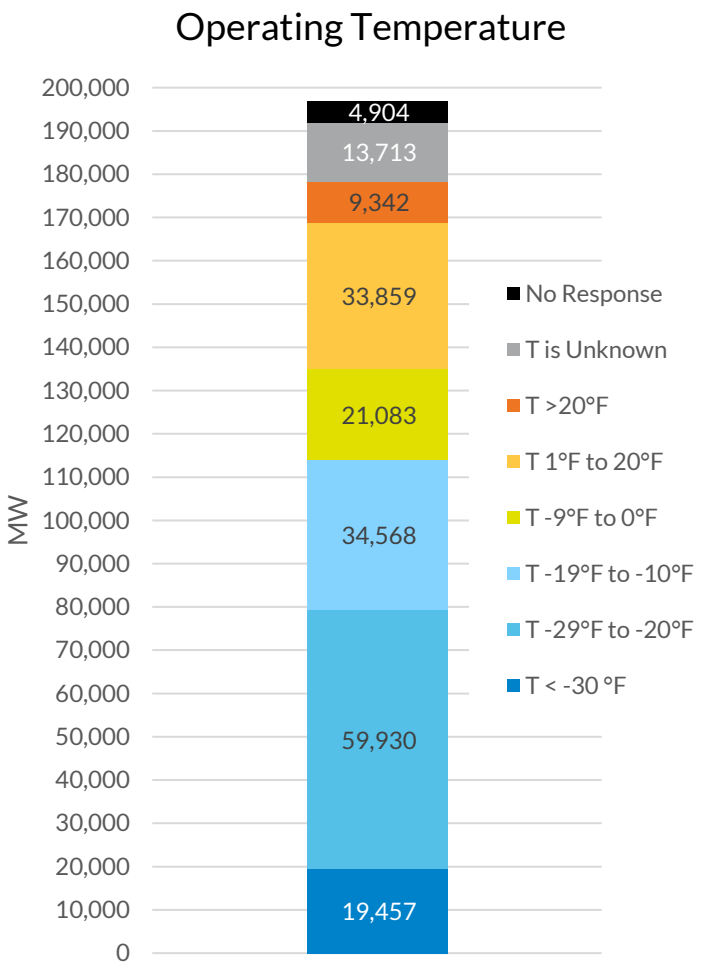
Operating Temperature by Fuel Type

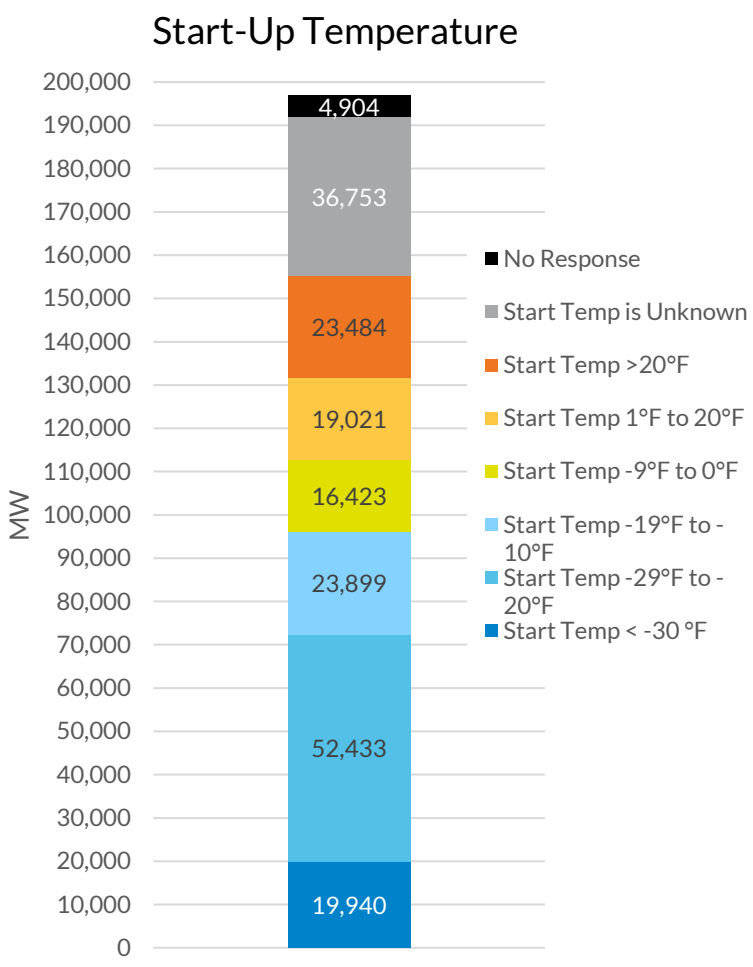


Operating Temperature by LRZ

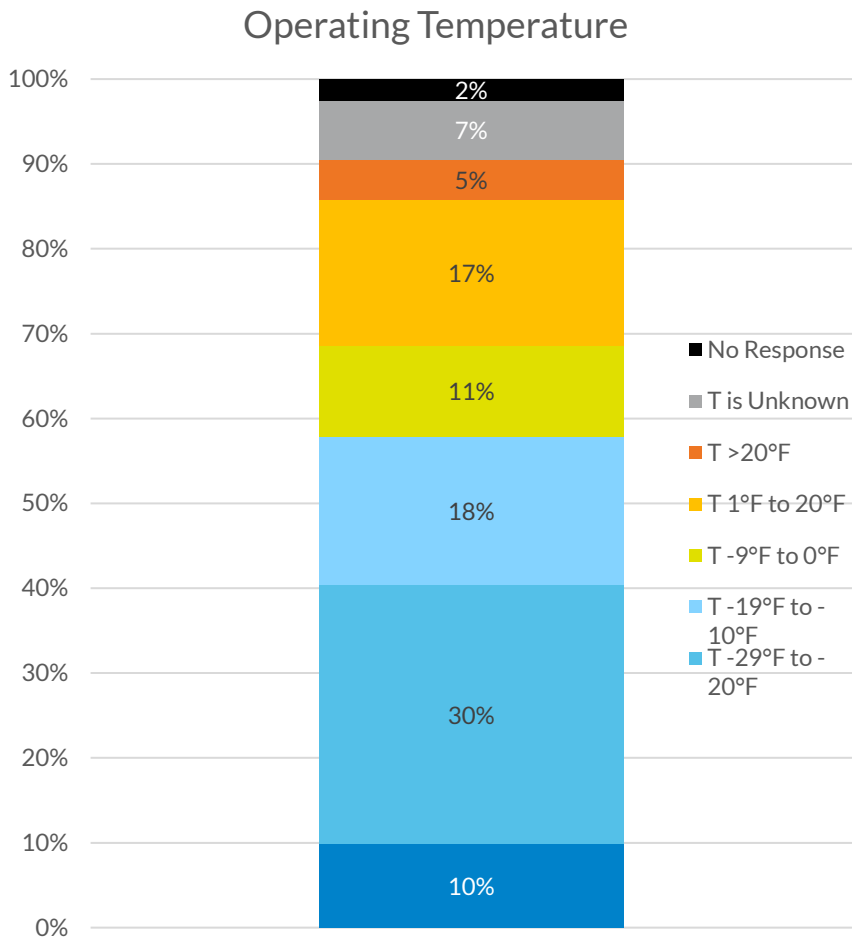


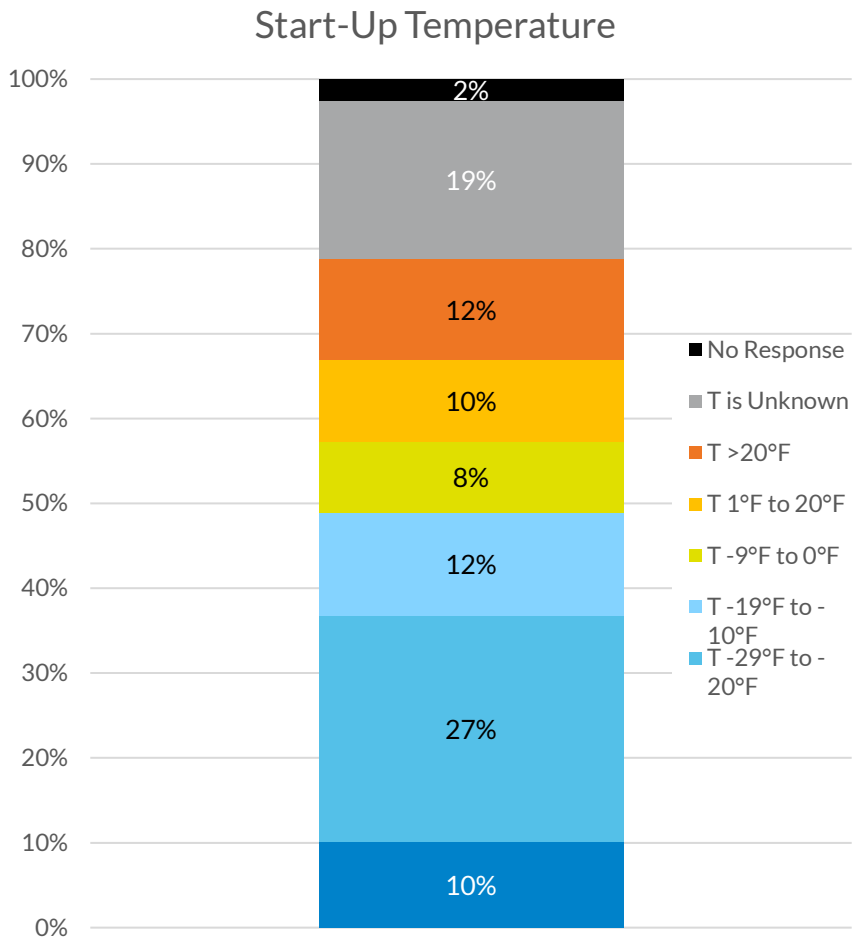
Operating/Start-Up Temperatures



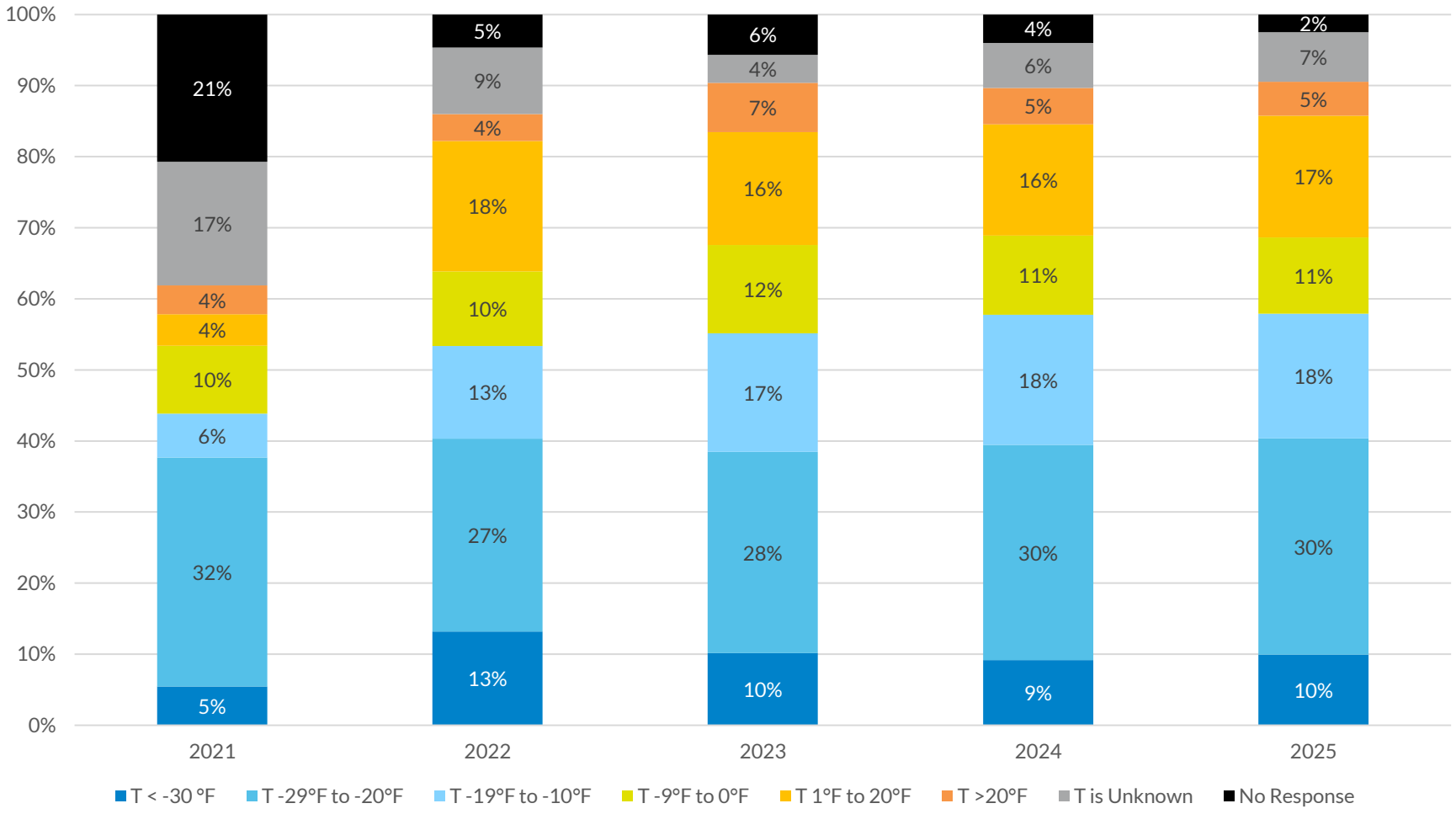


Operating/Start-Up Temperatures

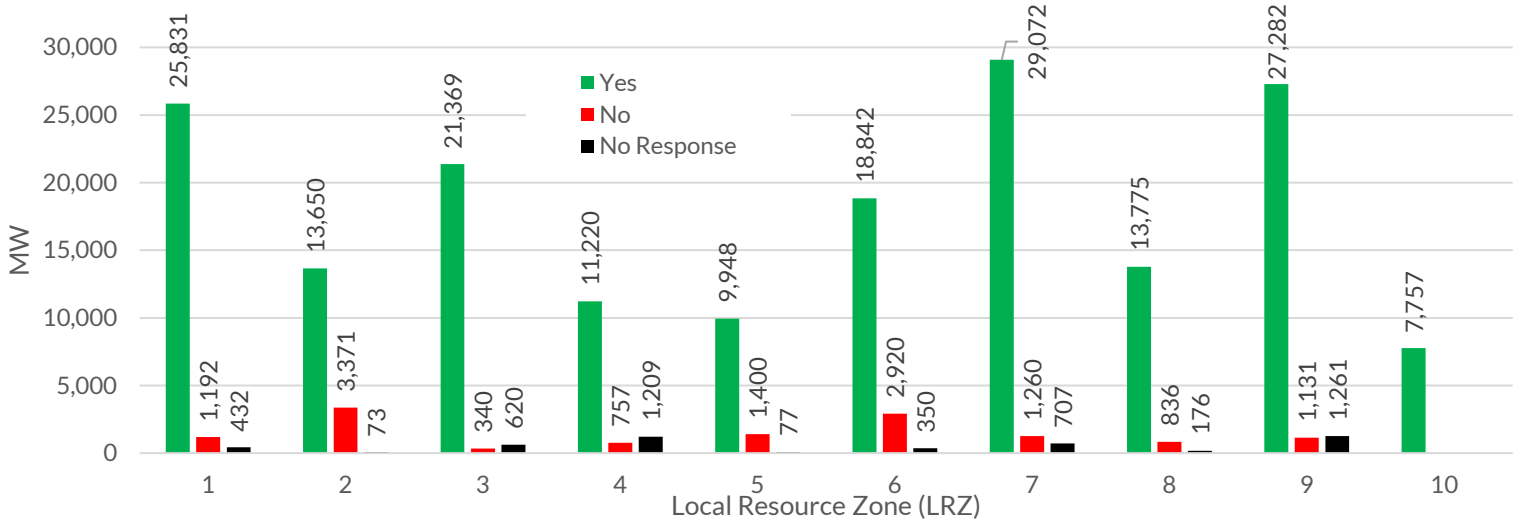


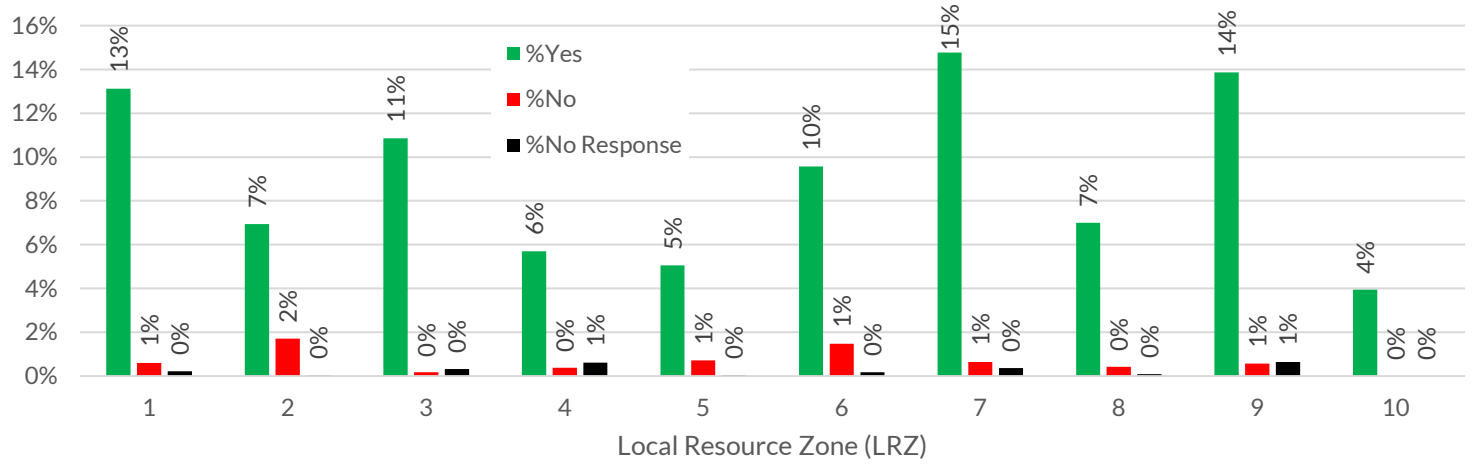


Prior Survey Operating Temperature

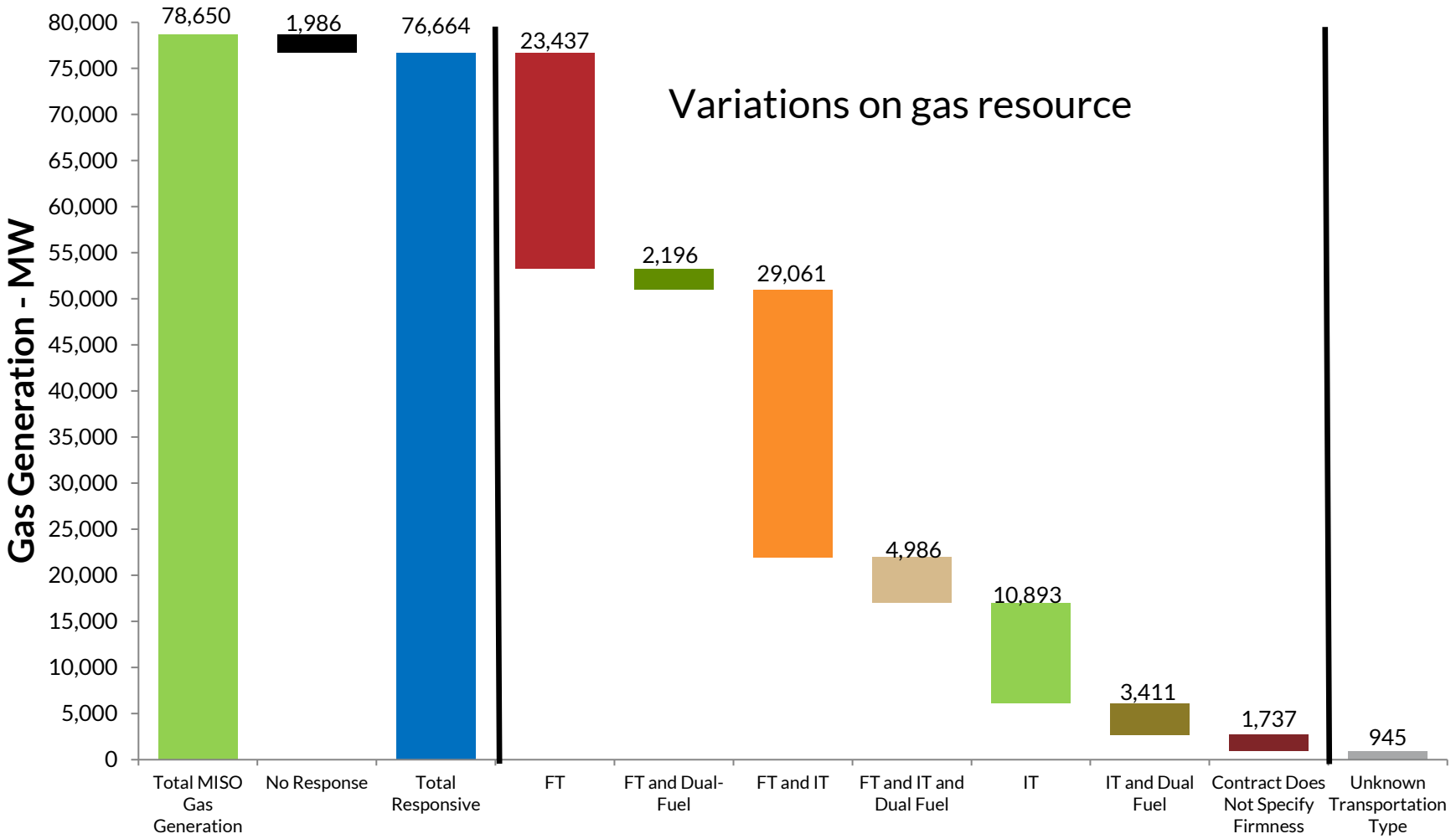


Has a Plan to Prepare for Winter





2025 Gas Fuel Survey Results



FT = Firm Transportation, IT = Interruptible Transportation

Survey Data Use by Operations Risk Team/Real-Time Operations

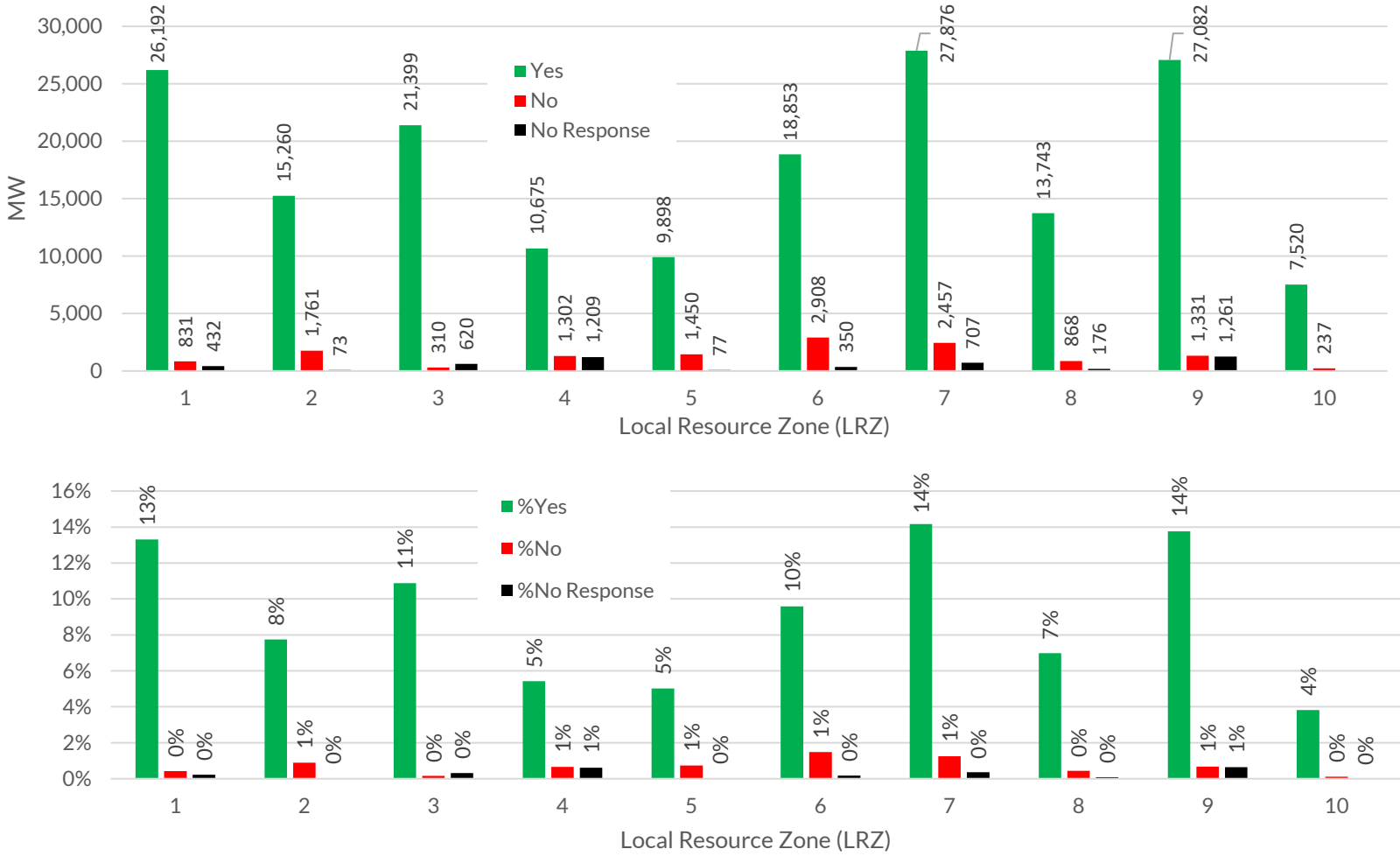
- Temperature data improves situational awareness
- Gas generation specific data
  - Associate generators with specific gas pipeline(s)
  - Monitor and assess potential impact of pipeline critical notices

Contact Information

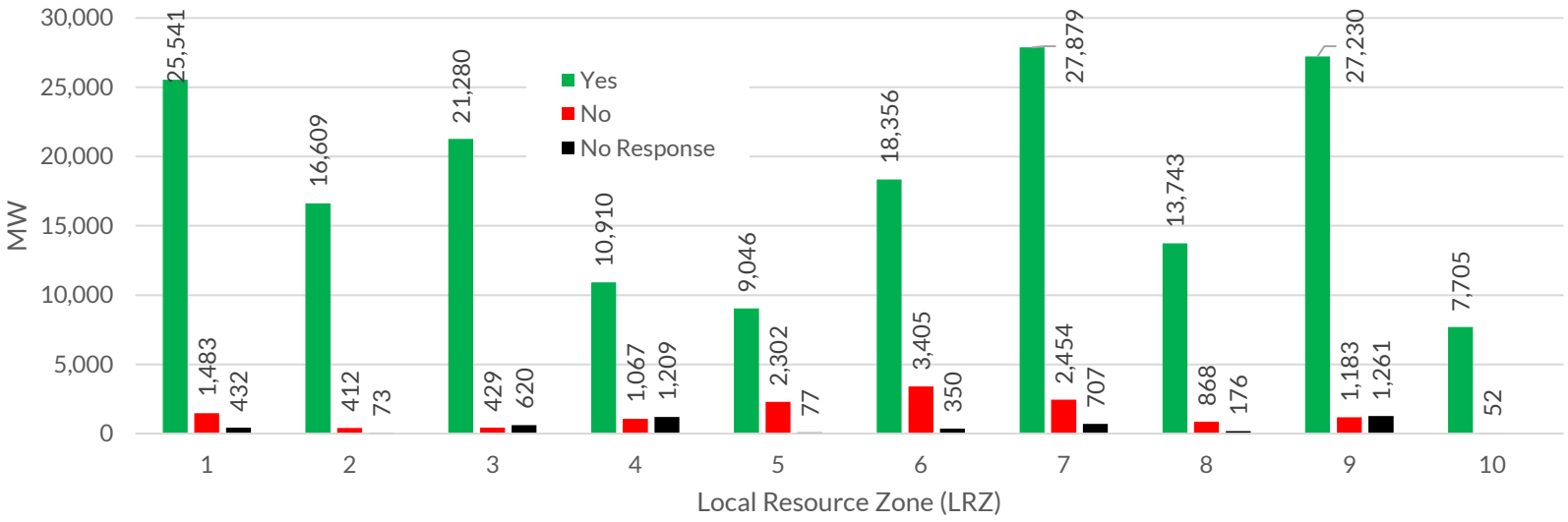
- Mike Mattox (mmattox@misoenergy.org)

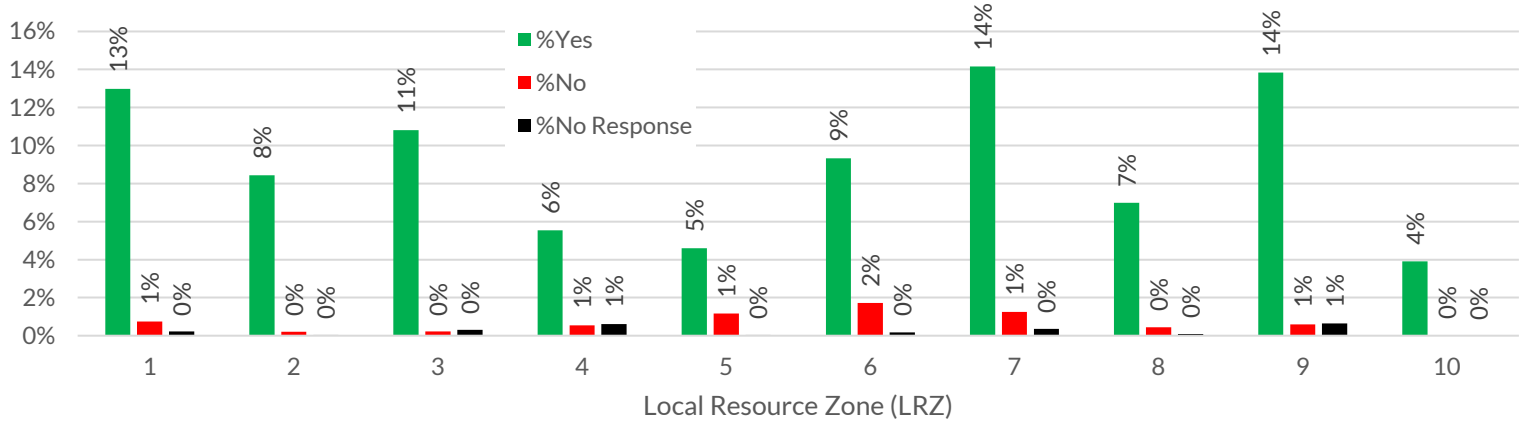
Appendix

Has Reviewed NERC Reliability Guideline for Generation Winter Weather Readiness

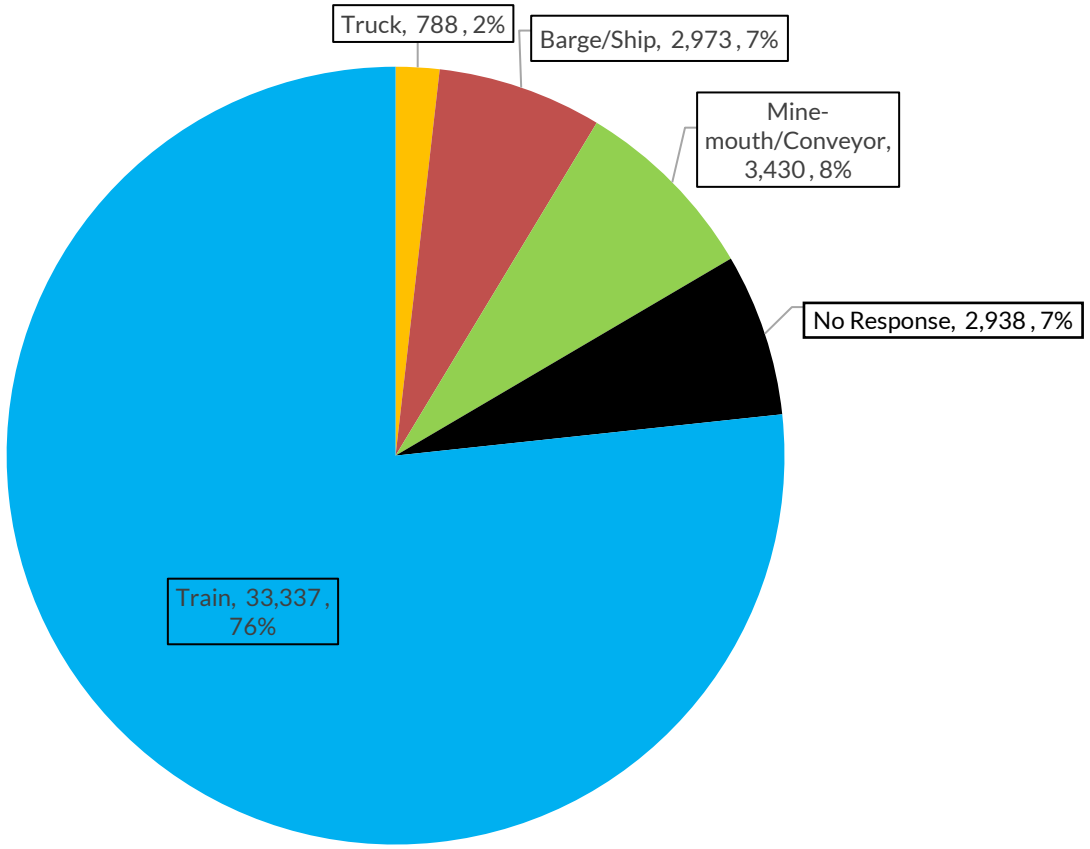


Has Procedure for Extreme Cold Weather Event

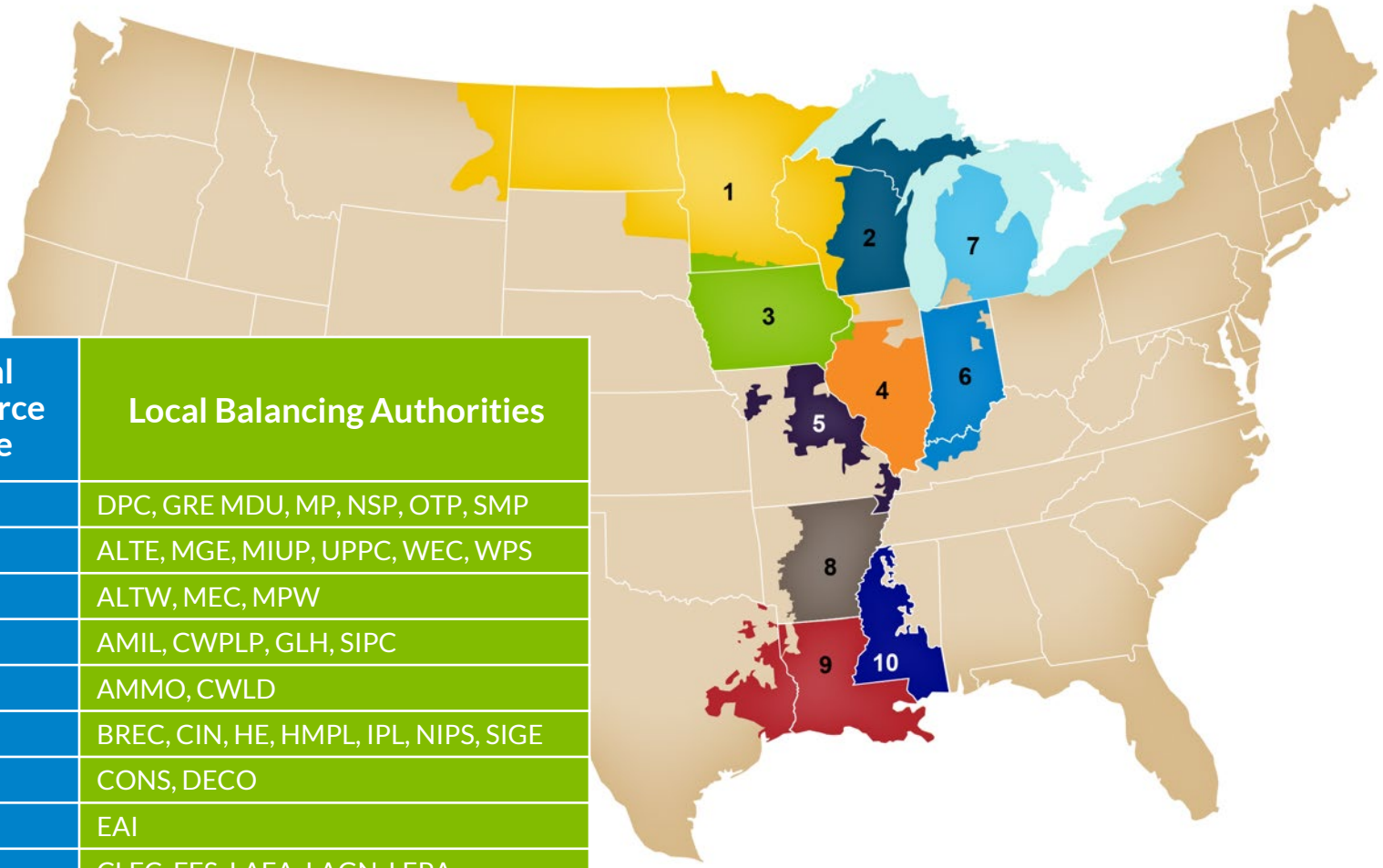




Coal Transportation Methods (MW)



MISO LRZ Map



Local Resource Zone	Local Balancing Authorities
1	DPC, GRE MDU, MP, NSP, OTP, SMP
2	ALTE, MGE, MIUP, UPPC, WEC, WPS
3	ALTW, MEC, MPW
4	AMIL, CWPLP, GLH, SIPC
5	AMMO, CWLD
6	BREC, CIN, HE, HMPL, IPL, NIPS, SIGE
7	CONS, DECO
8	EAI
9	CLEC, EES, LAFA, LAGN, LEPA
10	EMBA, SME

Survey Questions

Base Questions

Is this unit considered Exempt from this survey as determined by the Market Participant, Generator Owner (GO), or Generator Operator (GOP)?

- ○ Yes
- ● No

What ambient air temperature can the unit reliably operate at for an extended period of time, i.e. >4 hours? Please provide your best estimate based on design temperature, historical operating temperature or current cold weather performance temperature determined by an engineering analysis.

- ● The limit is known.
- ○ There is no limit.
- ○ The limit is unknown.

Temperature:

- ● Fahrenheit
- ○ Celsius

Below what ambient air temperature is it expected that the unit would no longer be able to start? Please provide your best estimate based on design temperature, historical operating temperature or current cold weather performance temperature determined by an engineering analysis.

- ● The limit is known.
- ○ There is no limit.
- ○ The limit is unknown.

Temperature:

- ● Fahrenheit
- ○ Celsius

Does the unit have a plan to prepare for winter?

- ○ Yes
- ○ No

Has plant management and/or maintenance personnel reviewed the current NERC Reliability Guideline: Generating Unit Winter Weather Readiness - Current Industry Practices?

- ○ Yes
- ○ No

Is there a corporate or unit procedure for an extreme cold weather event?

- ○ Yes
- ○ No

Please provide:
1. Any lessons learned/changes implemented from prior winter season(s)
2. Concerns you have for the upcoming winter season
3. Additional information related to your survey responses you would like to provide.

Enter feedback...

MISO