



NGSA MEMBERS PREPARE TO WITHSTAND EXTREME WINTER WEATHER

As major natural gas producers and marketers, NGSA's members take a multitude of proactive measures to prepare for winter weather so that we can provide safe and reliable service to our customers.

NGSA member companies strive to safely and reliably produce natural gas in cold weather. We operate winter continuity programs that help protect upstream facilities and field personnel during winter events, improving our ability to maintain operations during extreme conditions. As prudent operators, our reputations and livelihoods rest on our ability to perform.

- Winter programs are continually reviewed and enhanced after extreme winter events, such as Winter Storms Uri in 2022, Elliott in 2023 and Heather in 2024.
- Programs are tailored to fit the local area and climate since every region and location has its own unique characteristics and conditions that influence preparation and response.

Keeping these variables in mind, some typical elements of NGSA members' winterization programs include:

ASSESSING WEATHER AND STATUS

Sustained freezing conditions are a significant risk to production activities, which requires intense operational pre-planning such as:

- Stringent self-inspections prior to anticipated weather conditions

- Use of in-house as well as 3rd party forecasting and tracking systems to identify and monitor weather events
- Increased communications with state/local officials to ensure compliance with state rules and coordination efforts, and to prioritize passable roads en route to critical facilities

- Mitigate weather exposure with additional supplies and enhanced protections.
- Avoid road travel during dangerous conditions.
- Adhere to our strict safety procedures during restarts, which are more difficult in cold conditions: no shortcuts.
- Facility shut-downs will be used in uncontrollable situations to protect people and the environment.

FACILITATING MARKET RESPONSE AND COMMUNICATION

Natural gas traders and schedulers are in place to readily respond to customers. In some cases, that means working in more secure remote or dispersed locations to enable us to:

- Communicate with customers when problems are anticipated or have occurred.
- Assist customers in finding alternative market options.
- Support communications with other industry segments, such as processing, gathering and pipelines.
- Deploy midstream assets such as storage and transportation to optimize our supply options and delivery capability. Some NGSAs members have expanded storage capabilities to better prepare for extreme weather.

TAILORED INDIVIDUAL SYSTEMS AND PROCESSES

- Checklists, training and preparedness programs to test, evaluate, prepare and improve the ability to withstand extreme cold weather events.
- Weather readiness attestations.
- Initiation of internal and external communication protocols in the event of a weather-related forced stoppage, including increased communications with downstream processing, gathering and pipelines.

PROTECTING PEOPLE AND THE ENVIRONMENT

The safety of our employees, contractors, partners, and communities will not be compromised, and environmental performance is critical. Maintaining operations during extreme cold weather is more challenging and personnel-intensive. To protect people and the environment, we:

PROTECTING FACILITIES AND EQUIPMENT

NGSA members have increased our investments in preparedness at our facilities, helping them to withstand extreme winter conditions. There are a wide range of actions that producers rely upon to protect upstream facilities during harsh conditions such as:

- Pre-staging of existing and additional personnel across production areas to speed up actions
- Use of catalytic heaters
- Use of methanol injection
- Wrapped insulation or application of heat trace
- Burial of natural gas or fluid lines where suitable
- Constructing wind breaks and enclosed structures
- Backup power systems
- Automated controls including pneumatic controls
- Increased electrification
- Centralizing field facilities to concentrate protection measures on one location instead of multiple sites

POST-EVENT

- Examine the root cause of issues with systems and processes that track performance.
- Use data from performance tracking systems and lessons-learned to recalibrate and improve weatherization practices.

These measures help mitigate and prevent performance issues, but some degree of production declines and freeze-offs are unavoidable in extreme cold weather events. Just as our member companies work to minimize anticipated issues and downtime, customers should also anticipate the impact of cold weather and assess their supply portfolios, strengthening them when needed, particularly with the use of storage.