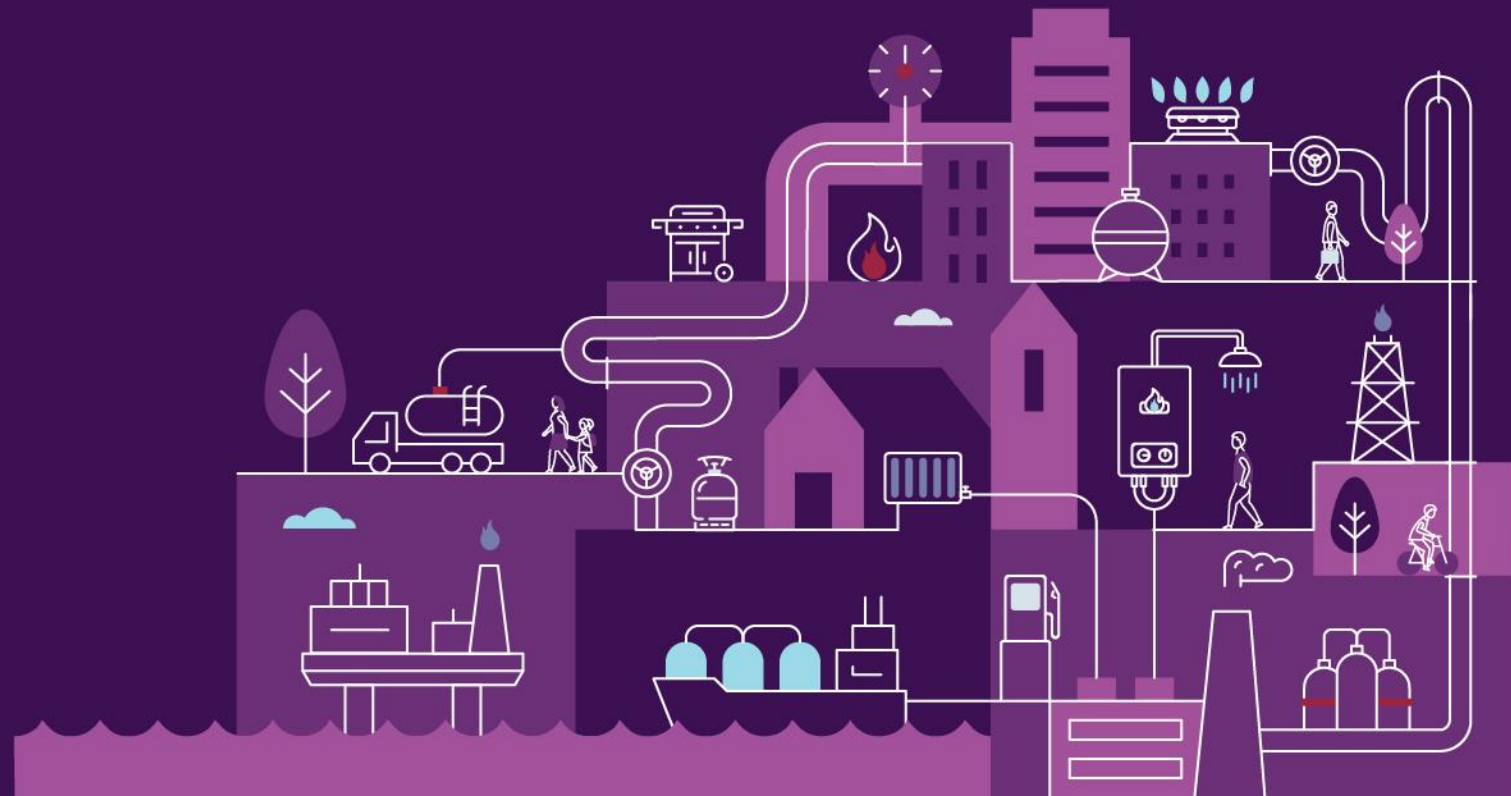


East Coast Gas System Adequacy Functions



East Coast Gas System Adequacy Functions

1. Background
2. Data collection and Assessment
3. Signaling
4. Directions & Trading
5. Reporting

Background

- Challenges were experienced across east coast gas markets in 2022.
- The east coast gas supply-demand balance has been tightening over recent years due to the gradual fall in southern gas reserves and increasing reliance on winter gas supply from Queensland.
- The supply-demand balance is expected to deteriorate further with forecasts of potential supply shortfalls emerging from 2023.
- On 12 August 2022, the Energy Ministers decided that a series of gas reforms should be implemented. These reforms would provide AEMO a range of powers and tools to identify and respond to supply-demand imbalances in the east coast gas market.

Background – Key Dates

- Energy Ministers approved amendments to NGL - October 2022
- Laws (NGL) publication – 27 April 2023
- Rules (NGR) gazetted – 4 May 2023
- AEMO Procedures publication – 11 May 2023
- AEMO Procedures effective date – 1 June 2023
- AEMO Pre-Production Systems for testing – ~1 June 2023
- AEMO Guidelines publication – 13 June 2023
- AEMO Production Systems Go-Live – ~22 June 2023
- Rules (NGR) effective date – 4 July 2023

Data Collection & Assessment

- Relevant entities & Part 27 register
- Data collection
- Identification of threats

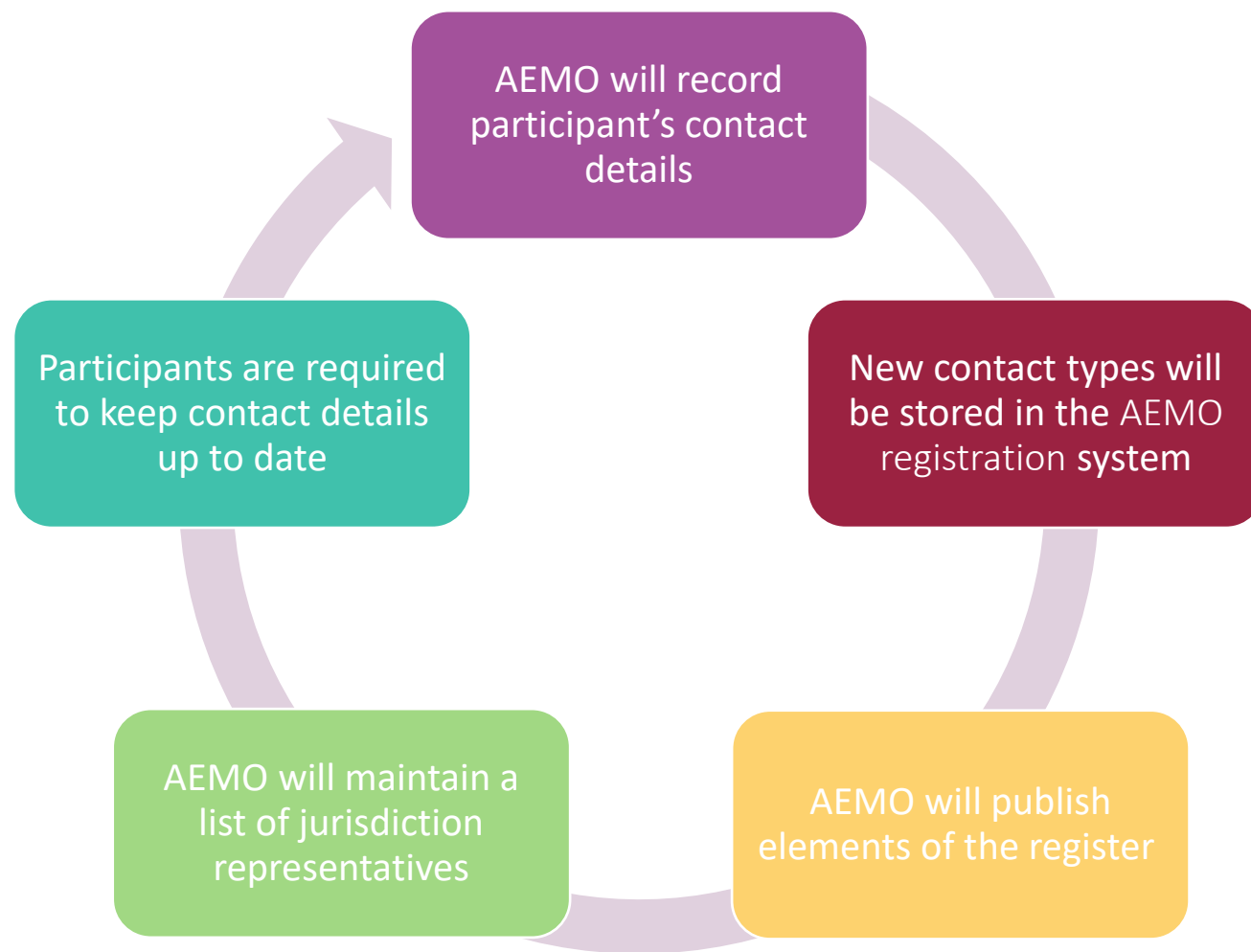
Data Collection Introduction

- Part 27 of the rules requires relevant entities to provide additional data to AEMO to be used for supply adequacy and reliability assessments.
- AEMO will conduct short term (7-day) and medium term (6-month) supply assessments utilising existing GBB data and the new data submissions.

Part 27 register of relevant entities

- Used for contacting relevant entities, and identifying system access
- AEMO has contacted participants to advise them they are in the register
- Part 27 contact details to be stored against existing participant registrations
- There is no Part 27 registration category (process is automatic)
- AEMO is required under Part 27 of the NGR to keep and maintain a register of relevant entities. However, AEMO may give a direction to a relevant entity whether or not it has been included on the Part 27 register.
- The register is used internally to send out automated notifications and to have up to date contact details

Part 27 implementation



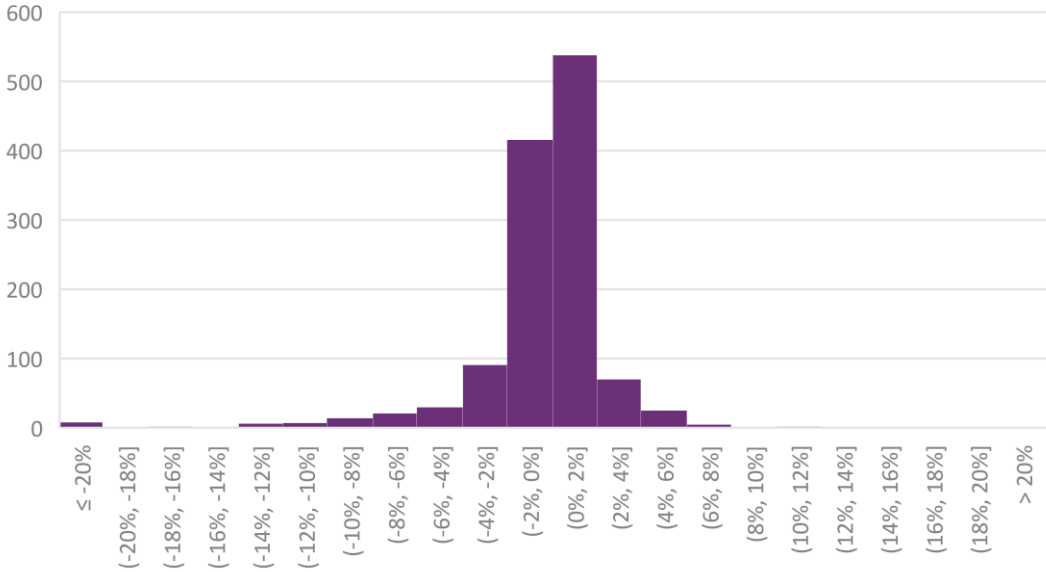
Data collection

- AEMO must have sufficient visibility and transparency of:
 - system demand,
 - projected supply,
 - storage levels,
 - gas flows
 - and other information required to understand and forecast supply and demand balance.
- Collection of additional data from part 27 participants, utilising the Gas Bulletin Board submission screens within the Market Portal
 - **Information:** Demand, projected supply, storage levels, gas flows, capacity outlooks and maintenance, linepack.
 - **Time horizon and granularity:** Daily over next seven days, and monthly over next 24 months. Maintenance information over two-year horizon.

Information that is collected solely for the purposes of Part 27 is confidential information

AEMO assessed existing nom data

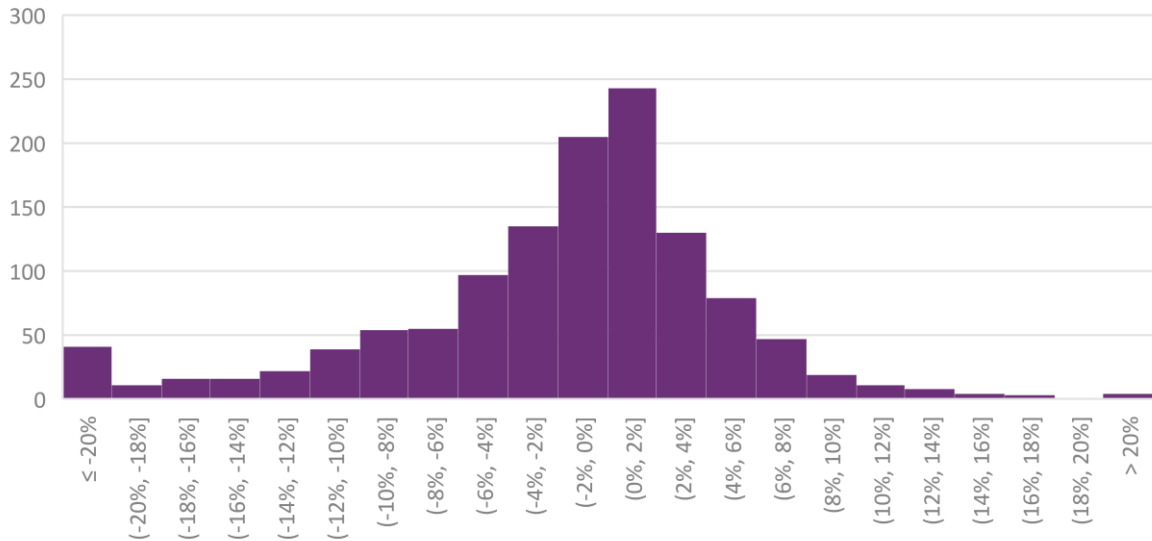
Data variance for D-1 vs actuals in 2022



	D-3	D-1
mean	-2.3%	-0.6%
std dev	9.9%	5.5%

- On any given day, for 1 day ahead, expect an under-forecast of ~13 TJ with a std dev of 116 TJ
- On any given day, for 3 day ahead, expect an under-forecast of ~49 TJ with a std dev of 210 TJ
- For 3 day ahead, there is a 5% likelihood of an under-forecast of >420 TJ

Data variance for D-3 vs actuals in 2022



Data submitters

- Gas Bulletin Board (BB) reporting entities for the following facilities (threshold 10 TJ/day):
 - Production
 - Storage
 - Compression
 - Pipelines
 - Large user facilities
 - LNG export projects
- Part 27 retailers
 - Gas retailers
 - Large users

AEMO's collection of data

Short term
up to 1 week ahead

Existing data

- Short term capacity outlooks
- Facility nominations and forecasts
 - pipeline and facility nominations by connection point

Additional data

- Demand forecasts for retailers/users
- Linepack quantities for pipelines

Medium term
from 7 days to 2 years

Existing data

- Medium term capacity outlook
- Uncontracted capacity outlook

Additional data

- QLD LNG projects forecast (domestic/export supply) out to 6 months ahead
- Medium term capacity outlook enhancements
 - Outlook period extended out to 2 years
 - Recall times
 - Daily granularity out to 6 months ahead
 - Large user facilities

What is a risk or threat?

- A **Threat** is defined as:
 - The supply of gas in all or part of the east coast gas system is inadequate to meet demand;
- A **Risk** to reliability as:
 - The supply of gas in all or part of the east coast gas system cannot be relied upon to meet demand, including in circumstances where:
 - gas supply, including gas storage, may be insufficient to satisfy seasonal demand requirements; or
 - supply capacity is insufficient to respond to an unplanned event

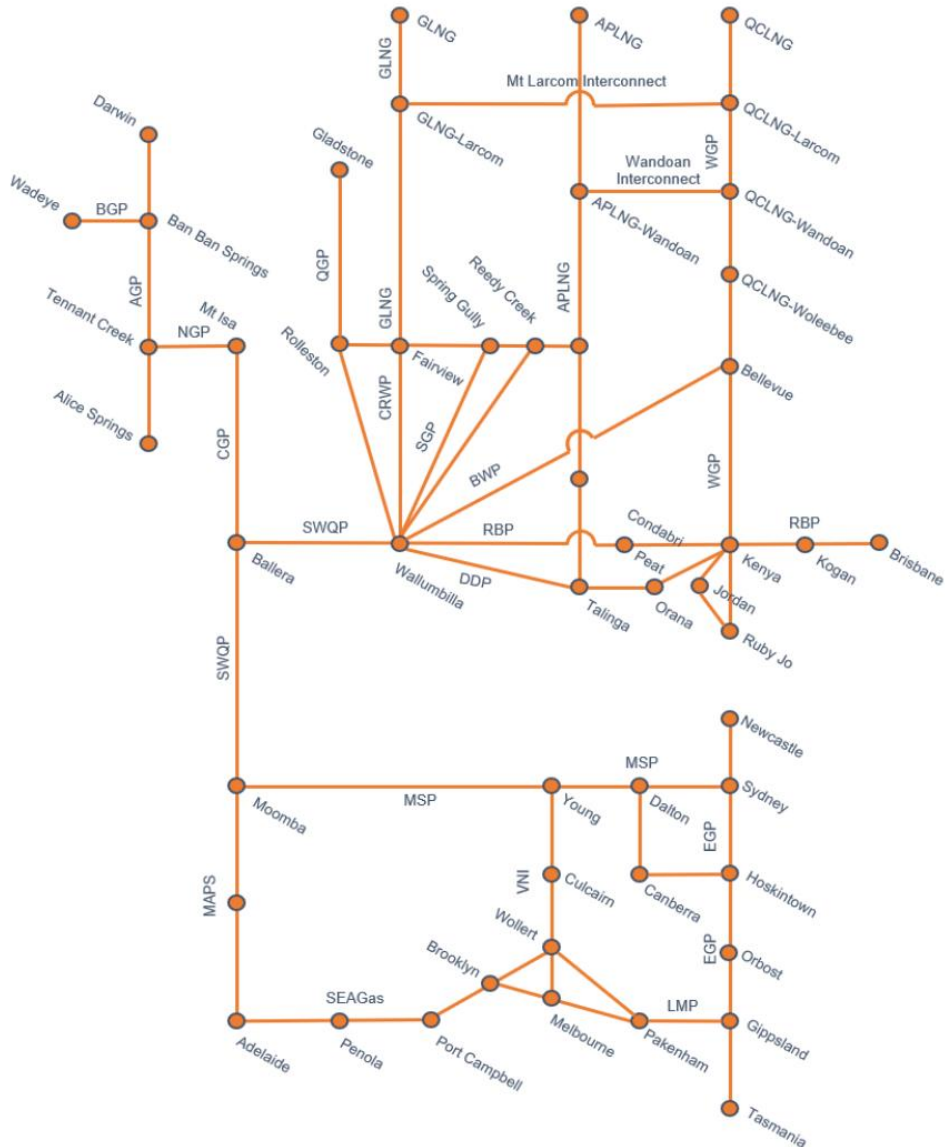
Supply Adequacy & Reliability

- **Supply adequacy:** where supply is equal to or greater than demand.
- **Supply reliability:** where supply can be relied upon to meet demand. Reliable supply may occur when supply is sufficient to satisfy demand during an unplanned outage, or unexpected supply or demand event.
- Examples of unplanned or unexpected events may include:
 - Uncharacteristic gas use;
 - Inaccurate weather resulting in significant change in demand forecasts;
 - Facility problems leading to supply or transportation constraints.

Assessments

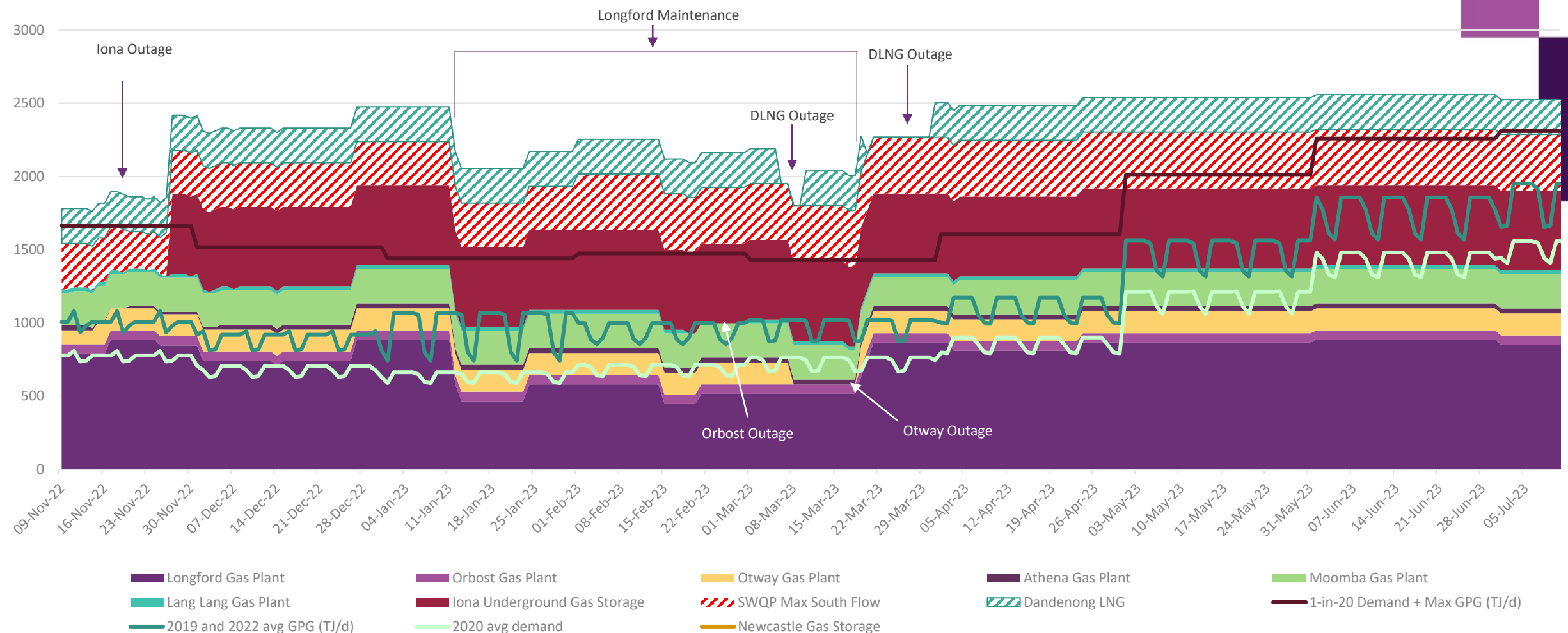
- AEMO's monitoring and assessments of the east coast gas system will assess the likelihood of a threat to the adequacy or reliability of gas supply.
- A relevant entity must also provide AEMO notice of a threat with respect to their asset when identified.
- Data queries to be developed for short-term and medium-term monitoring of:
 - Trends of supply and demand; and
 - Factors that may affect supply adequacy and reliability
- Medium-term monitoring to utilise AEMO monthly demand forecasts and adequacy modelling

Adequacy modelling



- Demand
 - Forecast by zone per retailer/user including GPG
 - Potential linepack depletion
- Supply
 - Pipeline nominations by connection point
 - Capacity available to meet demand including storage availability
 - Potential linepack available to supply demand or replenishment of linepack

Adequacy modelling



Note: Information presented after 31 March 2023 is publicly available on the GBB.

Signalling

- Notices to industry
- Conferences

Signalling Introduction

- Where a risk or threat has been identified AEMO will issue a risk or threat notice.
- Reasonable time will be allowed for industry to respond, during which AEMO may also hold a gas supply adequacy and reliability conference.

The intent of signalling is to provide industry information to be able to respond

Risk or threat notices

- AEMO will communicate notices to industry by SMS and email to relevant entities recorded in the Part 27 register
- AEMO will publish risk or threat notices on AEMO's website
- A notice of a risk or threat must contain:
 - the identified risk or threat;
 - the nature and magnitude of the identified risk or threat;
 - the likely duration of the identified risk or threat;
 - the location of the identified risk or threat;
 - the required industry response to prevent or mitigate the identified risk or threat.

Conference notices

- AEMO will communicate conferences by SMS, email and publishing on AEMO's website
- A conference notice will include:
 - Details of the conference (date, time, method for joining)
 - Details of the purpose of the conference
 - Relevant entities that are required to attend the conference
 - Relevant entities that may attend the conference

Purpose of Conferences

- AEMO may hold conferences for the exchange of information about matters impacting on gas supply and demand conditions as it relates to an identified risk or threat, including AEMO's assessment of
 - the likely duration and location of the risk or threat; and
 - the necessary response from industry to prevent or mitigate the risk or threat
- AEMO may host a conference
 - **Assessment conference:** assess whether there is or is not a potential threat and identify options that may mitigate or resolve a threat.
 - **Industry conference:** inform industry of an identified threat and the options available to mitigate or resolve that threat.
- AEMO will schedule, facilitate and chair.

Directions and Trading

- Directions process
- Directions Compensation
- Trading process
- Trading Compensation
- Trading fund

Directions and Trading Introduction

- If there is no material change in a risk or threat from an industry response, or if an emergency event occurs where there is insufficient time for industry to respond, then AEMO may need to use its direction or trading powers.
- AEMO may decide to give a direction if AEMO assesses that the existing market functions are unsuitable to resolve the issue
- Before issuing a direction notice, AEMO will consult with facility operators and shippers
- Compensation claims may be made by the relevant entities impacted by a direction made by AEMO.

Directions/trading are last resort options available to AEMO

Existing Processes – AEMO's markets

- AEMO has other processes in place that, if relevant, will be utilised prior to the east coast gas system intervention powers to address a potential risk or threat
 - STTM contingency gas - allows AEMO to publish an intraday schedule in response to a supply event that may develop into an identified risk or threat
 - DWGM threat to system security process - allows AEMO to undertake a variety of actions in response to a threat in the DWGM.
- The new processes effectively replace the Gas Supply Guarantee as the guidelines expired on 31 March 2023

Directions

- Directing gas industry participants to resolve a potential or actual risk or threat
- AEMO may only give a direction if AEMO is of the opinion that the giving of the direction is necessary to prevent, reduce or mitigate an actual or potential threat identified by AEMO.
- AEMO can issue directions to any relevant entity, not just those on the Part 27 register
- Directions can relate to:
 - the operation, maintenance or use of equipment;
 - the control of the flow of natural gas;
 - any other matter that may affect the reliability or adequacy of the supply of natural gas within the east coast gas system.
- Relevant entities are required to comply with a direction and must notify AEMO immediately where they are unable to comply.
 - AER required to investigate directions which cannot be complied with
- AEMO cannot direct gas away from long term LNG export contracts

AEMO's response to a threat

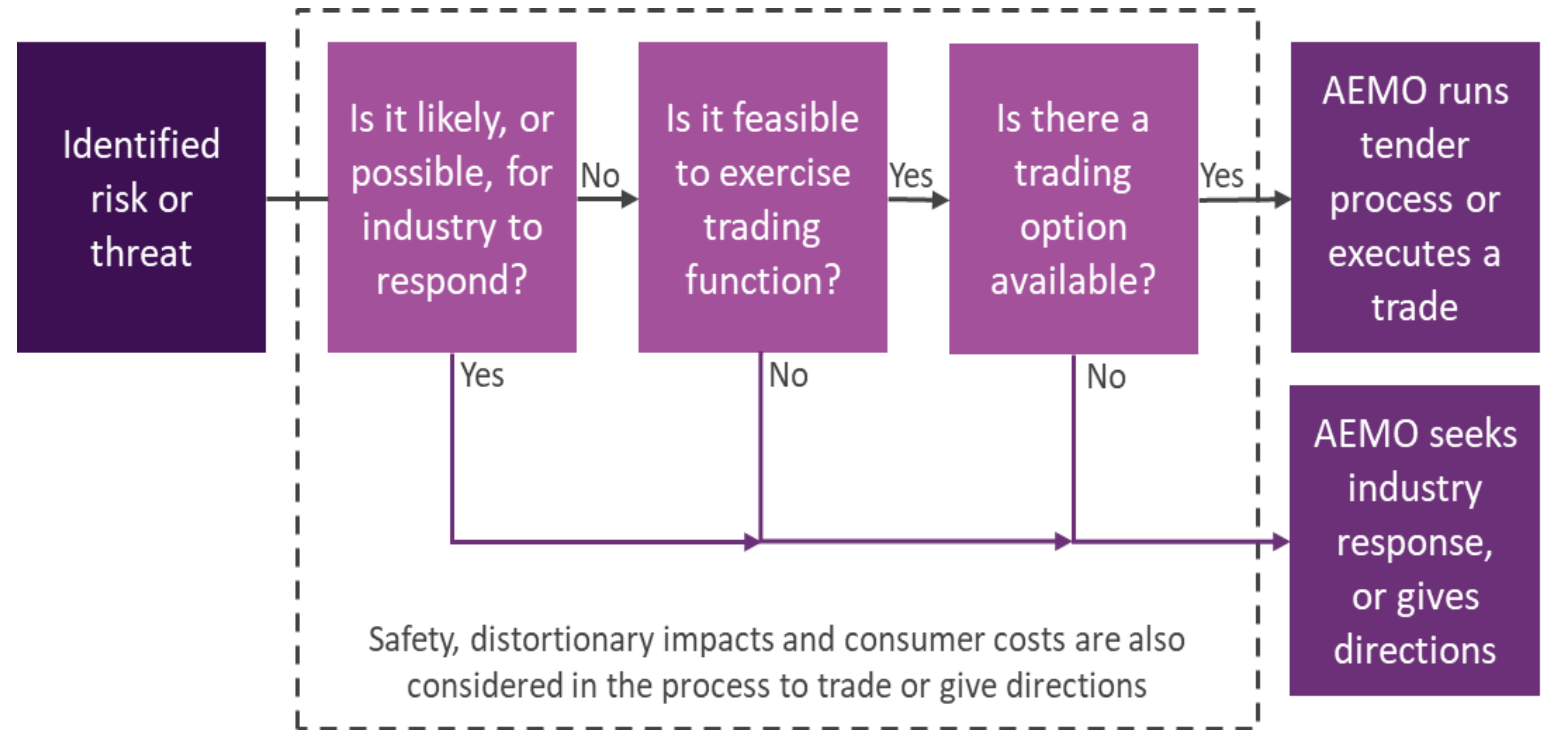
- If AEMO responds to an identified risk or threat, AEMO must:
 - allow industry a reasonable period of time to take action to mitigate the identified risk or threat;
 - engage affected jurisdictions in a timely manner;
 - minimise distortionary impacts on the east coast gas system and industry and consumer costs on which AEMO has available information; and
 - must not compromise safety.

Compensation framework

- Relevant entities may make a claim for direct costs associated with the supply of a natural gas service.
- There is a compensation claim threshold of \$5,000.
- Claims to be made within 20 business days of the last day on which the claimant suffers detriment.
- A dispute resolution panel will work with AEMO and the affected participant to determine the compensation amount
 - Similar to DWGM process

Trading Process

- If AEMO determines that the most effective method to resolve a risk or threat is to trade in natural gas, AEMO will run a tender process.
- AEMO will conduct trades in a transparent manner.
- AEMO will seek to minimise distortionary impacts of a trade.



Directions/trading are last resort options available to AEMO

Trading

- AEMO will have the ability to trade in natural gas to the extent AEMO considers necessary to maintain and improve the reliability or adequacy of the supply of gas in the east coast gas system.
- The approach that AEMO will take when deciding to trade will include:
 - Always seeking an industry response;
 - Trading is to be considered a last resort option where the industry is unable to respond;
 - There must be sufficient time to enter into a trade. Where there is insufficient time, and AEMO is required to intervene, the preference will be to issue directions;
 - AEMO will have a preference for contracting a service, i.e., AEMO will not be actively “trading” in the markets;
 - Where AEMO is seeking to trade, this will be conducted in a transparent manner using AEMO procurement processes.

Trading fund

- To support the trading function the Rules require AEMO to establish a trading fund of \$35 million adjusted annually with CPI (adjusted trading amount).
- This fund must be in place regardless of whether AEMO trades.
- The preferred approach for the trading fund is to have a debt facility where the ongoing costs of the facility will be included in participant fees.
- To the extent that AEMO trades and draws down on the facility, the costs of this trade will be recovered in the following financial year through the contribution rate.

The approach aims to minimise the cost impact to industry

Notices of directions and trading

- After consulting with relevant entities, a notice of direction or trading can be sent to a:
 - Single participant
 - Group of participants based on type, location, or some other factor
 - All members of the Part 27 register
- AEMO will issue a direction or trade via email and/or phone
- AEMO will publish some information of the direction or trade on AEMO's website, the specific details will be confidential
- Throughout the direction and trading process, AEMO will be issuing market notices to keep participants informed

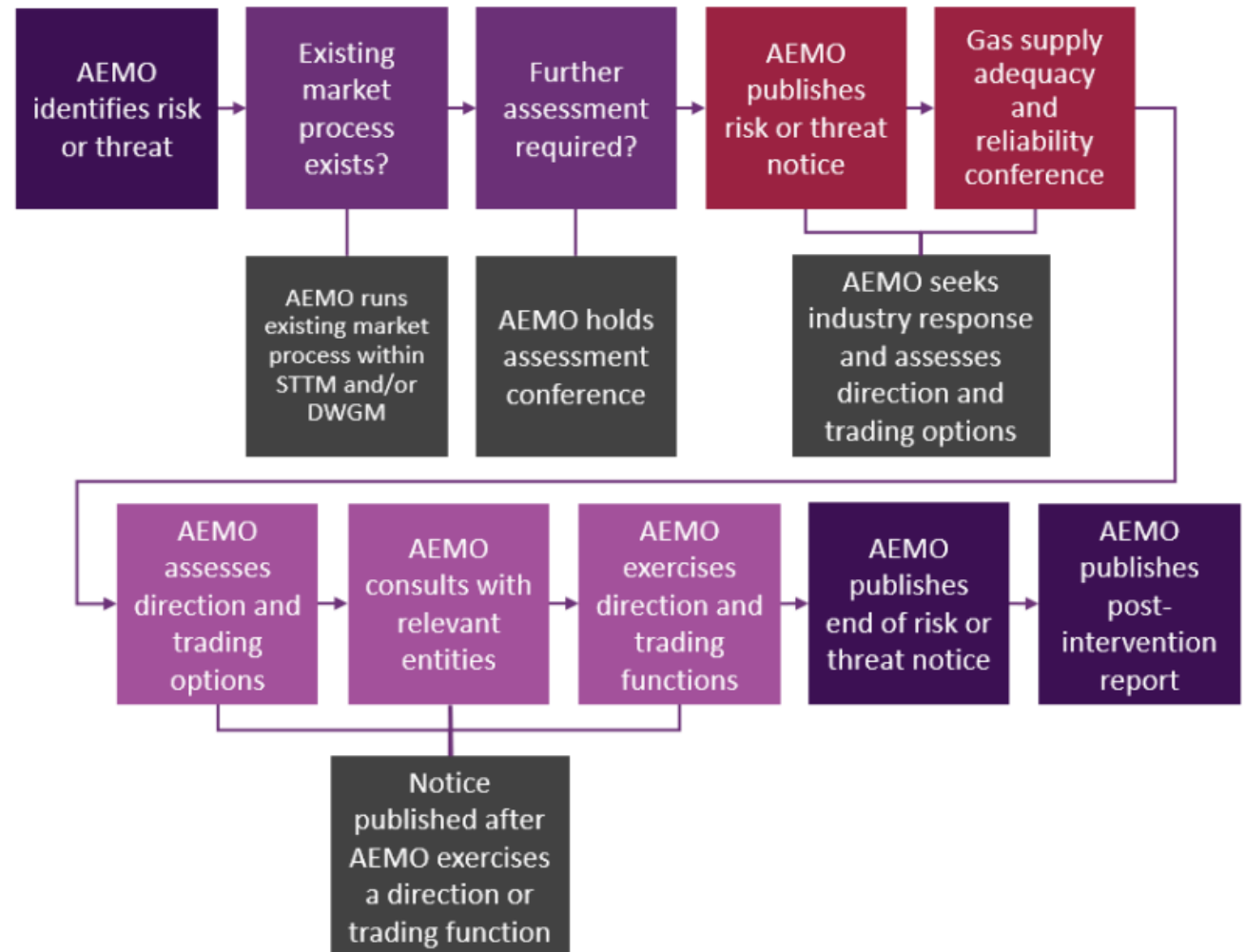
Reporting

- Post-intervention Report



Reporting

- AEMO will publish an end of risk or threat notice when it has been resolved
- AEMO must publish a post intervention report following the exercise of the direction or trade functions.
- AEMO must produce an annual report to the Ministers and an ad-hoc report, when requested.



Reporting

- AEMO will produce a post-intervention report on the exercise of direction or trading functions within 4 months of the end of the exercise, and a preliminary report within 1 month
- The post-intervention report will include:
 - a description of the exercise of the function or functions
 - details of the events occurring before the exercise of the function or functions;
 - the reasons for the exercise of the function or functions;
 - AEMO's estimated expenditure in the exercise of the trading function or functions;
 - AEMO's assessment of the extent to which the exercise of the function or functions mitigated the identified risk or threat.
- AEMO is required to provide an ad-hoc report for the Ministerial Council on Energy (MCE) on the details of performing direction or trade functions
- AEMO must provide an annual report on the performance of functions to the MCE



For more information visit

aemo.com.au