

6.C. Secondary Firm Natural Gas Supply Agreement for Westside Energy Station

Natural Gas Supply | Types of Transportation Services

1. Firm Gas or Uninterruptible Service

- **Guaranteed delivery:** Pipelines reserve a specific amount of capacity for firm customers, guaranteeing delivery under nearly all conditions. Interruptions are extremely rare and typically only occur during a major emergency or natural disaster.
- **Pricing:** Firm service is the most expensive of the three options and usually involves a two-part rate: a reservation charge paid to reserve pipeline capacity and a usage charge for the amount of gas transported.
- **Typical users:** This service is used by residential customers and businesses that cannot afford to have their gas supply interrupted, such as hospitals and data centers.

2. Secondary Firm Gas

- **Preemptible delivery:** This service has priority over interruptible service but can be preempted or curtailed by primary firm transportation during times of high demand.
- **Typical users:** Some power generators and other large businesses that can tolerate a lower level of reliability may use secondary firm service, often at a negotiated rate.

3. Interruptible Gas

- **Conditional delivery:** Customers receive gas only when there is available pipeline space after all firm and secondary firm requests have been fulfilled. This most often occurs during cold weather, when residential heating demand is high.
- **Pricing:** Interruptible service is the least expensive option because customers pay only for the gas they use, without the fixed reservation charges of firm service.
- **Typical users:** This service is typically used by industrial or commercial customers who have a backup fuel source, such as oil or propane, that they can switch to when their natural gas is interrupted.





Winter Storm Heather Natural Gas Curtailment Event January 15-17, 2024

SYSTEM OVERRUN LIMITATION (SOL)

- Limited natural gas supply
- Cascade Creek Gas Turbines (GT1 & GT2) bid in market on liquid backup fuel
- Westside (WES) bids based on limited gas availability

MISO CONSERVATIVE OPERATIONS

- Schedule 53 Resource Adequacy (RA) Hours

CRITICAL DAY

- No non-firm natural gas
- Westside placed in forced outage. Winter capacity accreditation will be impacted due to the forced outage

	Fri Jan 12	Sat Jan 13	Sun Jan 14	Mon Jan 15	Tue Jan 16	Wed Jan 17
Temperature High/Low	15° 9°	12° -11°	-5° -13°	-1° -14°	4° -9°	9° -5°
Day-Ahead Locational Marginal Price (DA LPM) High/Low	\$42 \$19	\$78 \$19	\$143 \$31	\$202 \$102	\$200 \$68	\$227 \$59
Natural Gas Price	\$3	\$37	\$37	\$37	\$37	\$37
MISO Wind Fleet	60%-85%	70%-80%	50%-70%	40%-65%	60%-80%	15%-70%
Gas Turbine Run Hours	0	0	0	0	0	0
Westside Run Hours	0	0	0	0	0	4
Gas Turbine Bid Basis	Liquid Fuel	Liquid Fuel	Liquid Fuel	Liquid Fuel	Liquid Fuel	Liquid Fuel
Westside Bid Basis	NG Limit Hrs	NG Limit Hrs	NG Limit Hrs	Forced Outage	Forced Outage	NG Limit Hrs
Northern Natural Gas (NNG) Calls System Overrun Limitation (SOL)						
MISO Conservative Operations						
NNG Calls Critical Day						

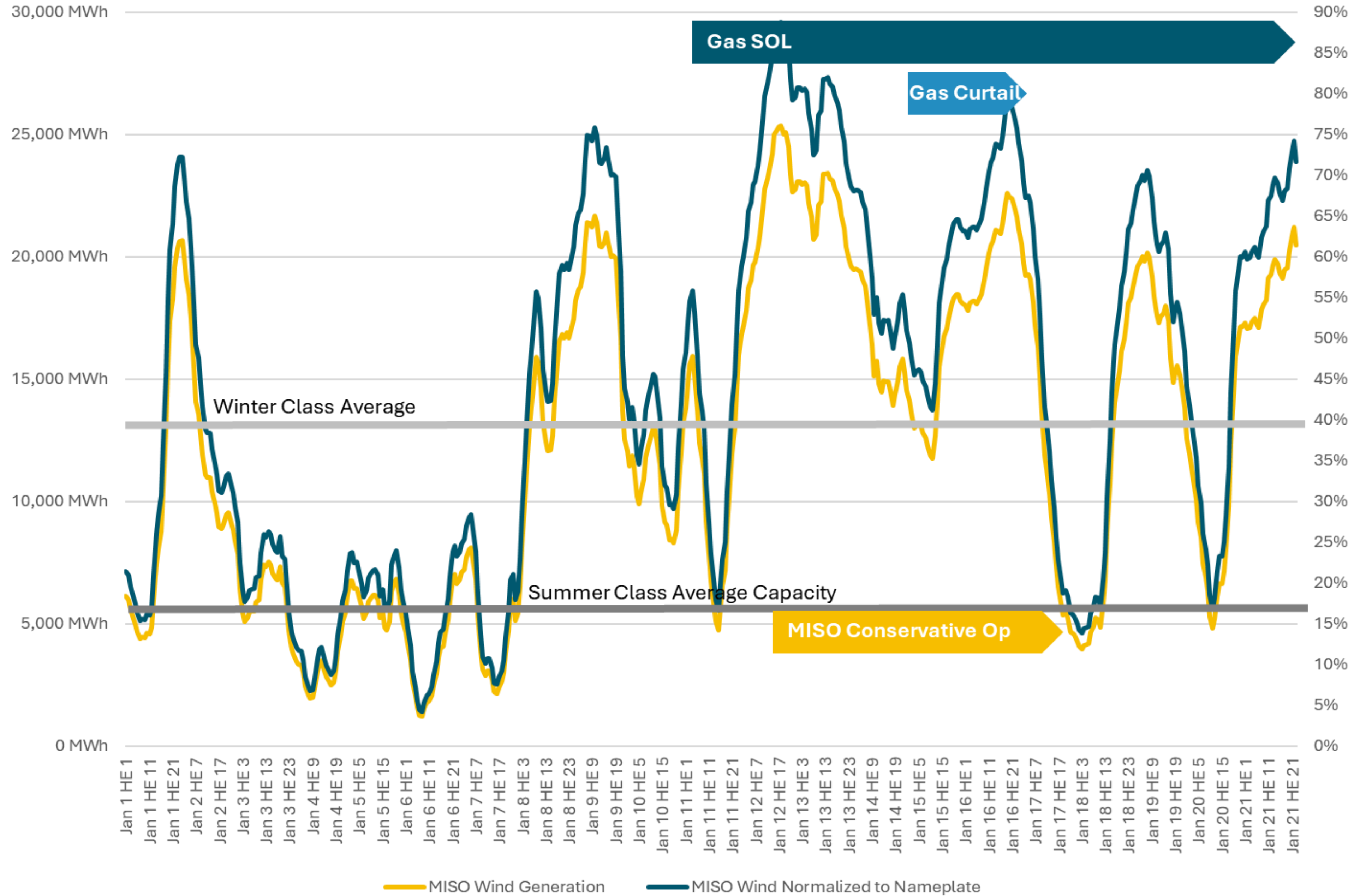
TAKE AWAYS

- It was cold here, but not really cold. The cold extended through most of the MISO footprint
- Wind energy showed up during this event
- We are long on winter capacity... today. Maintaining winter accreditation will be our challenge
- Dual fuel firm capacity will become MORE valuable approaching 2030





MISO Wind Generation January 2024





Questions