

Gas Operational Forum



26th April 2018 09:30AM

Radisson Blu Hotel, 130 Tottenham Court Road, London

Health & Safety Brief

No fire alarm testing is planned for today.

In the case of an alarm, please follow the fire escape signs to the evacuation point.

At the rear of the hotel by Fitzroy Court



Feedback and questions



For questions during the forum you can:

- (1) Ask during the presentations**
- (2) Use post it notes and place on 'question car park'.**
- (3) Speak to an NG rep during break**
- (4) Utilise the Query Surgery time at the End of the forum.**



Agenda

- 09:30 **Previous Ops Forum actions and feedback since last forum**
- 09:40 **Operational overview**
- Supply & demand – Winter Review
 - Summer Outlook messages
- 10:10 **Customer Requested topics**
- GDW
 - REMIT
 - MIPI DR testing
- 10:45 **Break**
- 11:00 **Customer Feedback**
- Feedback during 17/18
- 11:05 **Sign posting topics of interest**
- Key UNC mods
- 11:20 **Customer requested topic/education on Residual Balancer tools**
- Constraint Management/Energy Balancing Game
- 12:05 **Close & summary of any questions received**
- 12:10 **Optional Query surgery for our Gas Customers & Stakeholders**

Feedback since the last forum

Feedback Topic	Feedback	Action Update
REMIT	Clarity around NG's interpretation of REMIT	Agenda item
MIPI helpline	Feedback that MIPI helpline has not been manned during office hours.	Team has been alerted to this feedback and measures have been taken to ensure multiple members of team can answer phone. If you are having difficulty in using the MIPI number then please escalate to Karen Thompson
Query Contact List & general feedback received on management of queries	Positive feedback received to date on contact list .	NG currently looking to include more query types to try and ensure all key Gas Queries can be identified and appropriate contacts highlighted. Feedback needed from customers on first draft. Escalate if you are having an issue in resolving queries to the named contact or to Karen Thompson.

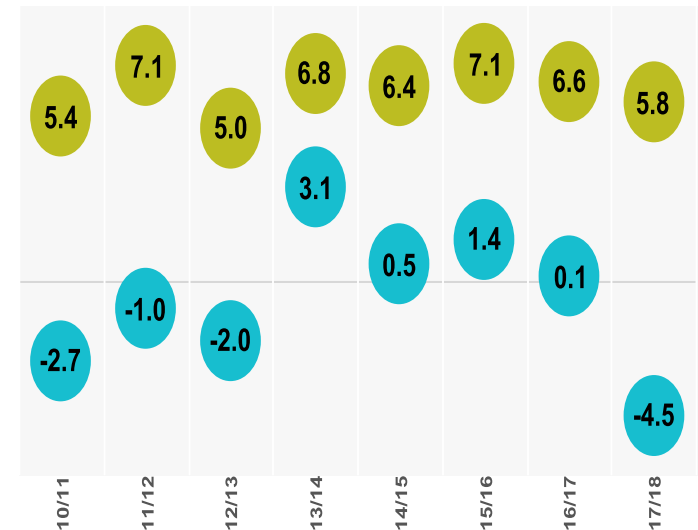
Winter Review-Supply and Demand



Winter Demand

Based on the CWV, this Winter is classified as an **average Winter** in terms of temperature, but **the coldest day (1st March) was the coldest since Winter 86/87**

Average and Minimum CWV



Demand vs Seasonal Norm



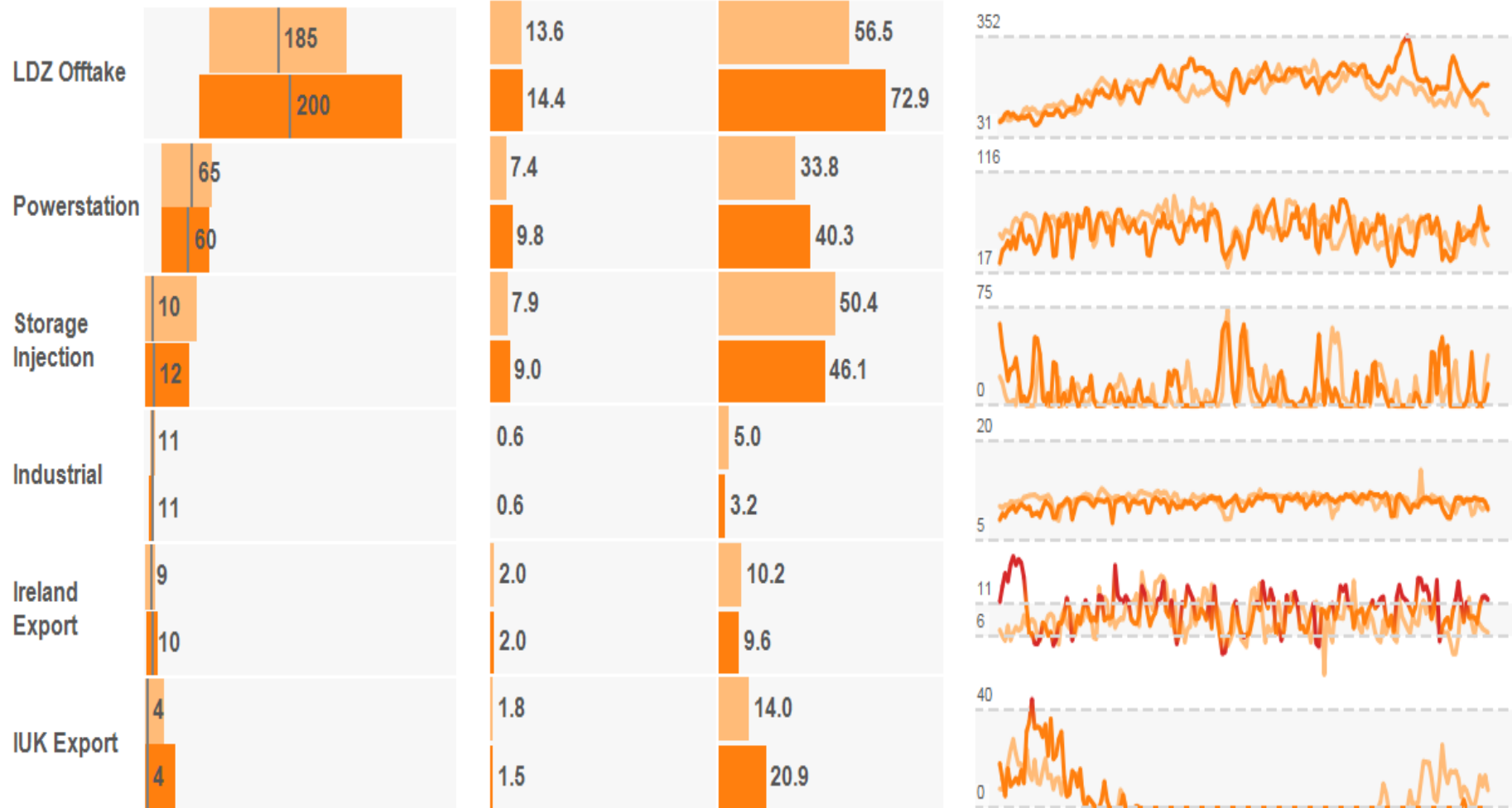
Demand Summary

Average Daily Volume and Range (mcm)

Average Daily Change

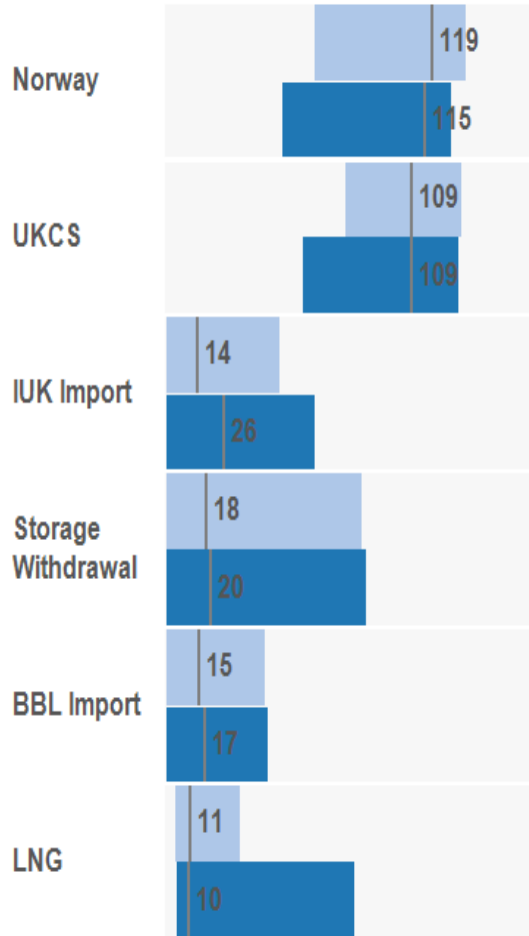
Max Daily Change

Trend versus Outlook Range and Previous year

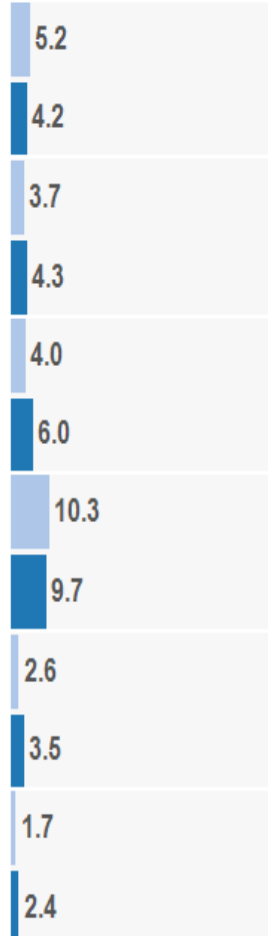


Supply Summary

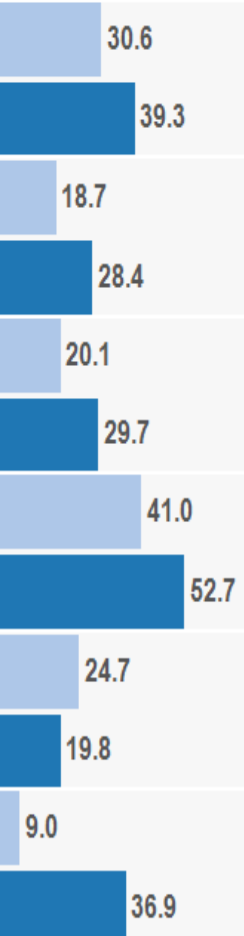
Average Daily Volume and Range (mcm)



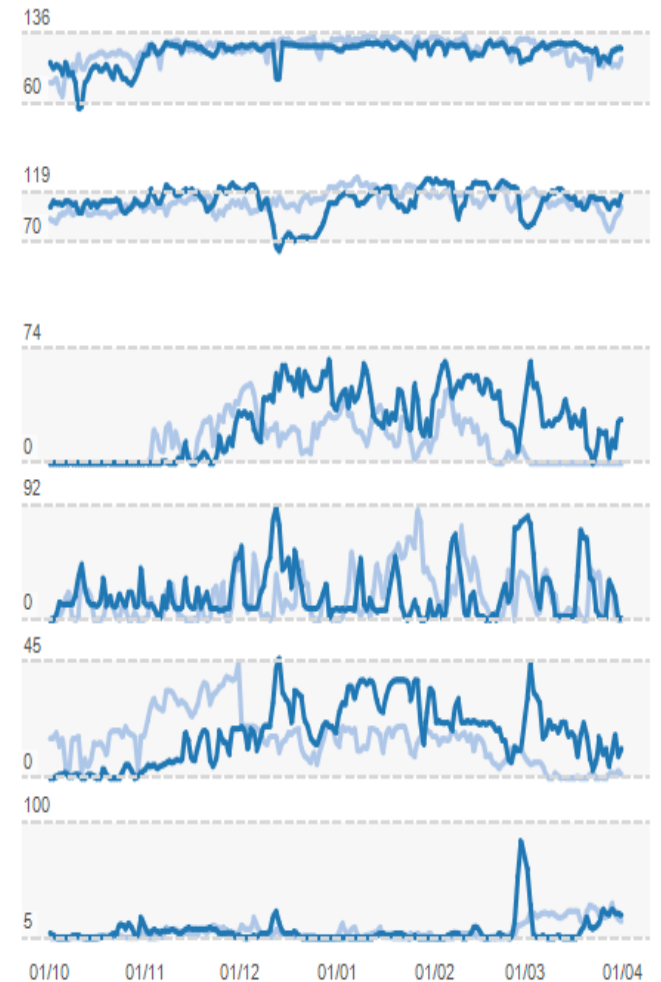
Average Daily Change



Max Daily Change



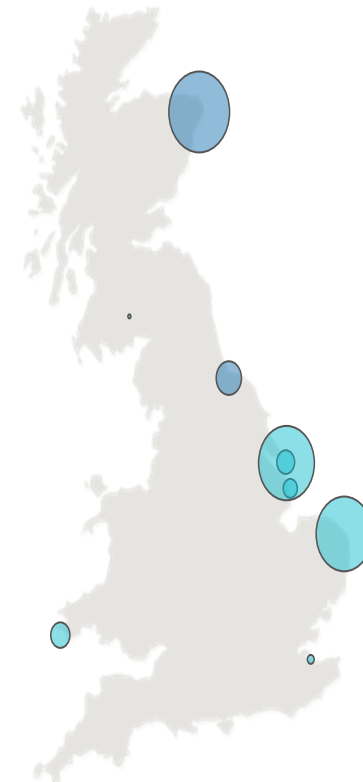
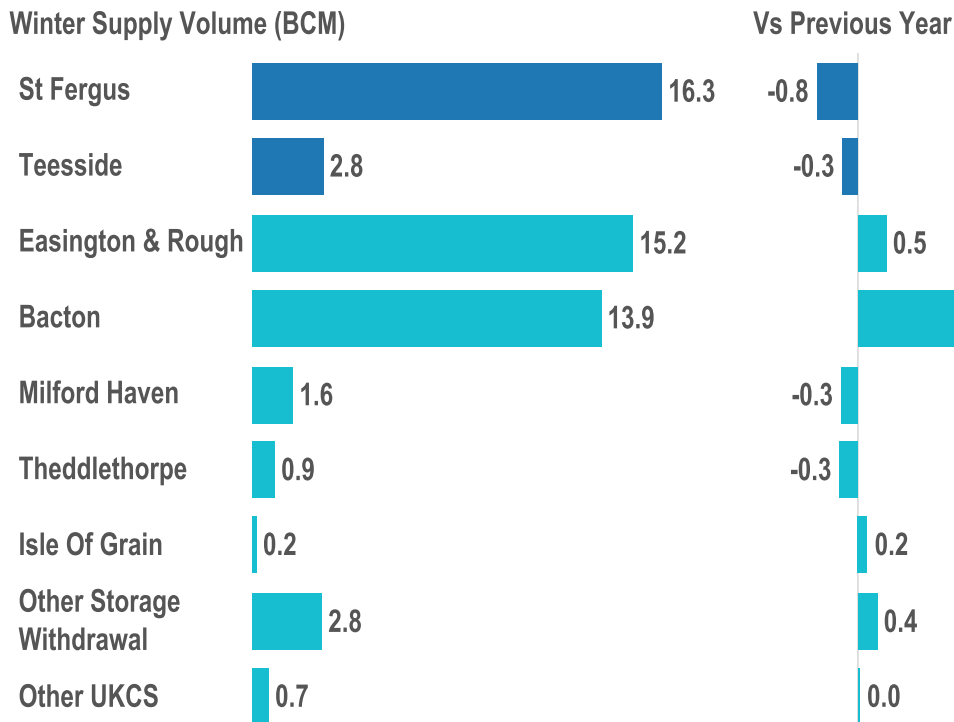
Trend versus Outlook Range and Previous year



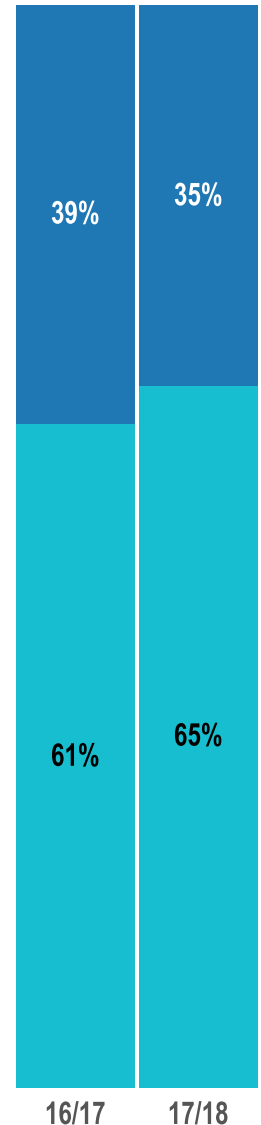
■ Winter 16/17 ■ Winter 17/18

Supply location

Compared to last Winter there has been an **increase in supply entering the NTS South of Easington**



■ North of Easington
■ South of Easington



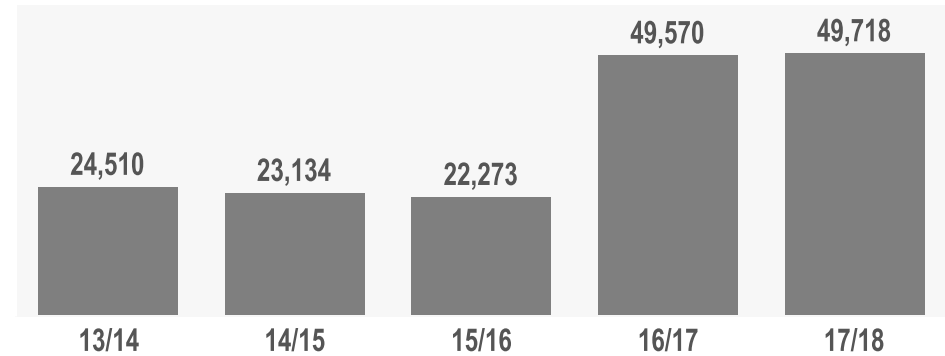
Compressor running hours

Compared to last Winter there has been a **similar amount of compressor running hours overall**

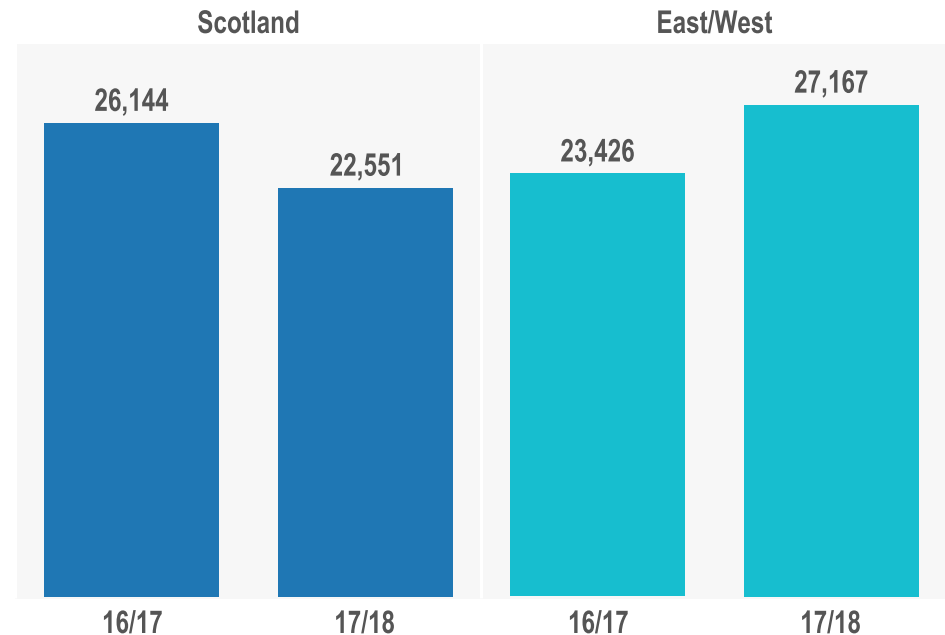
but the changes in Supply location have led to a

change in compressor usage by area

Total Compressor Running Hours



Compressor Running Hours by Area



Within day balance and Linepack swing

Linepack Swing is a measure of the extent to which the NTS is imbalanced within the day.

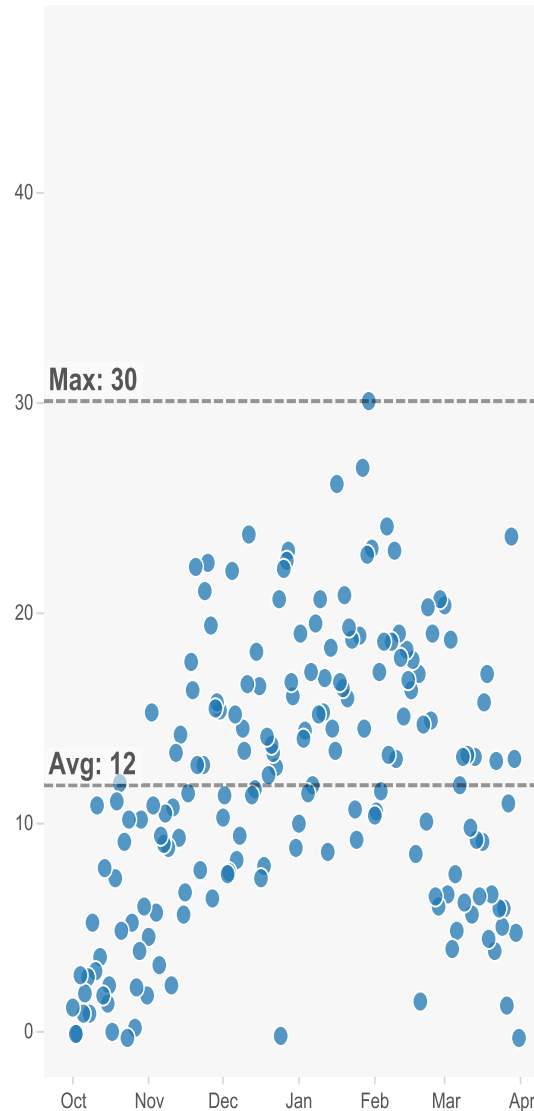
This Winter the average

levels of Linepack swing have increased

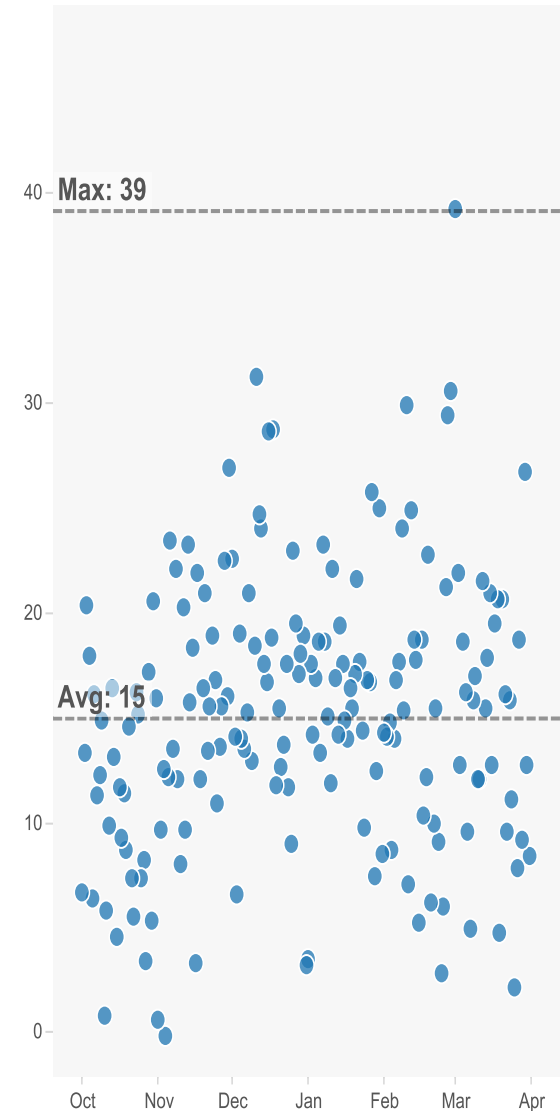
showing that the NTS has had to cope with

larger within day imbalances between supply and demand

Linepack Swings Winter 2016/2017



Linepack Swings Winter 2017/2018



Linepack utilisation

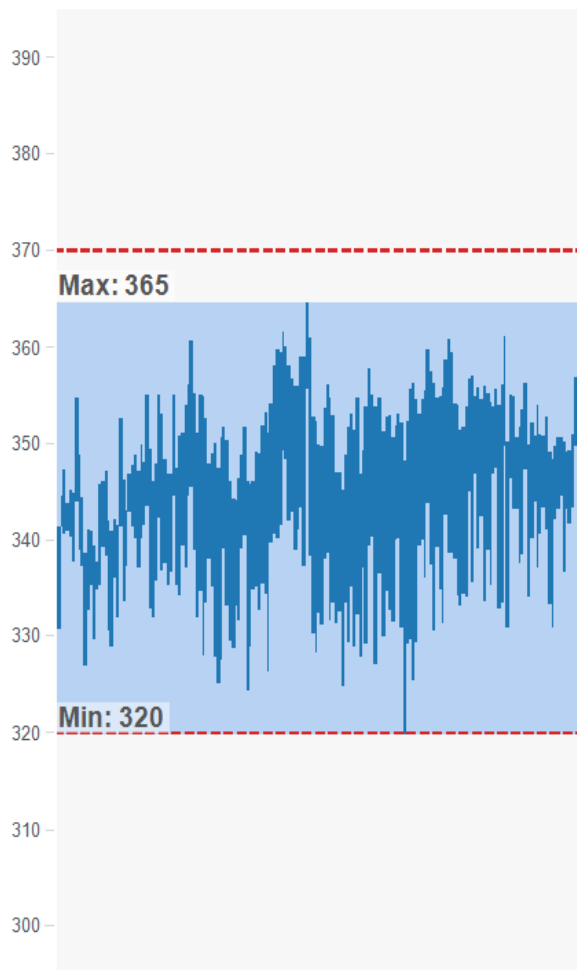
As a result of the larger Linepack swings

a wider range of Linepack flexibility has been utilised

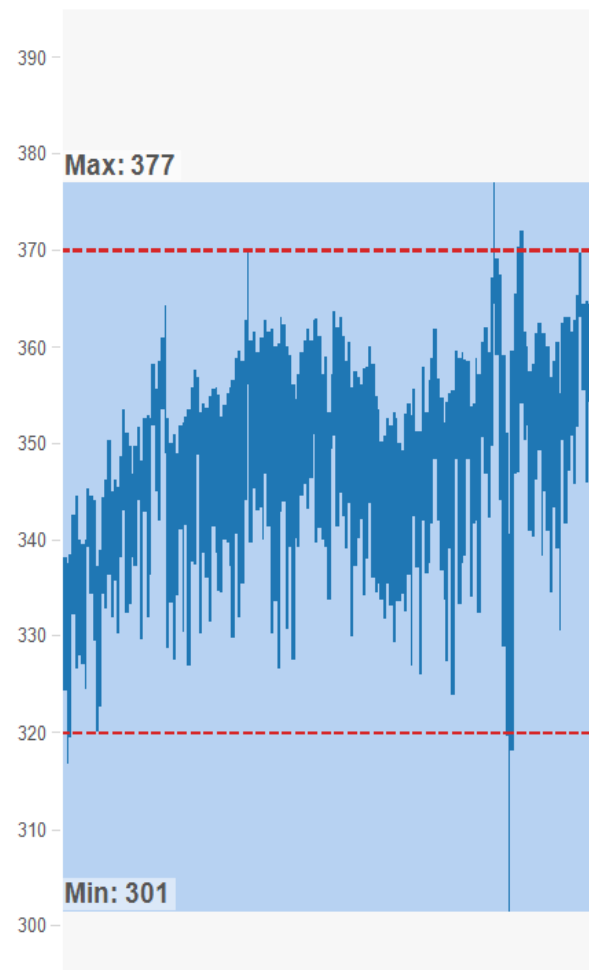
and on some occasions

Linepack levels have been outside of the normal operating range

Linepack Utilisation Winter 2016/2017



Linepack Utilisation Winter 2017/2018



Summer Outlook 2018



Jon Davies

Summer Outlook Report 2018




- Published 10 April on our website.
- Our view of the electricity and gas systems for the summer ahead.
- Analysis for full British Summer Time – April to September 2018.

Gas outlook



2018 Key messages




Overall gas demand will be lower this year due to a reduction in gas for electricity generation.



Supplies from UKCS and Norway are expected to be the dominant components this summer.

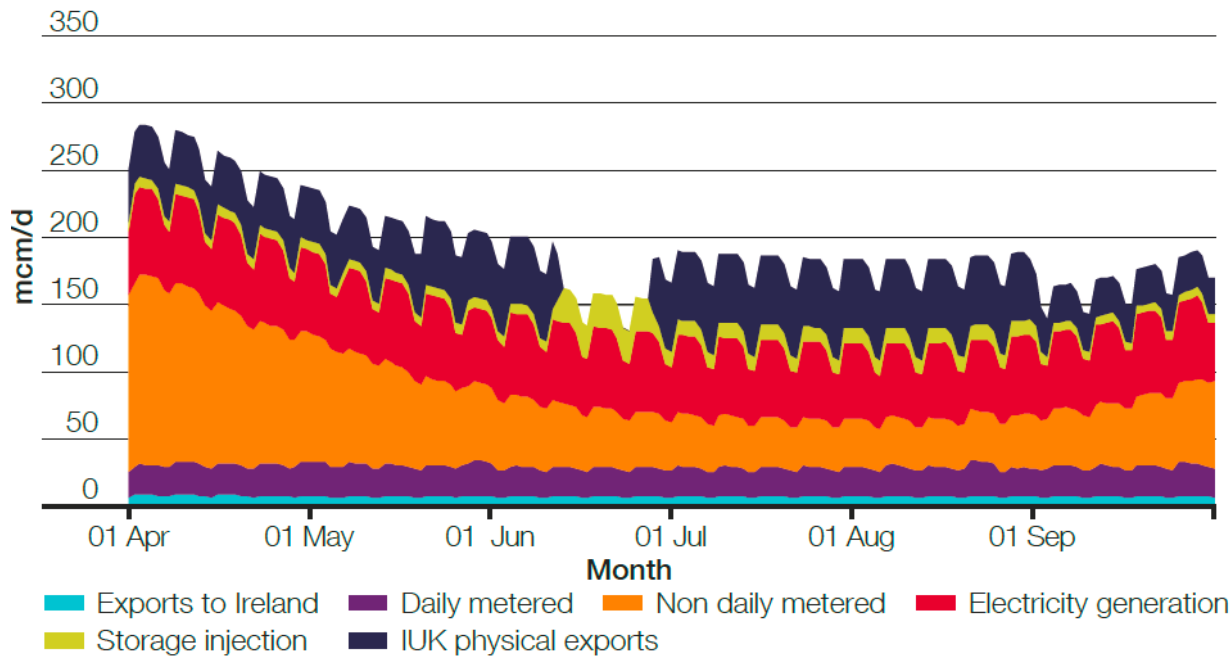


Flexible gas supplies will remain low, however base LNG volumes are expected to be higher than we have seen during winter periods.



System operability challenges as a result of transit gas and high volumes of maintenance on the system.

Summer 2018 total demand forecast is lower than summer 2017 outturn



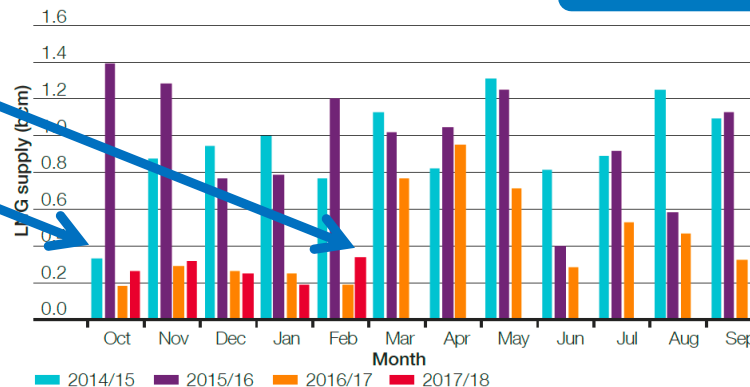
Overall gas demand is expected to be 35.7 bcm, lower than last years' weather corrected outturn. This is due to reduced gas demand for electricity generation, compared to last year.

Total supply marginally lower than last year

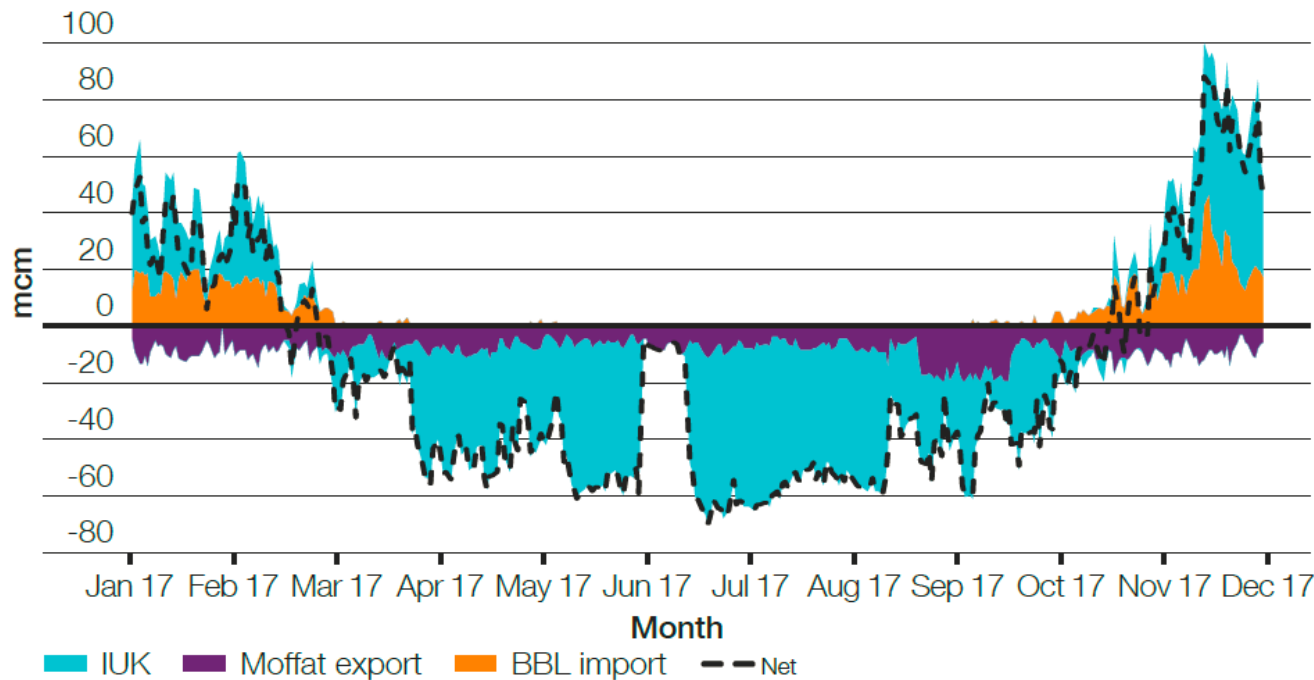
(bcm)	2013	2014	2015	2016	2017	2018
UKCS	15.1	15.3	15.9	16.1	17.3	17.9
Norway	10.6	7.6	11.3	12.3	13.3	13.2
LNG	5.8	7.6	6.2	5.3	3.3	2.9
Continent	2.3	2.2	0.3	0.5	0.1	0.1
Storage	1.5	1.3	1.1	1.2	1.9	1.6
Total	35.9	35.4	34.0	34.8	35.8	35.7

LNG volumes remain low, although base LNG is expected to be higher than seen during winter periods.

UKCS and Norway dominate the supplies into GB this summer.

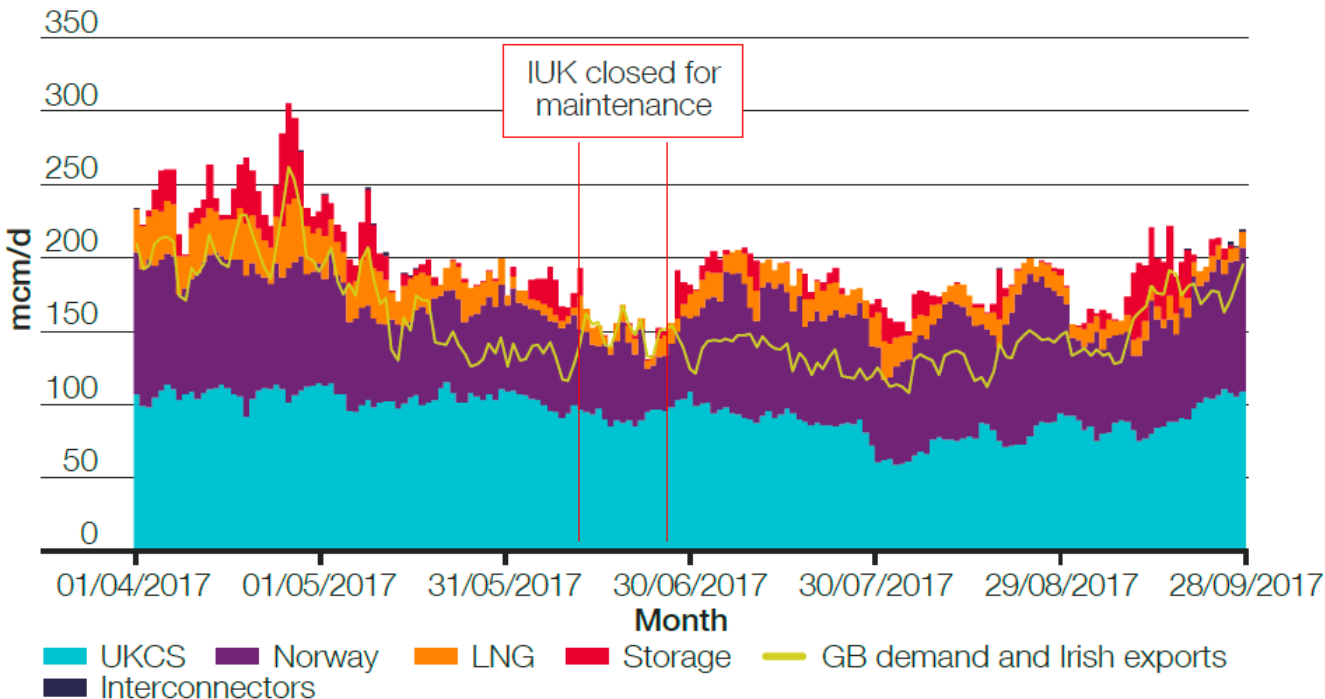


Summer Interconnector exports



We expect flow patterns from the interconnectors to be similar to summer 2017. Favourable forward prices and low storage stocks suggest IUK will export throughout the summer period. We don't expect significant supplies via BBL this summer with the tightened restrictions at Groningen.

GB sourced gas for onward transit



GB gas supply exceeded demand in summer 2017. The only time demand matched supply was when IUK were on maintenance. This suggests that the GB network was being used for the purpose of transiting gas to Continental Europe, via IUK.

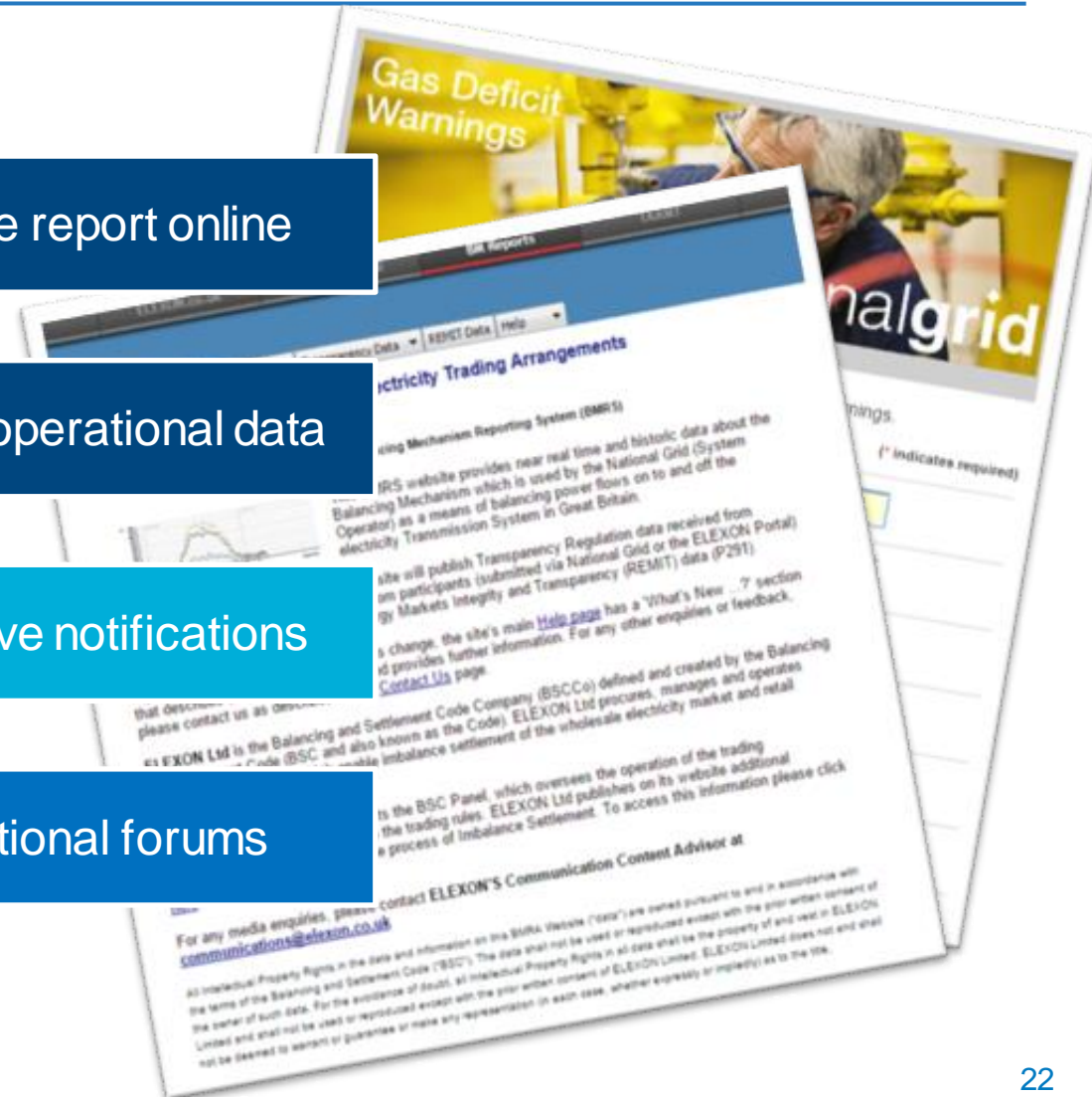
We want to help you to keep up to date

View the full interactive report online

Review the latest operational data

Subscribe to receive notifications

Register for our operational forums

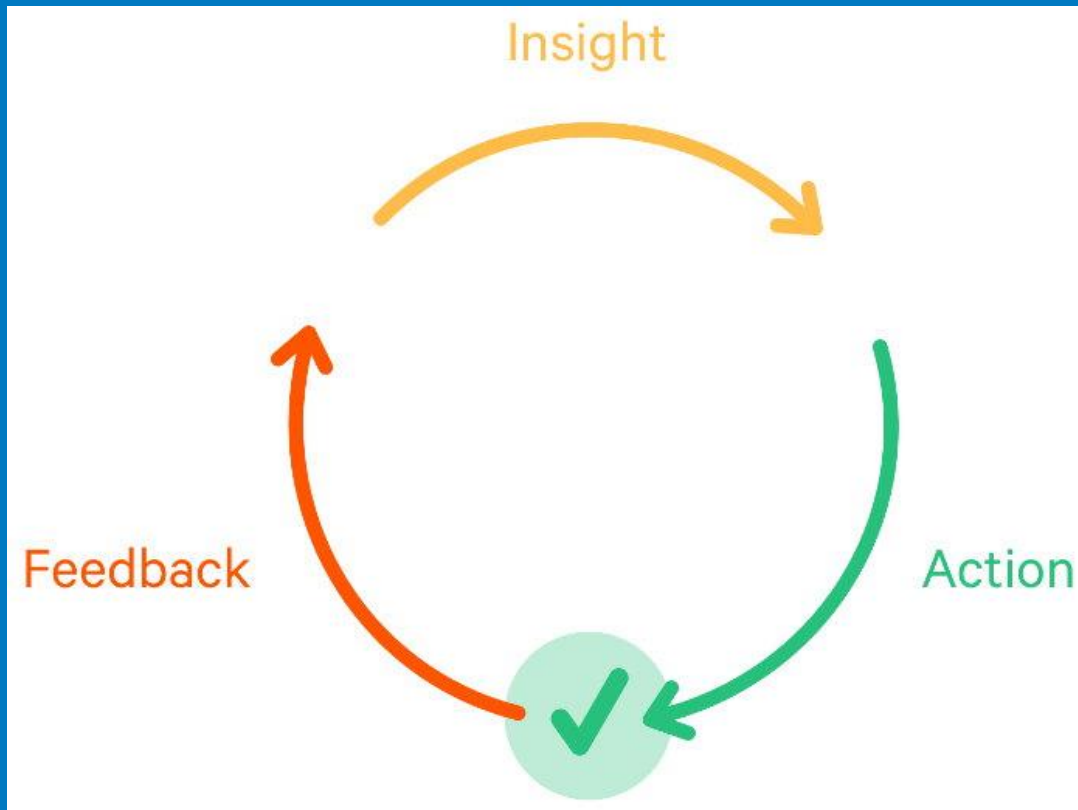


Thank you, any questions?



Download the report at <https://www.nationalgrid.com/uk/publications>

GDW – what you told us and how we will act on it



Your feedback

What went well what we should continue doing

- ☑ Professionalism and calm management of the event.
- ☑ ANS as a form of notification during the day.
- ☑ Previous emergency exercises provided industry with experience of how to manage such an event.
- ☑ MIPI data particular Instantaneous flow page.
- ☑ Market ensured an emergency was prevented.
- ☑ Holding an extra forum to discuss the GDW was appreciated.

Your feedback – our actions

Further queries

- More detail of how tools were used through the Gas Day.
- Impact through scaling back off peak – capacity.
- Application and effectiveness of ‘rules on’.
- Clarity around Operating Margins contracts.

Process Improvements

- On fax communications ensure stage is clear.
- Ensure actions within ANS messages are clear & advise on when next message will be sent.
- Issue media package in line with actions.
- Consistency of comms around margins notice.
- Enhanced monitoring of systems during periods of NTS constraints e.g. Gemini.

Your feedback – our actions

Education needed

- Media familiarisation with processes and tools: messages needed clarity at times.
- Update all process guides/webinars to reflect actions/tools needed during a GDW.
 - DSR
 - IP locational trades.
- Emergency exercise material could be used and adapted for in house training.

Further engagement

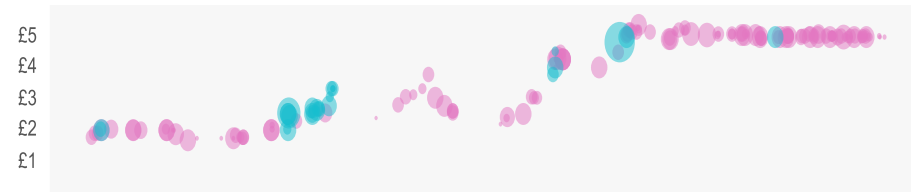
- Potential for more transparency of within day operational data (instantaneous demand/trading prices sub terminal nom data).
- Consider whether GDW name provides the right message.
- DSR usage but links to education needed.
- How further scenarios are being developed and tested for emergencies e.g. no coal or no wind.

1st March - Trading and Supply impact

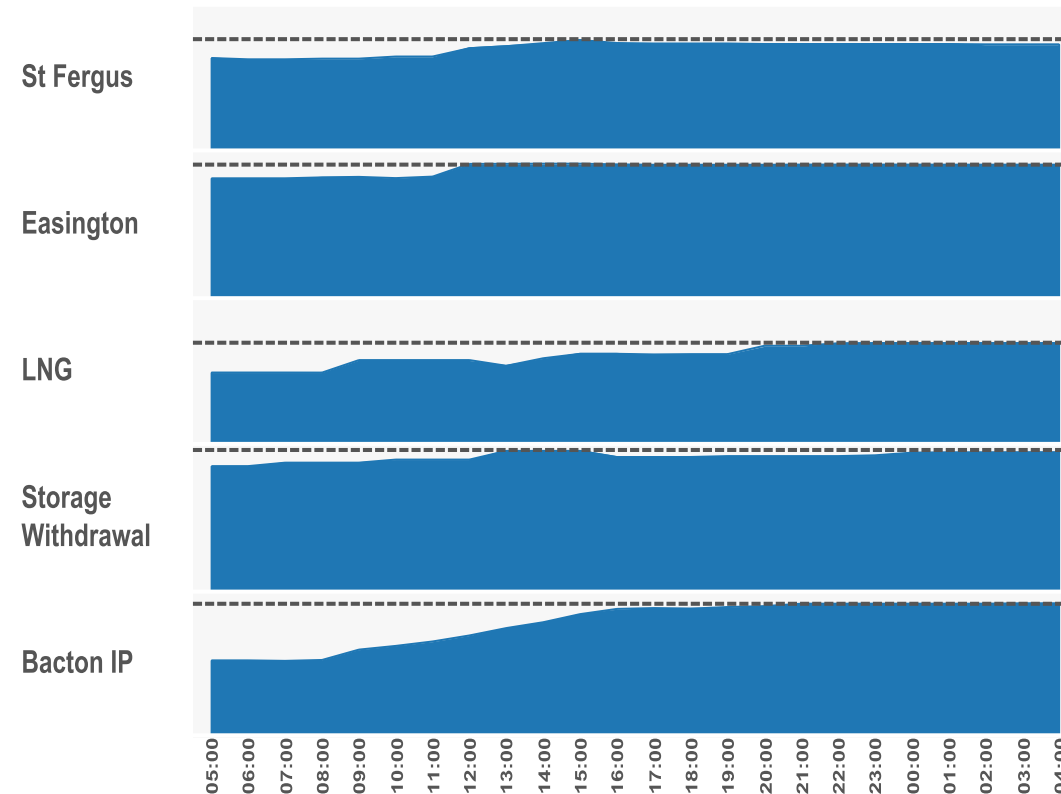
- Multiple trades during the day with market price peaking at around £5p/therm
- Notified supply EOD volume response was varied and potentially driven by:
 - Physical ability of supply returning from fault
 - Reaction to price
 - European trading activity

Trading

■ NG ■ Other Size of circle represents volume of each trade



Notified EOD Supply at each hour



GDW – Off-peak capacity summary 1

On the 1st of March off-peak capacity was scaled back at all locations from 13:00 hrs.

At the March forum we were asked to provide a summary of the off-peak scale back impact.

So why did we scale back off-peak at all locations?

- Demand was significantly outstripping supply, meaning an increased risk of failing to meet our offtake pressure commitments.
 - minimise risk of further demand increases and protect firm rights

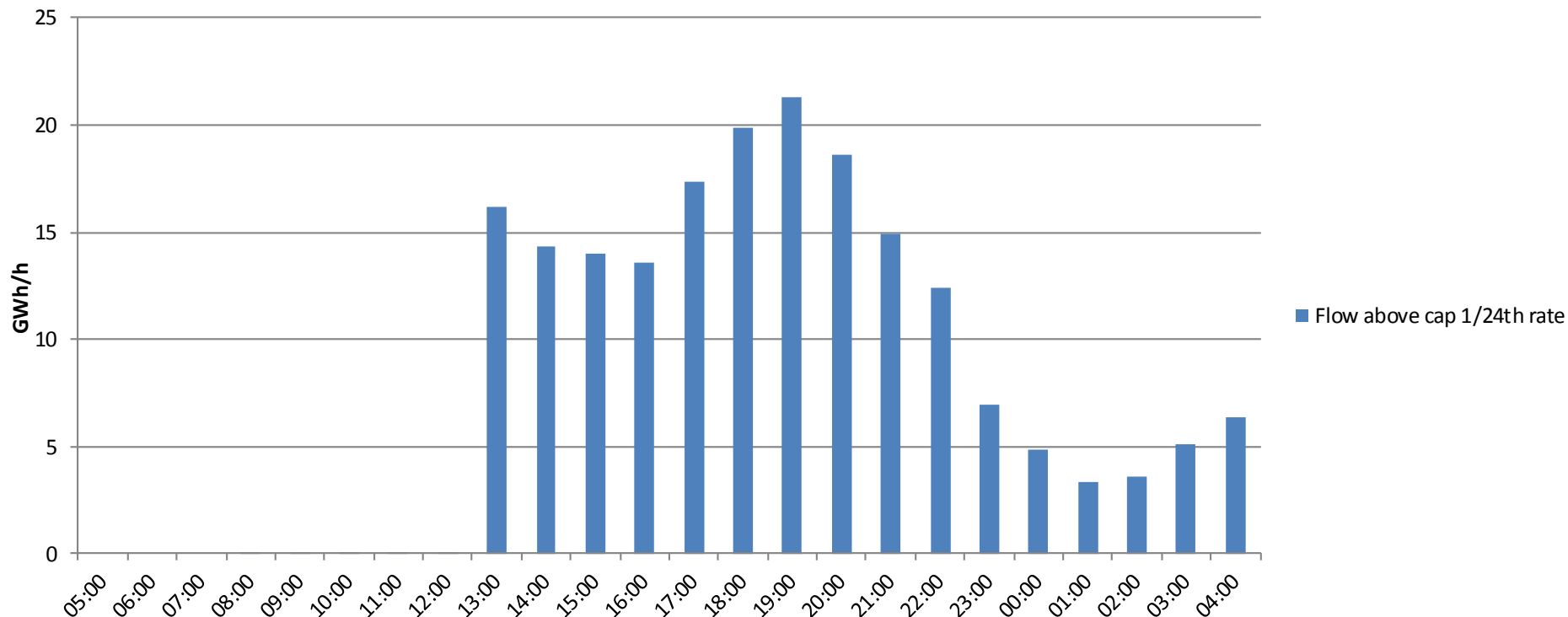
GDW – Off-peak capacity summary 2

1st of March 2018 Capacity facts:

Firm capacity sold	6,256 GWh/d
Off-peak sold	4,262 GWh/d
Total off-peak remaining post scale back	1,421 GWh/d
How many sites who booked off-peak incurred overruns?	none

GDW – Off-peak capacity summary 3

The graph below shows, for sites that booked off-peak capacity on the 1st of March 2018, the amount of flow over and above the 1/24th capacity right both before and post the scale back (effective from 13:00 hrs)



REMIT ARTICLE 4 – FREQUENTLY ASKED QUESTIONS

- An FAQ document has been put together in response to recent feedback and questions.
- Published on our REMIT web page; <https://www.remit.gb.net/>
- We also continuously review our REMIT policy and invite comments for consideration to feed into any future revised versions of the policy.

Please contact Richard.a.jones@nationalgrid.com

MIPI Disaster Recovery testing review

22 February 2018



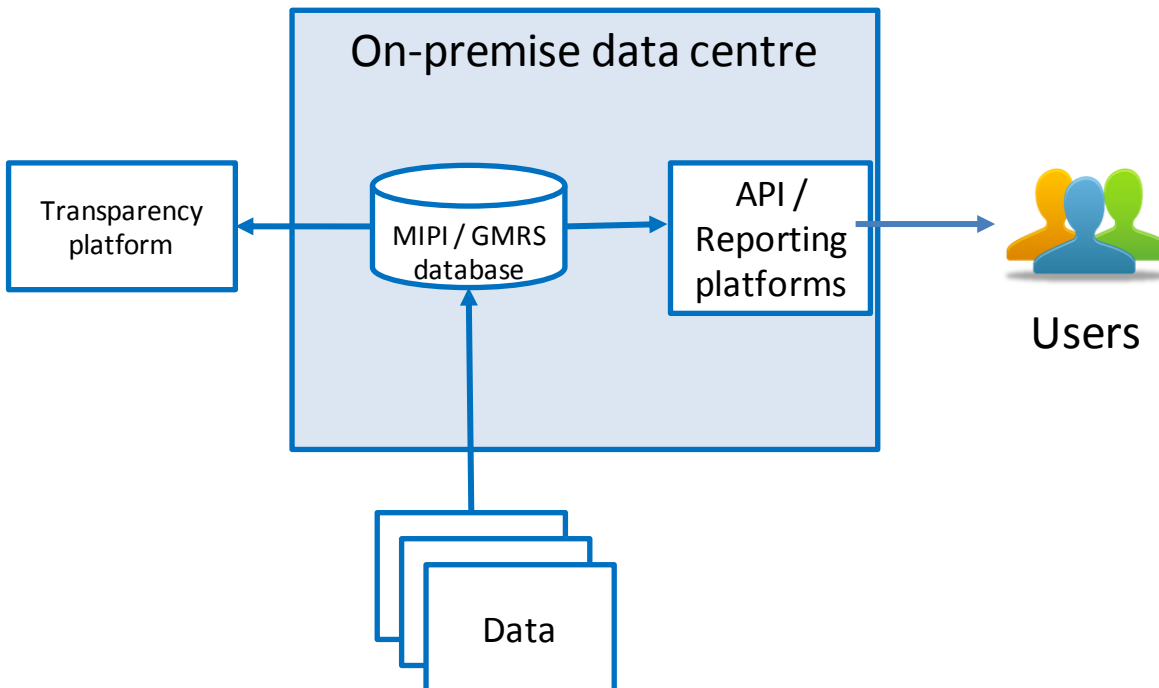
MIPI Infrastructure

Early 2016 pre-phase 1 investment

A number of system components; a number of performance challenges:

1. Asset age
2. High utilisation
3. Customer priority
4. System stability

Legacy architecture in early 2016



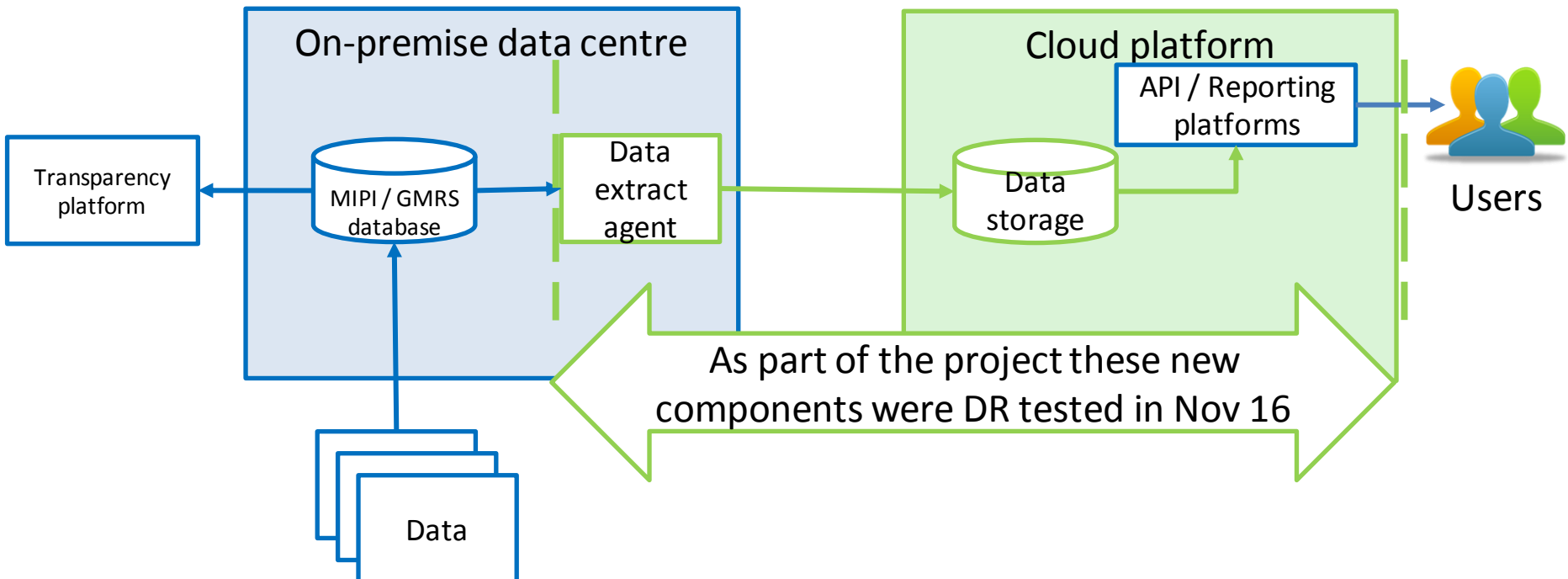
MIPI Infrastructure

Current system post-phase 1 (web-tier) investment

In response to challenges we have:

- Re-designed the architecture
- Prioritised improvement based on customer feedback
- Delivered a scalable, future proof solution

Current architecture (since November 2016)

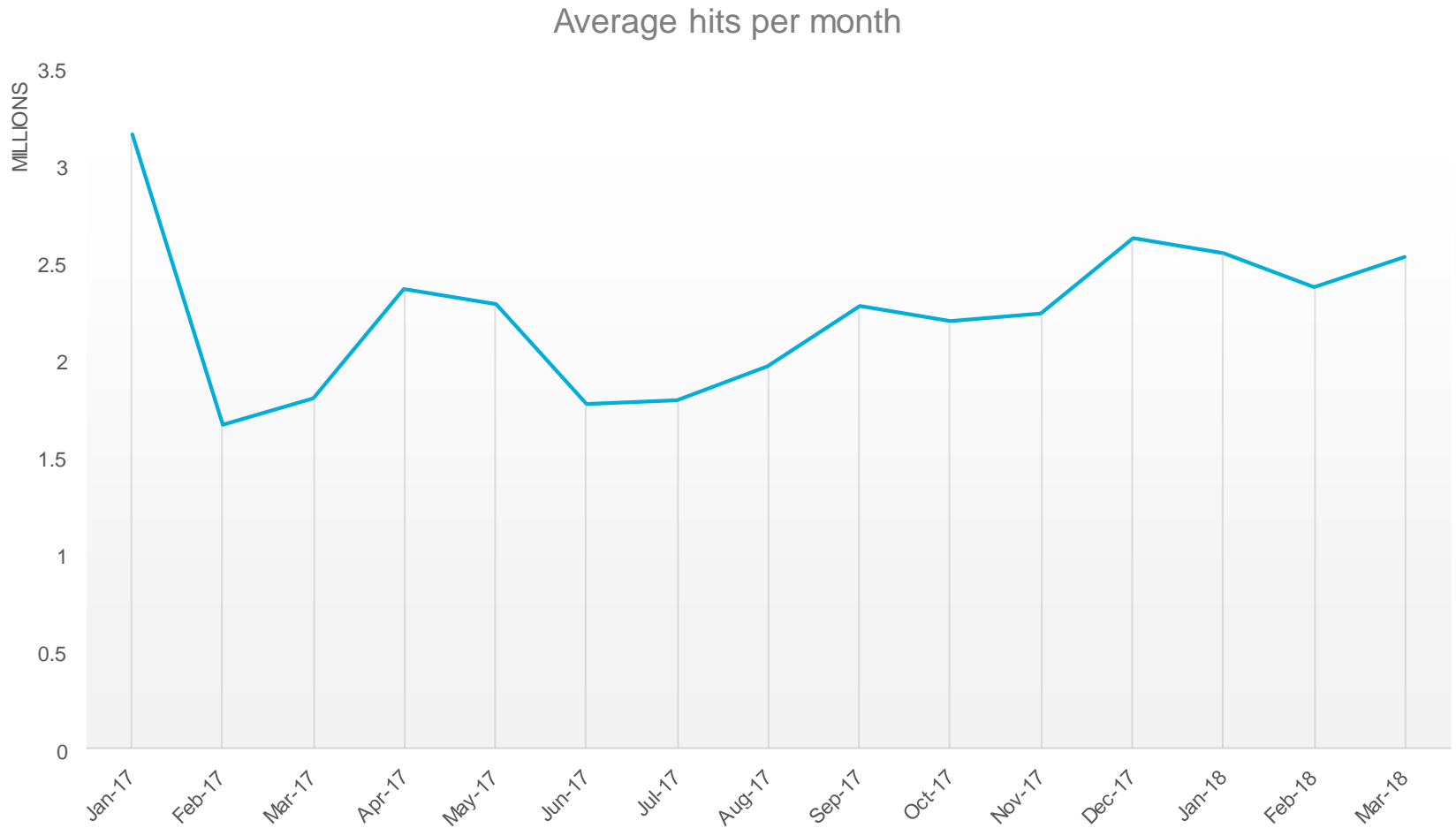


Why we tested when we did

- DR testing must be undertaken on all live IT systems
- Web-tier investment undertook new component DR testing only to mitigate delivery risk
- No optimal time to test based on utilisation and no historical or formal house-keeping window
- For all system outages, including MIPI, there is a Go/No Go decision in the event of prevailing system risks. Initial test due for October postponed 3 times due to conditions; no challenges forecast on 21/22 February therefore 'Go' decision taken

MIPI Usage

No significant reduced usage period to target



What and how we communicated

- What did we said
 - MIPI would experience a data outage between 09:00 on 22 Feb to 10:30 on 23 Feb and hence MIPI web tier would display only the last good data during this time
 - Key hourly data would continue to be published via ANS
- How we informed the industry
 - News items on MIPI
 - Operational Forum in Jan and Feb (material sent to all on mailing list)
 - Specific overview of intended works sent to Operational Forum distribution list on 20/02/18

Review of what happened on the day

- Live data feeds to MIPI returned at c. 12:30, around 2 hours longer than initially communicated
 - Issues with re-establishing URL links to MIPI web tier and PDWS.
- Key hourly data was sent via ANS
 - PCLP/OPLP
 - Forecasted Supply & Demand
 - D-1 and D-2 to D-5 (as outage extended over a day).
- Communicated the delay back to live service via ANS and the news item page

Reflections

Results

- ✓ Proven resilience of DR technical capability.
- ✓ IT teams from both the data and web tier worked well to restore service.
- ✓ Live data was established prior to the agreed service SLA.
- ✓ Historic patching completed earlier than anticipated.

Lessons learnt

- ✓ Improvements required to internal communications process between IS and Operational teams during tests.
- ✓ Requirement to gain greater customer insight on:
 - ✓ Outage engagement strategy improvements
 - ✓ Most appropriate communication channels during and after tests
 - ✓ Data users and the critical data to publish during test windows
 - ✓ Optimum time in year for extended outages > [5 hours]
 - ✓ Optimum time for any outage during the gas day
- ✓ Implement a clear maintenance plan for any upcoming maintenance outages on MIPI and other connected systems.

Break



Gas Operations feedback 2017/18



Customer & Stakeholder Feedback

FORMAL SURVEY STATS...

74

Responded to Survey

10

Survey Categories

260

Invited to Survey



Key messages from all 17/18 feedback

National Grid's management of the Xoserve service.

I would like a key point of contact/relationship manager.

Query response time is too slow.

I would like you to have greater understanding of my business model

I would more within day operational data to help me run my business

Top 5 focus areas

Progress to date and next steps

1. Query Management

- Query Contact List published
- Query Surgery at every operational forum
- Subject Matter experts present at operational forum
- Aim to agree and communicate a Gas Operational Query SLA by September 2018.

2. Key Relationship Manager

- Operational relationships – confirmed ownership and escalation as required to Karen Thompson and her team

Top 5 focus areas

Progress to date and next steps

3. Xoserve Service

- Quarterly focus to gain update on Gemini Service Desk improvements
- Xoserve present regularly at operational forum

4. Greater understanding of my business model

- Target insight gathering as RIIO 2 engagement gathers pace

5. More Operational Data

- Published new data - Linepack swing.
- Full scope to be defined (what, how, why) during initial RIIO 2 engagement through June 2018

UNC Modifications

Live UNC Modifications

- UNC 0621 seeks to implement a new NTS Charging Methodology for use of the NTS
 - Workgroup is scheduled to conclude by 10th May 2018 to be followed by a formal UNC consultation process
 - Nine alternative solutions to Mod 0621 have been raised to date (0621A, 0621B, 0621C, 0621D, 0621E, 0621F, 0621G, 0621H and 0621J)
 - New arrangements proposed to be in place for gas year Oct 2019 onwards
- Modification 0636, 0636A, 0636B, 0636C and 0636D propose to update the parameters for the NTS optional commodity charge

UNC Modifications issued for consultation

- Modification 0645S proposes to increase the oxygen content in the Network Entry Agreement at South Hook LNG from 10ppm to 200ppm. Close out date 27th April 2018
- Modification 0648S seeks to remove the obligations on Xoserve related to the DM read estimation process brought in by Mod 0634. Close out date 27th April 2018

UNC Modifications awaiting an Ofgem Decision

- Modification 0619, 0619A and 0619B seeks to reduce the ratchet charges for class 1 and 2 sites
- All of the Unidentified Gas Modifications 0642, 0642A and 0643 are awaiting an Ofgem decision. The mods propose to change the way UIG is calculated

Constraint Management/Energy Balancing Game

Cara Finn & Abby Hayles

Scenario

This scenario is purely fictitious and does not represent any particular day.

The situations experienced within the scenario are typical of those faced by the GNCC. The specifics have been taken from various days and therefore do not act as a factual depiction or a declaration of what GNCC would do in a given situation.

The scenario is built up only with information available to the Shipper community. Information sources used vary from obligated to best endeavours. This information is intended to assist in building any overall picture and is not intended as the basis for trading strategies.

This is an interactive scenario – please join in!

Scenario

You will be presented with a start of day position facing the GNCC and see how it evolves as the day progresses.

The aim of this scenario

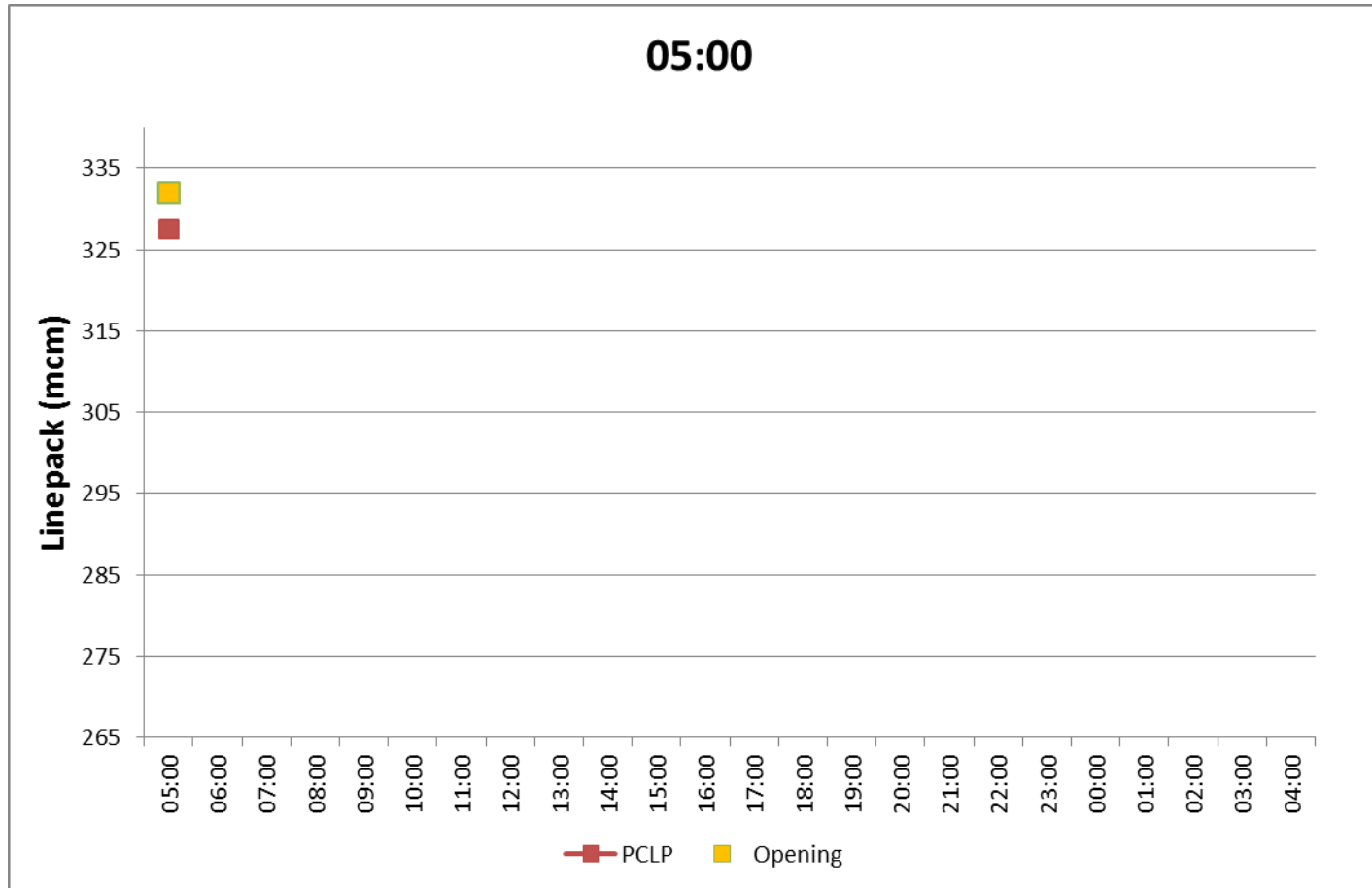
- Demonstrate the tension in EOD regime Vs effective linepack management
- Represent system risk profiles
- Increase understanding of GNCC actions

Your Role:

- Imagine you are the GNCC
- Interpret the situation as it unfolds
- Identify information sources you'd like Shippers to refer to
- Select the commercial tools if action is required

This is an interactive scenario – please join in!

Scenario

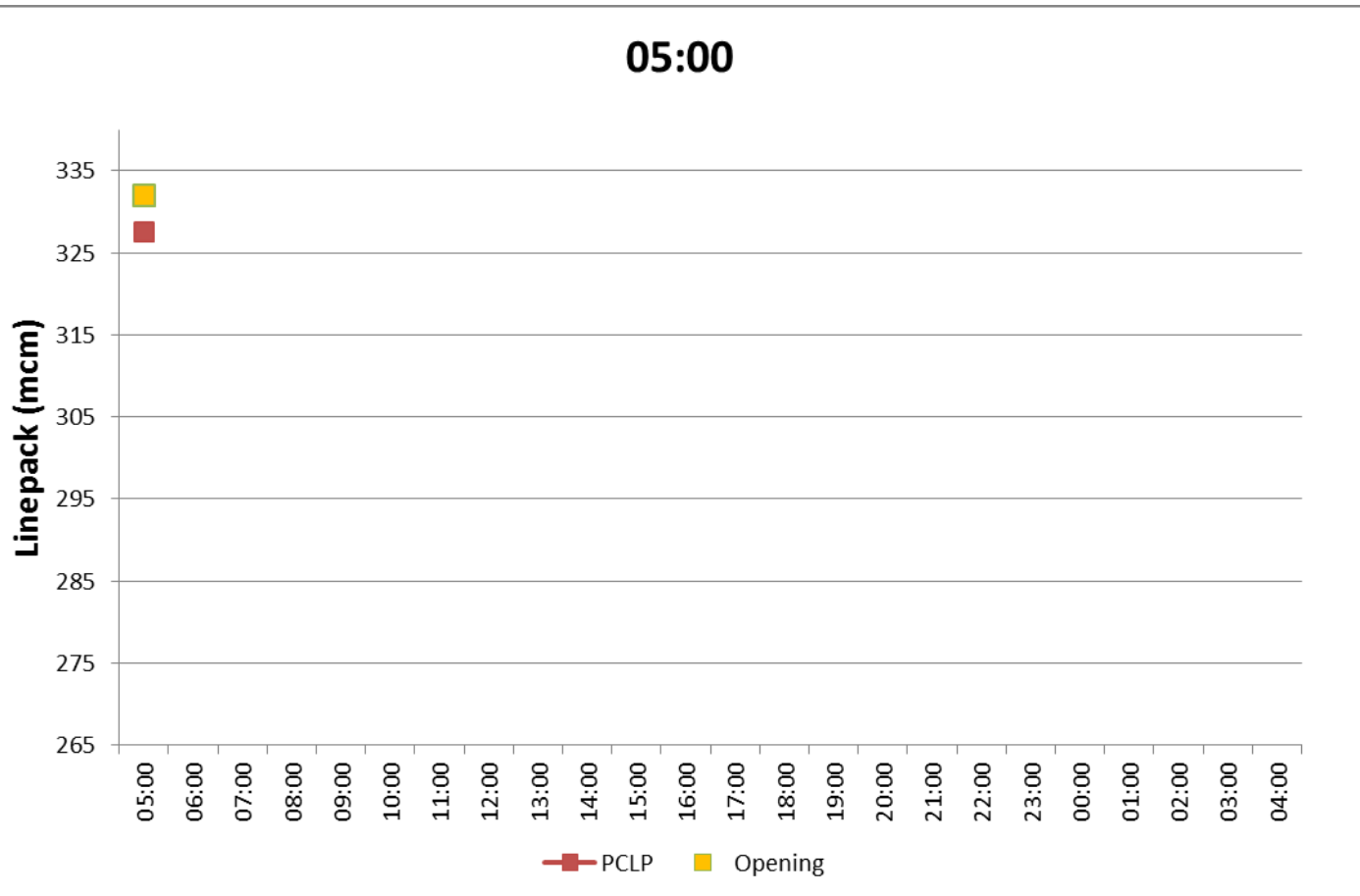


Its 5am on a an unseasonably chilly Tuesday morning.

This position faces the GNCC control room.

What should the GNCC do – Trade or No Trade?

Scenario



Data Feed:

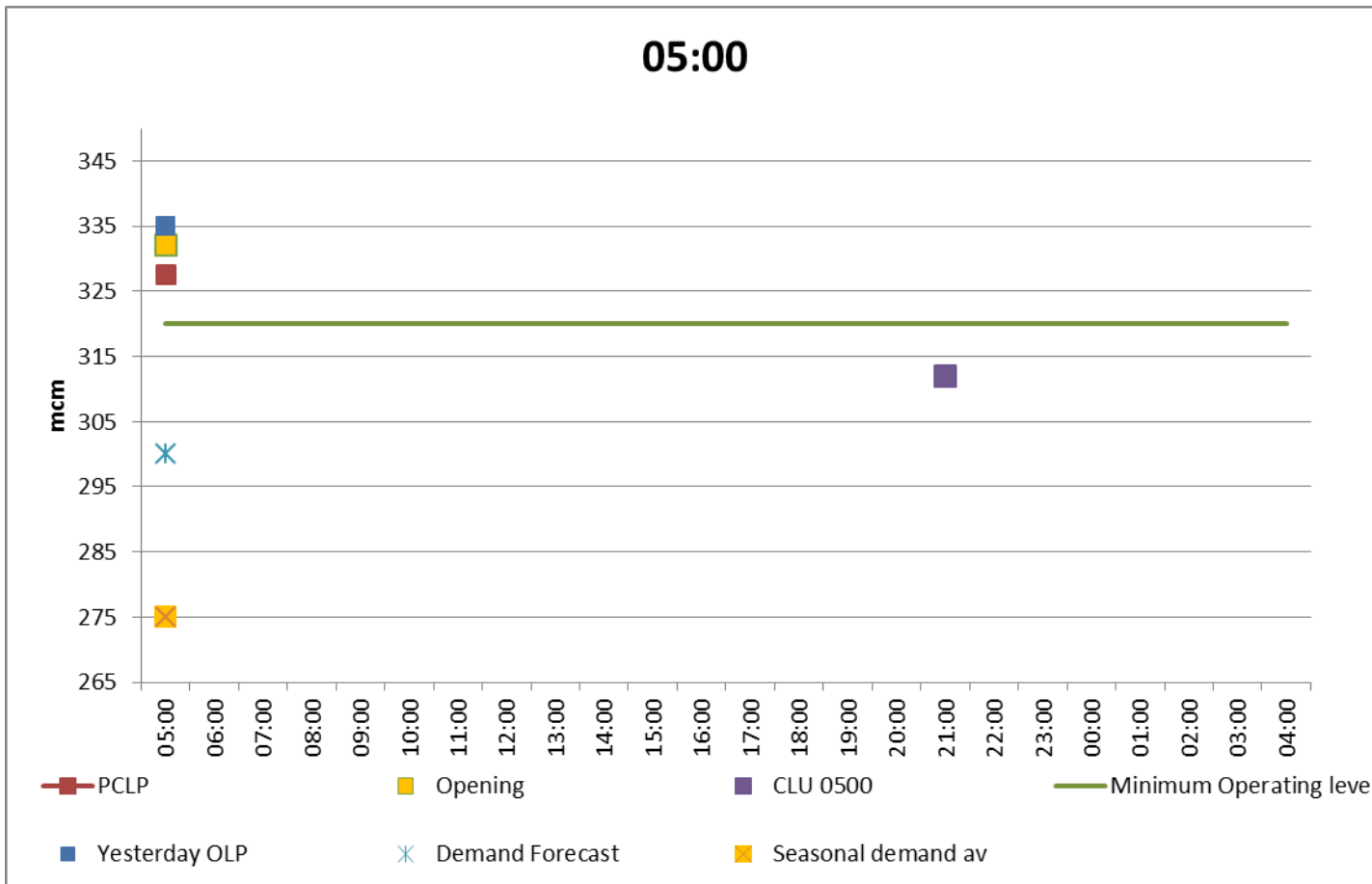
Data Feed:

Data Feed:

Scenario

<https://www.youtube.com/watch?v=sOvADTKX0rE>

Scenario



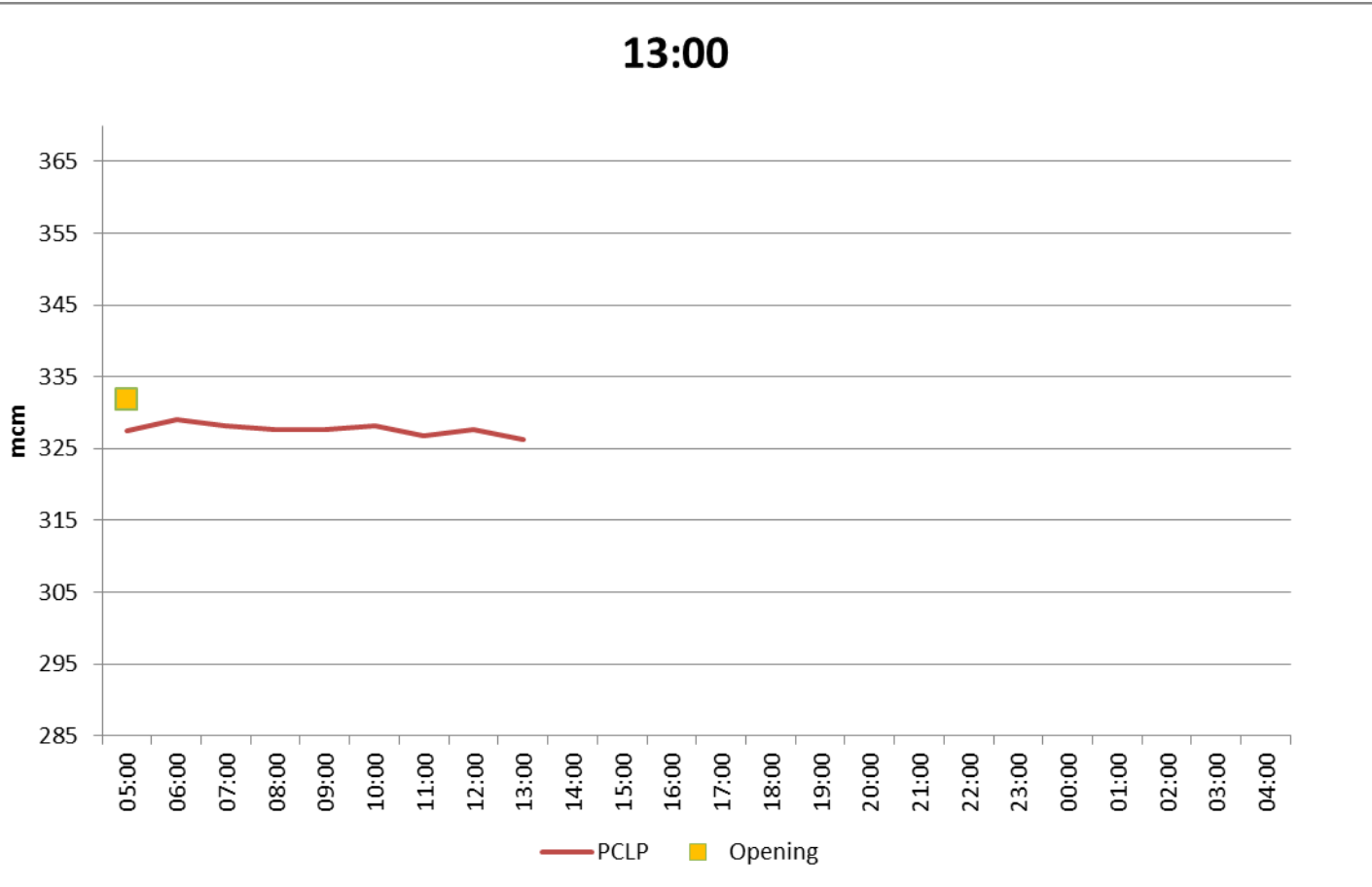
Data Feed:
Yesterday OLP Vs Today OLP

Data Feed:
Calculated Linepack Utilisation 05:00

Data Feed:
Demand Forecast Vs Seasonal Average

What should the GNCC do – Trade or No Trade?

Scenario



Data Feed:

Data Feed:

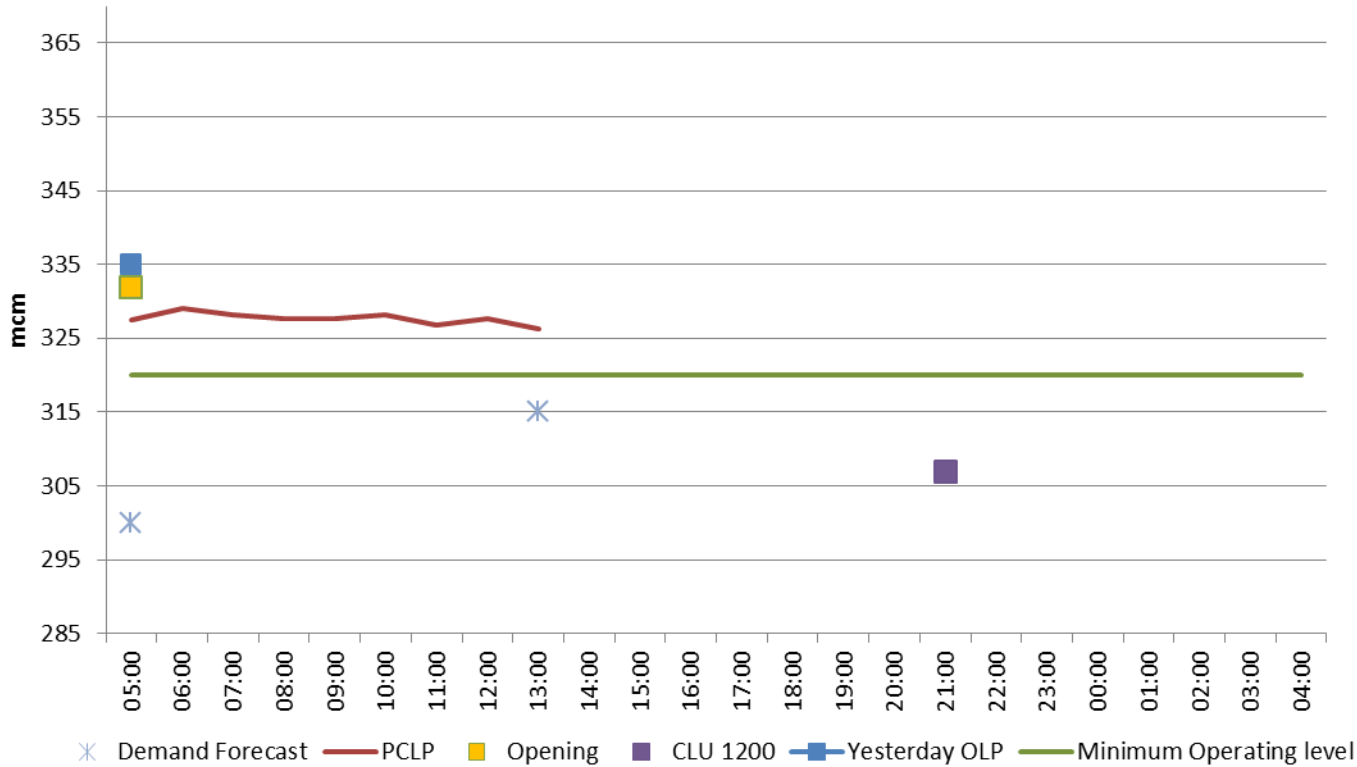
Data Feed:

Scenario

<https://www.youtube.com/watch?v=sOvADTKX0rE>

Scenario

13:00



Data Feed:
Calculated
Linepack
Utilisation 12:00

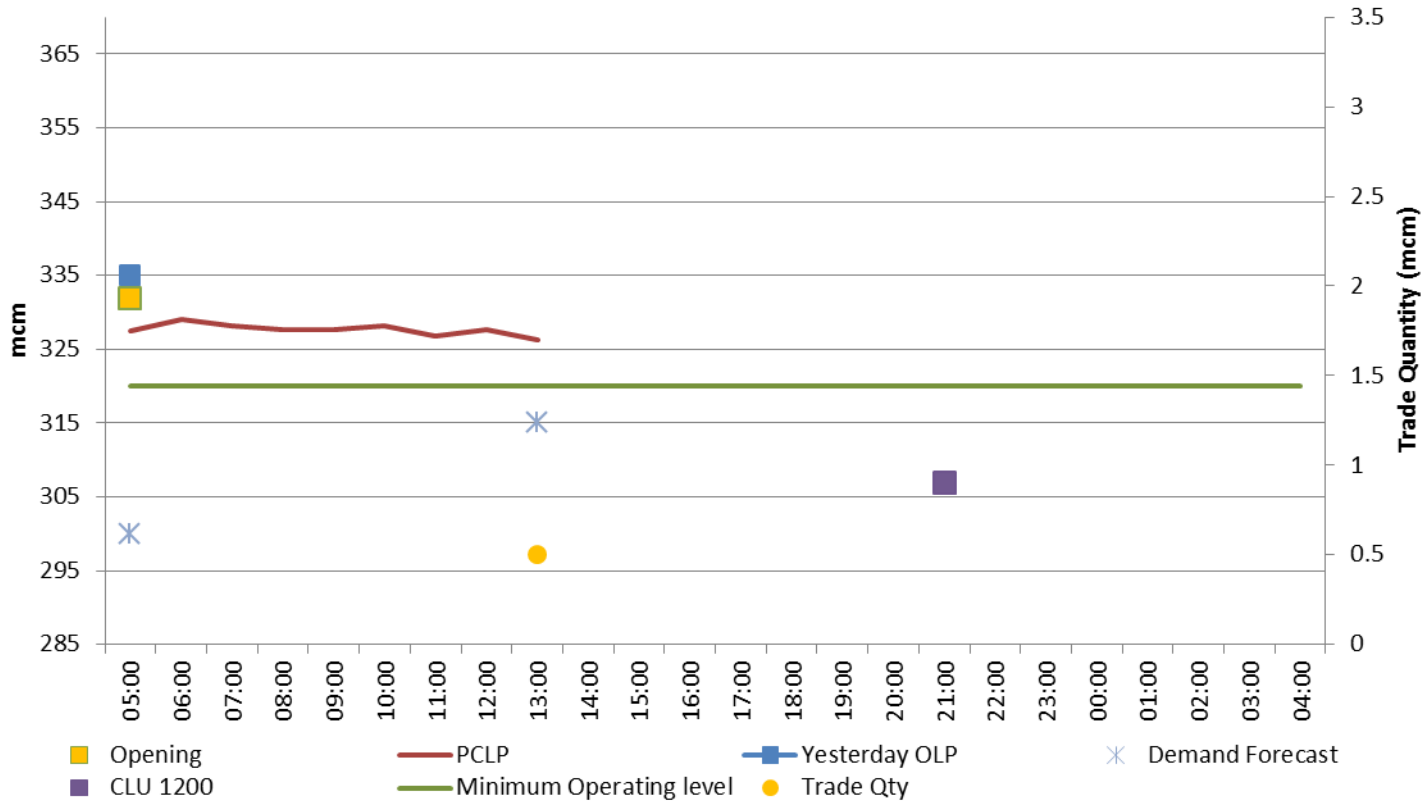
Data Feed:
D-1 demand

Data Feed:
Supply &
Demand EOD
position

What should GNCC do – Trade or No Trade?

Scenario

13:00

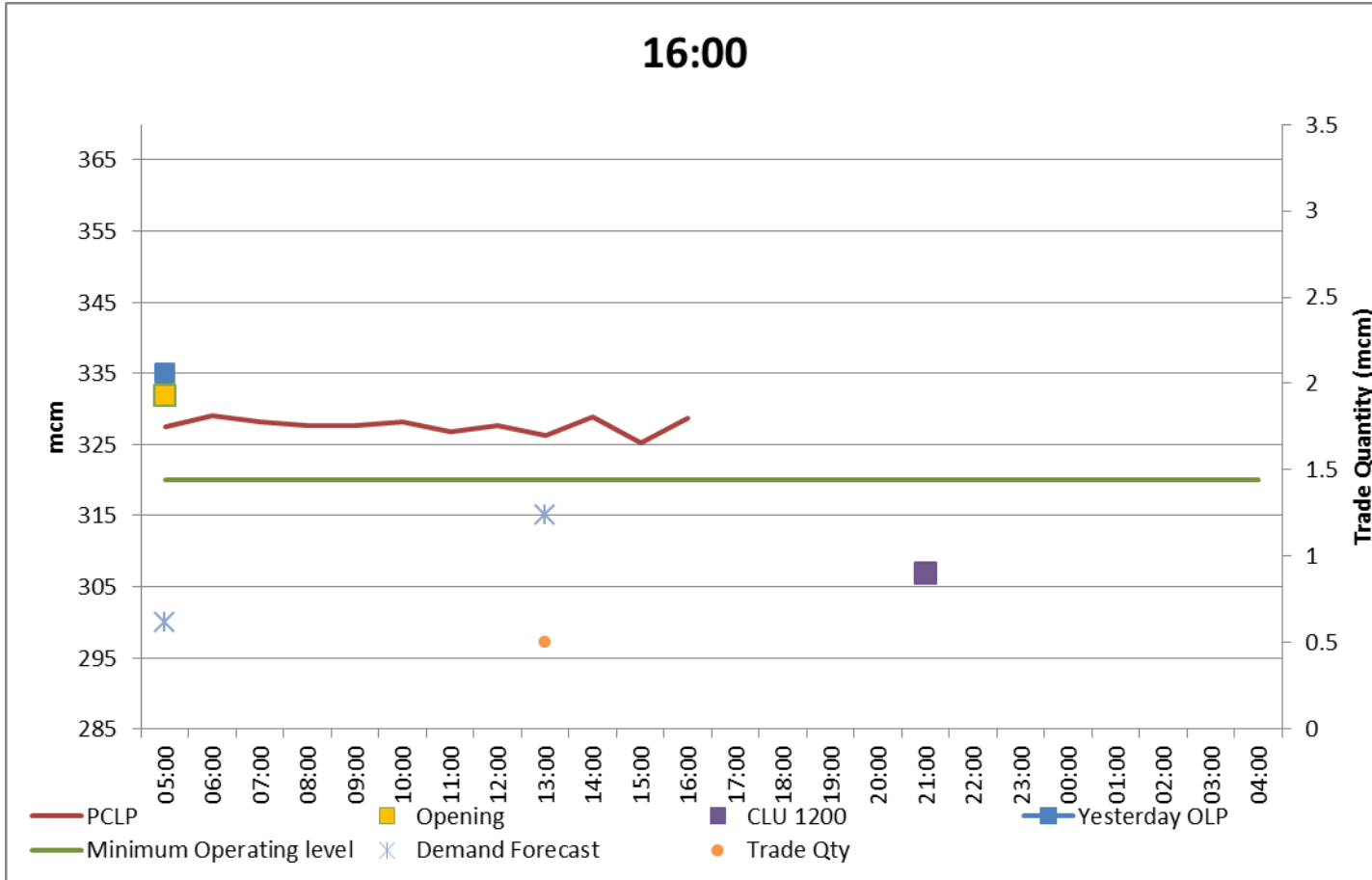


Data Feed:
Calculated
Linepack
Utilisation 12:00

Data Feed:
D-1 demand

Data Feed:
Supply &
Demand EOD
position

Scenario



Data Feed:

Data Feed:

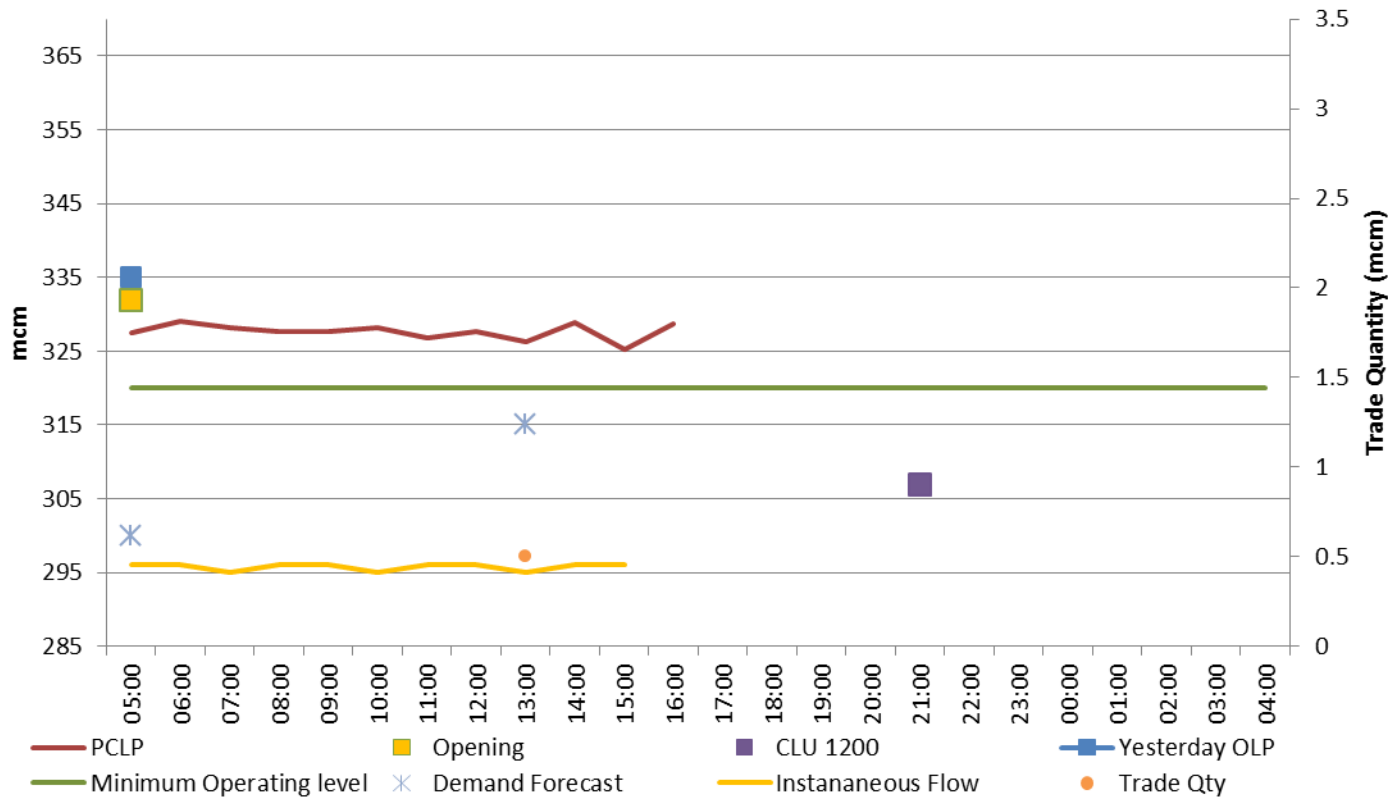
Data Feed:

Scenario

<https://www.youtube.com/watch?v=sOvADTKX0rE>

Scenario

16:00



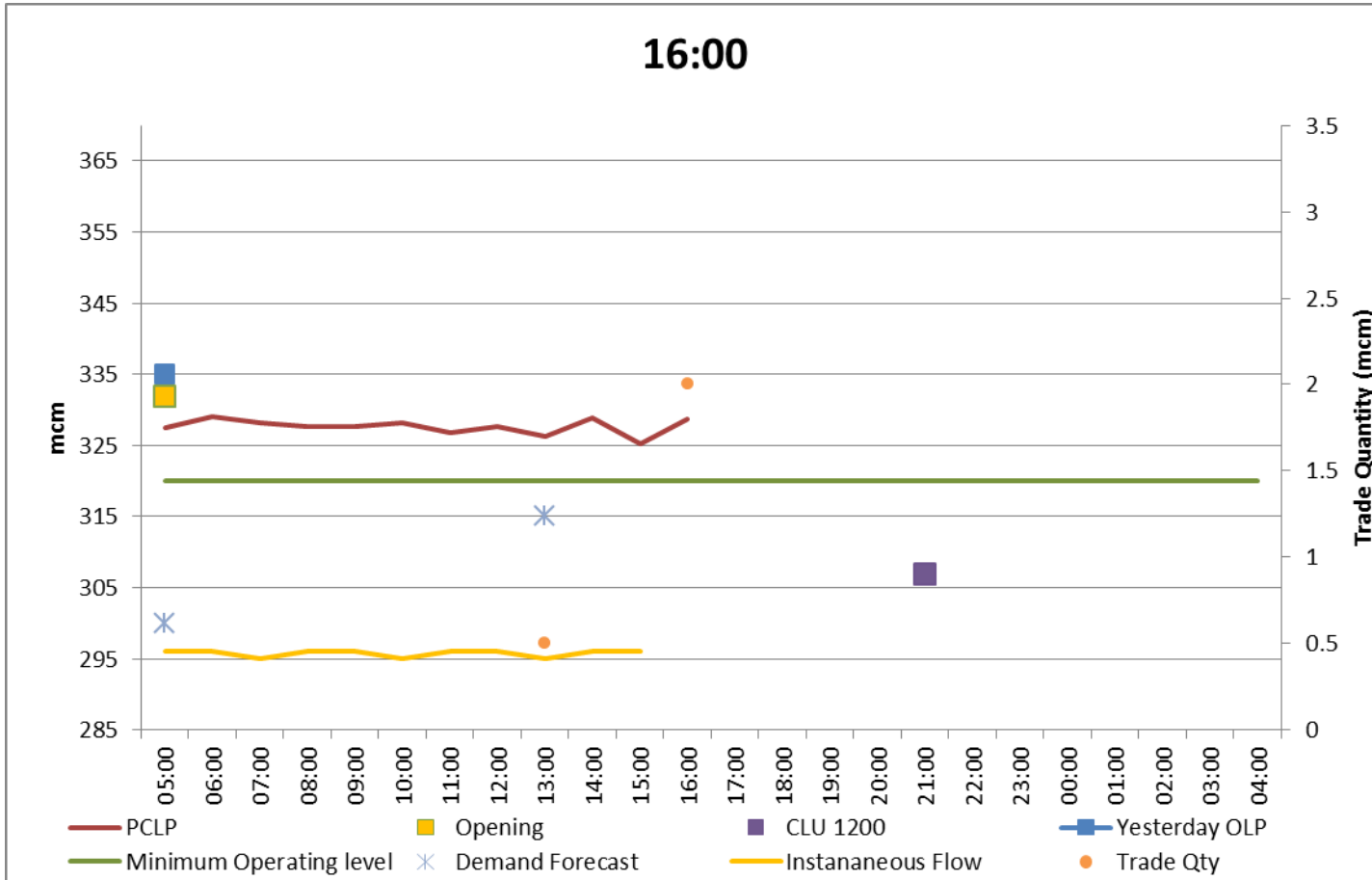
Data Feed:
Margins Notice

Data Feed:
Instantaneous
flow data

Data Feed:
D-1 & D2-D5
forecast 14:00

What should GNCC do – Trade or No Trade?

Scenario

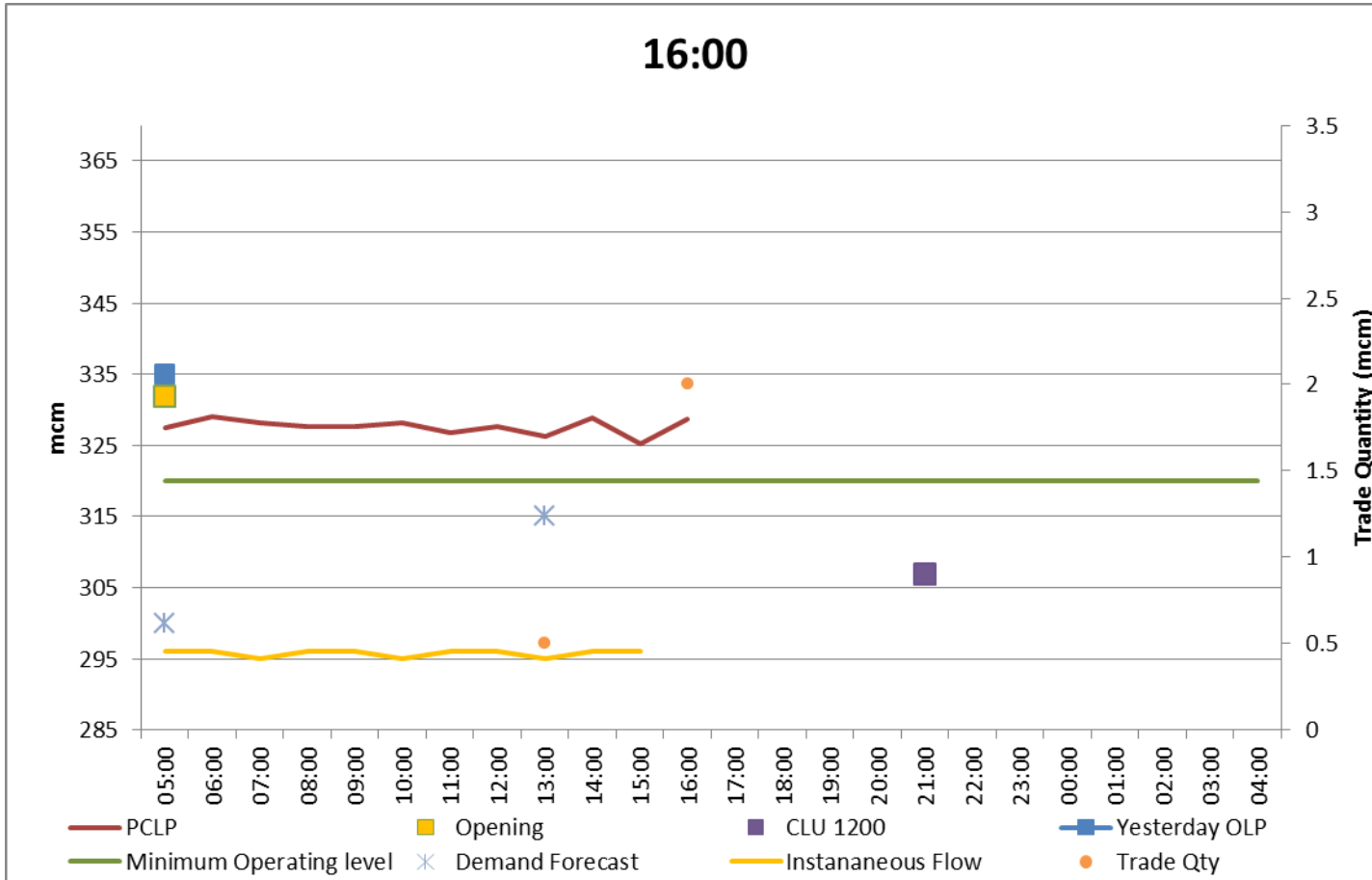


Trade again

GNCC are managing to maintain the system.

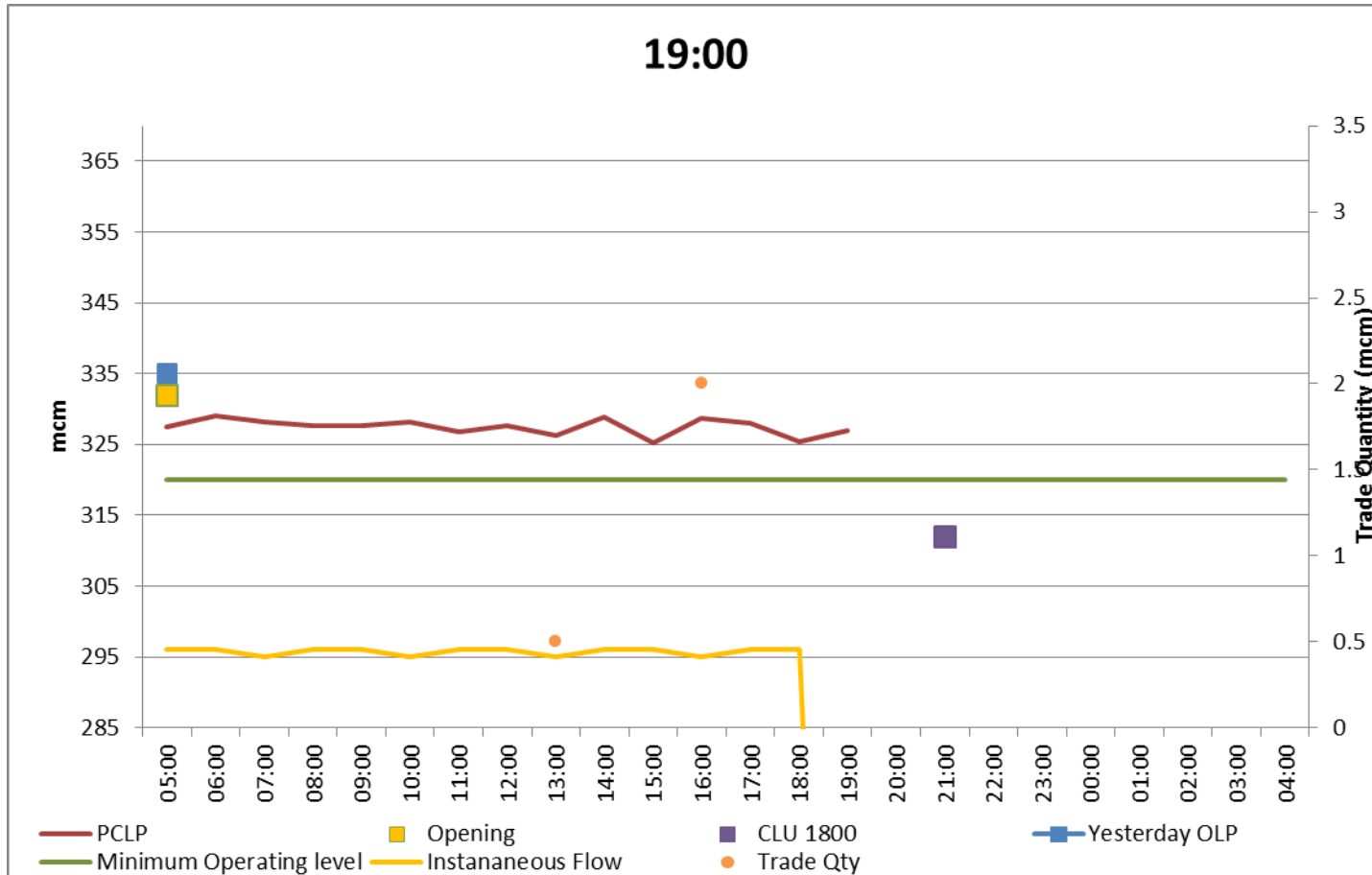
Eroded all system resilience

Scenario



It has been identified that National Grid may not be able to meet the 22:00 hrs pressures for the DNs in the south of the network.

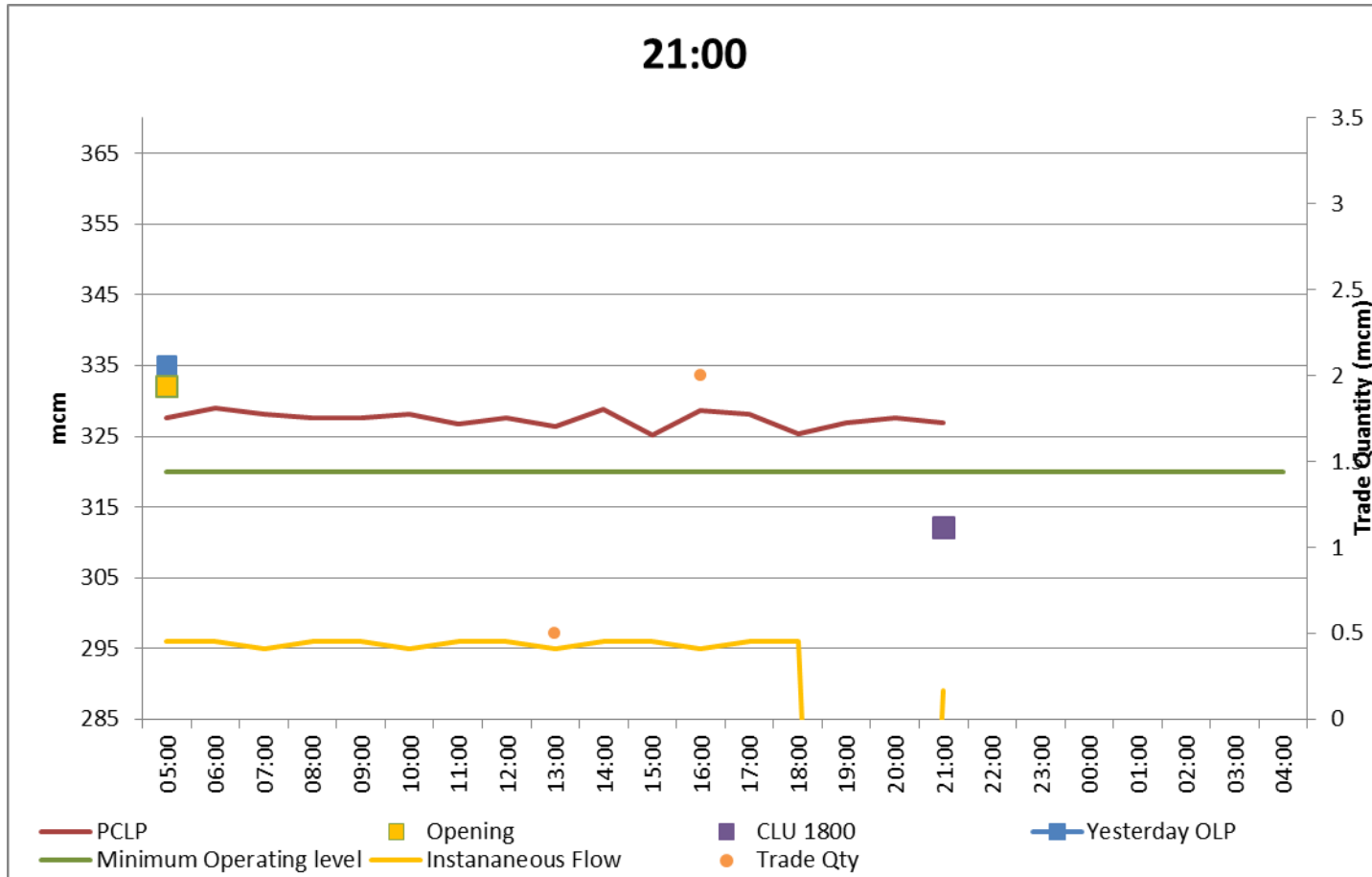
Scenario



There is a temporary loss of flows from the Interconnector.

There is a requirement to bring more onto the network to meet exit demand levels around the South of the network.

Scenario



Interconnector is back on.

22:00 hrs pressures can be met

System still carrying a high level of risk.

What should GNCC do – Trade or No Trade?

Gemini Contingency Exercise - Starburst

Gemini Contingency Exercise - Starburst

Date: 7th June 2018

Scope:

Energy Balancing

GE01 – Manage Gas Flow and Energy Trade Nominations UK and EU

GE01 - Manage Gas Flow and Energy Trade Nominations (Enhanced Operations) UK & EU

NTS Entry Capacity

GC04 - Manage Short Term Auctions (Firm and Interruptible) GB and EU.

GC06 - Manage Capacity Trades GB and EU

NTS Exit Capacity

GC10 Manage Short Term NTS Exit Capacity Auctions GB and EU

GC06 - Manage Capacity Trades GB and EU

Contacts: mike.wassell@nationalgrid.com, helen.field@xoserve.com

Please make time to participate so that we so that we can collectively test our contingency processes

Upcoming Agenda Items 2018

June Forum

- CLoCC.
- Shrinkage.
- Gemini re-platforming.
- Information provision – how and what do you require to run your business effectively.

Should you wish to raise a topic for discussion please email:
Box.OperationalLiaison@nationalgrid.com

Please note 29 June forum is at Warwick!

Thank You

nationalgrid

121 Query Surgery

