

**Gas System
Operator**

Gas Operational Forum

London Radisson Grafton
27th September 2018

nationalgrid



Agenda

01	Previous Operational Forum Actions and Feedback since last forum	09:30
02	Operational Overview	09:45

Customer Requested Topics

03	ICE Index Update	10:15
04	Shaping the Future of the Gas Transmission Network / Information Provision Update	11:00
05	Pressure Forecasts	11:15
06	Webinars	11:25
07	Pre-Emergency Commercial Tools	11:30
08	Xoserve Update	11:45
09	Industry Queries	12:00
10	UNC Modifications Overview	12:10

Topics of Interest

11	Gas Regulatory Change Programme Update	12:20
12	Operational Data (MIPI) service overview	12:30
13	Signposting of additional information followed by Query Surgery	12:40

Breaks:

Morning Break

10:40 – 11:00 (after ICE Index Update)

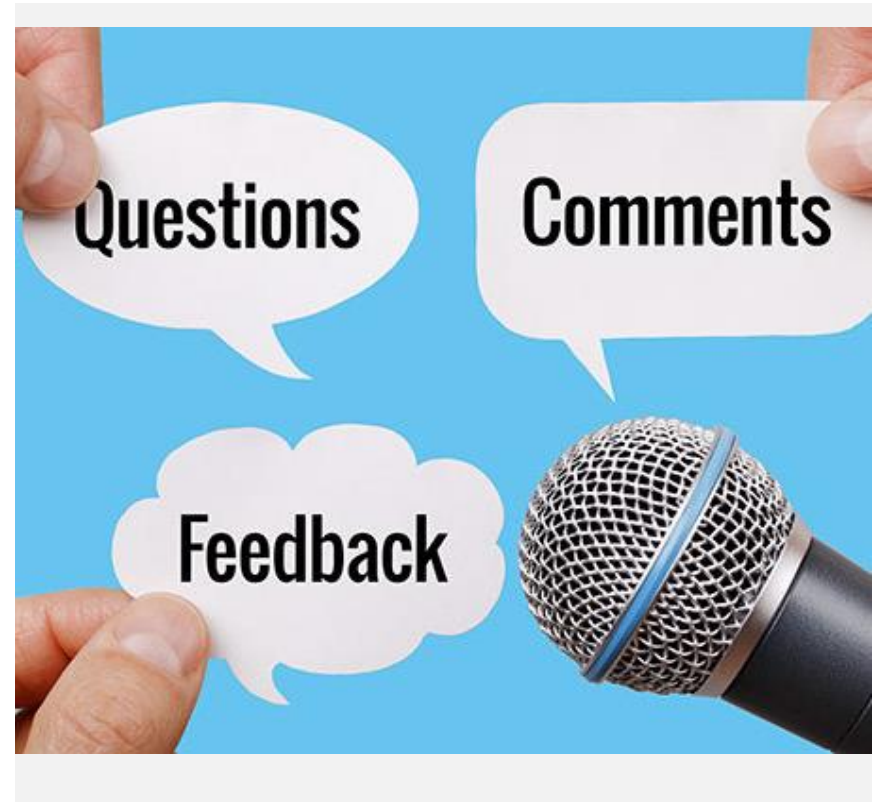
Lunch Break & Query Surgery

12:45 onwards

Feedback & Questions

For any questions during the forum you can:

- Ask during the presentations
- Use post it notes and place on 'question car park'
- Speak to an NG representative during the break
- Utilise the Query Surgery time at the end of the Forum



01

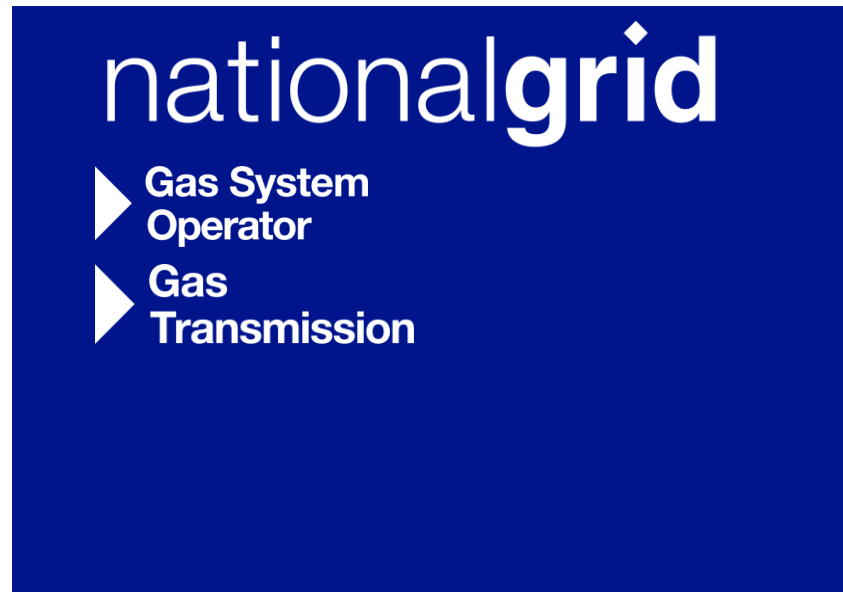
Previous Actions and Feedback since last Forum

September 2018



Refreshed Branding

- There is a new look/branding across the company so customers and stakeholders can understand which part of the business they are interacting with.
- Specifically important for the National Grid Electricity part of the business - in preparation for legal separation of the Electricity System Operator and Electricity Transmission.
- National Grid will remain integrated as a System Operator with close alignment retained between the Gas System Operator and Gas Transmission functions.



National Grid and Xoserve Attendees



Physical Operations

- Karen Thompson
- Jon Davies
- Martin Cahill

Commercial Operations

- Cara Finn

National Control

- Harj Kandola



Customer & Stakeholder Relations

- Dave Turpin
- Helen Field

Previous Actions

Item	Action	Detail
Information Provision Priority	National Grid to summarise feedback to date and next steps.	Covered within agenda item.
Operation Starburst	Advise attendees when findings from Starburst are available (National Grid and Xoserve)	Available on Xoserve website
UIG	Consider what enduring % of UIG should look like (Xoserve)	This will be an output of the Task Force Work.
Agenda Items	Attendees to request any agenda items or interesting days for future Operational Forums	Pre-Emergency Tools agenda item added to September Ops Forum and ICE INDEX in attendance.

Feedback Since Last Forum

Feedback	Description	Actions
Simplification Of Topics	Operational Forum topics can sometimes be too technical	Presenters asked to provide additional context to slides Glossary provided along with slide pack for any Acronyms used
Technical Content	Technical Content in Operational Forum is important to a lot of customers & stakeholders	Technical Content will still be included in Forums, with additional context where possible as above
Webinars	Various feedback provided around interesting topics for winter webinars	Webinars now published on website
Operational Data	Range of feedback provided on Operational Data	All feedback has been considered as part of Information Provision proposals paper or T2 scope.

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02

Operational Overview

June - August

nationalgrid



Operational Overview

This provides an overview of General Operations, including **Supply & Demand**, and any recent interesting days. It is a **regulatory obligation** to provide this information, and is therefore included in every Operational Forum.

At the Forum we will cover key points only. You can find a more in depth Operational Overview on the Operational Forum website:

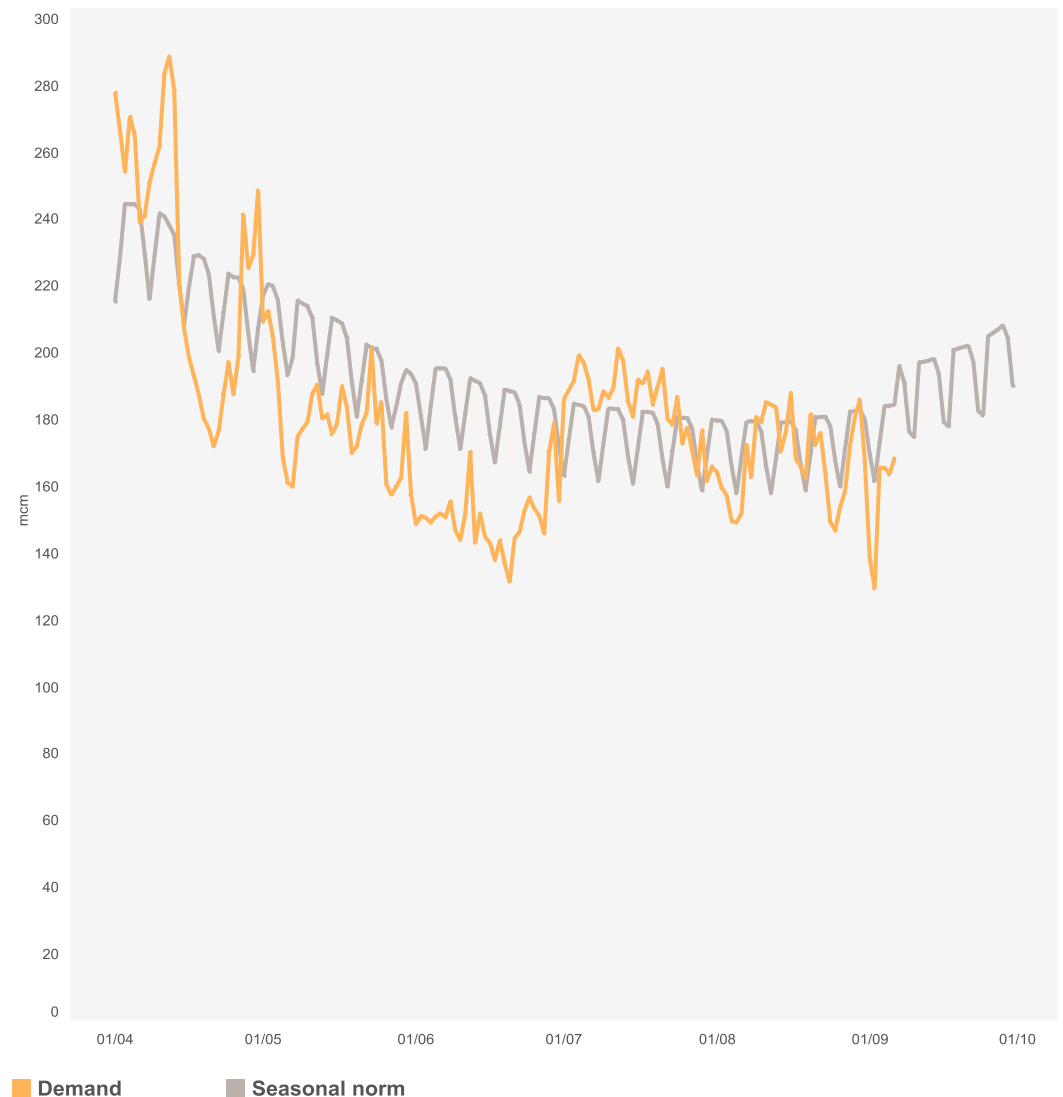
<https://www.nationalgridgas.com/data-and-operations/operational-forum>

(Supply and Demand Detailed Pack)

NTS Demand

Following some periods of volatility in the first half of the Summer, **NTS demand has now returned to expected levels.**

NTS Demand versus seasonal norm

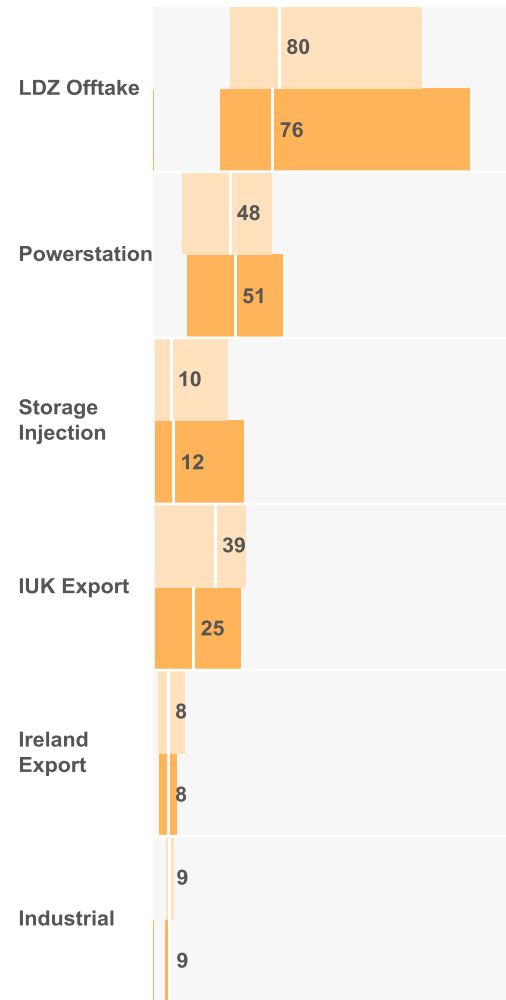


Components of NTS Demand

After the volatility at the start of Summer, LDZ demand has now returned to the same levels as last year.

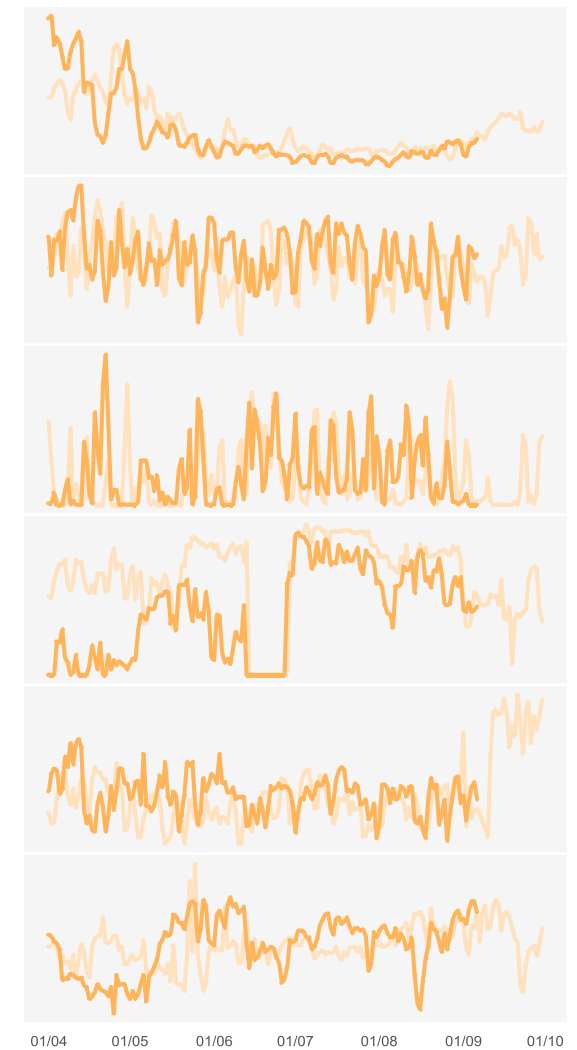
IUK exports have been lower than last year, particularly during the first half of Summer.

Average daily volume and range (mcm)



2017 2018

Trend versus previous year

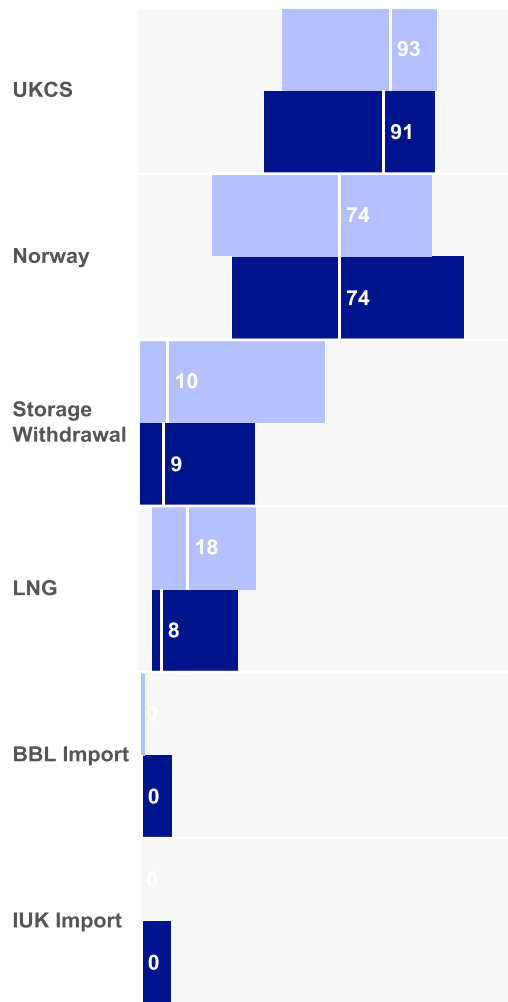


Components of NTS Supply

Aside from some brief fluctuations, **levels of supply from UKCS and Norway have been as expected.**

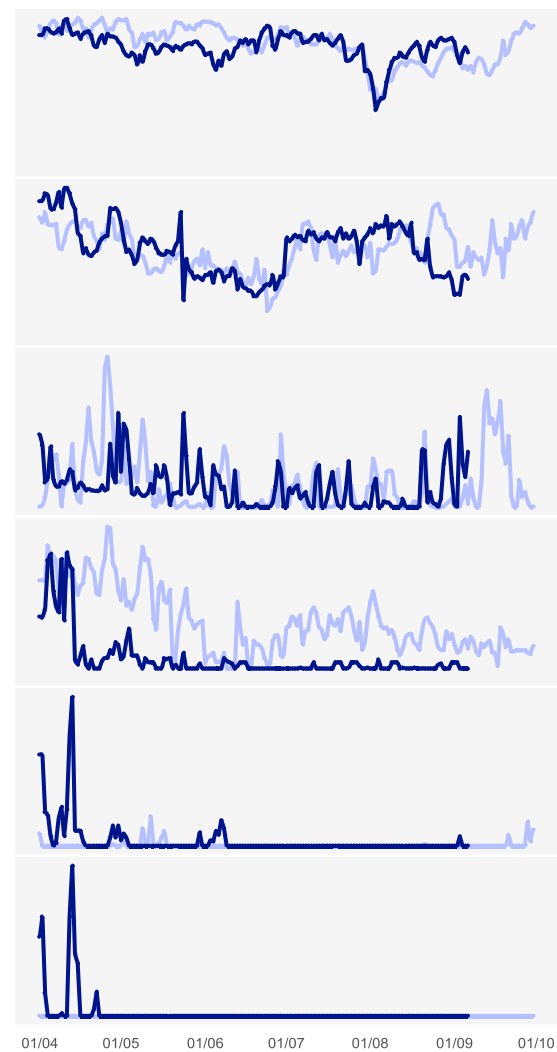
Apart from a brief period at the start of Summer, **LNG supplies have been significantly lower than last year.**

Average daily volume and range (mcm)



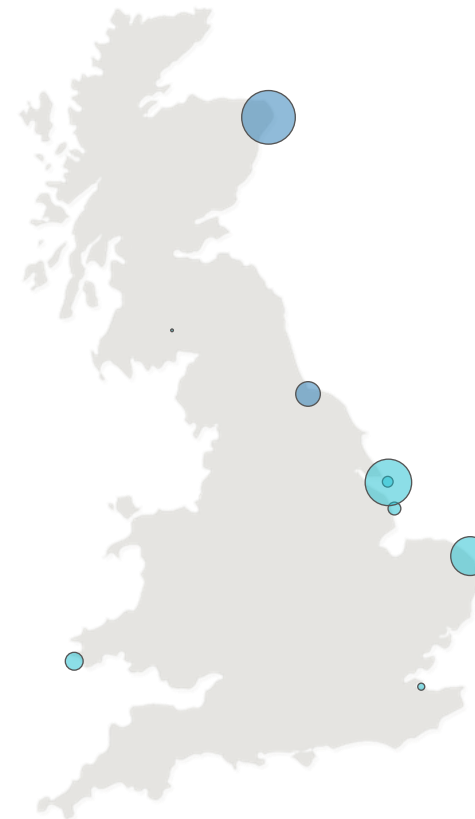
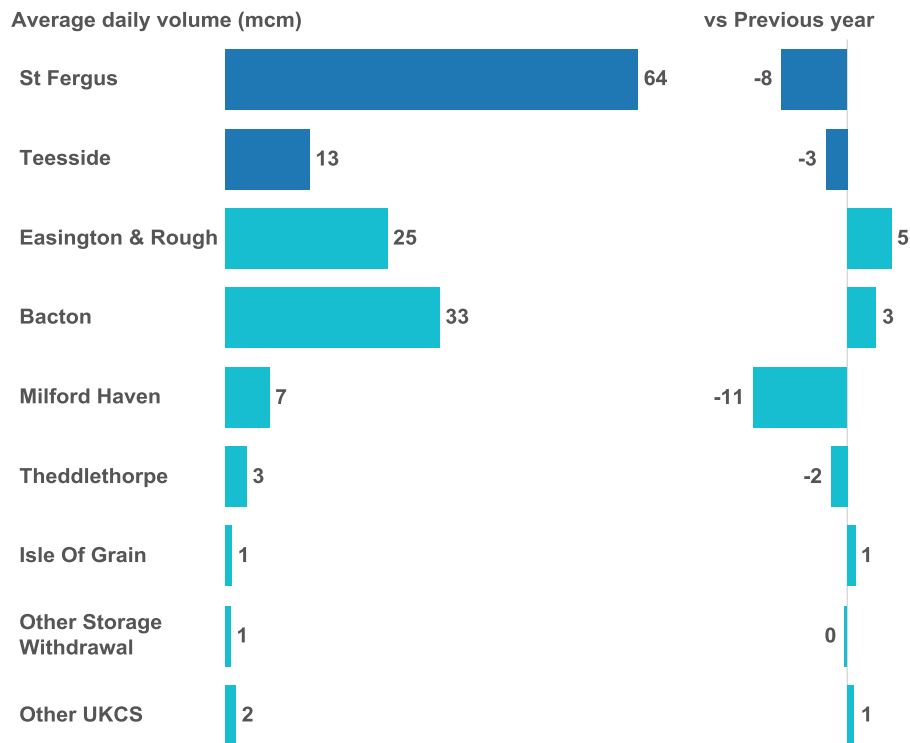
■ 2017 ■ 2018

Trend versus previous year

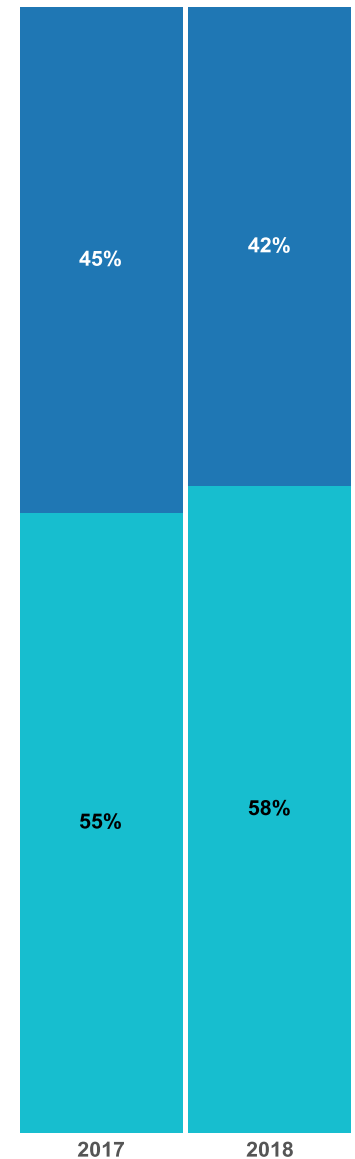


Location of NTS Supply

Proportionally, there has been **less gas supplied to the NTS in the North**, when compared to last Summer.



■ North of Easington
■ Easington and South of Easington

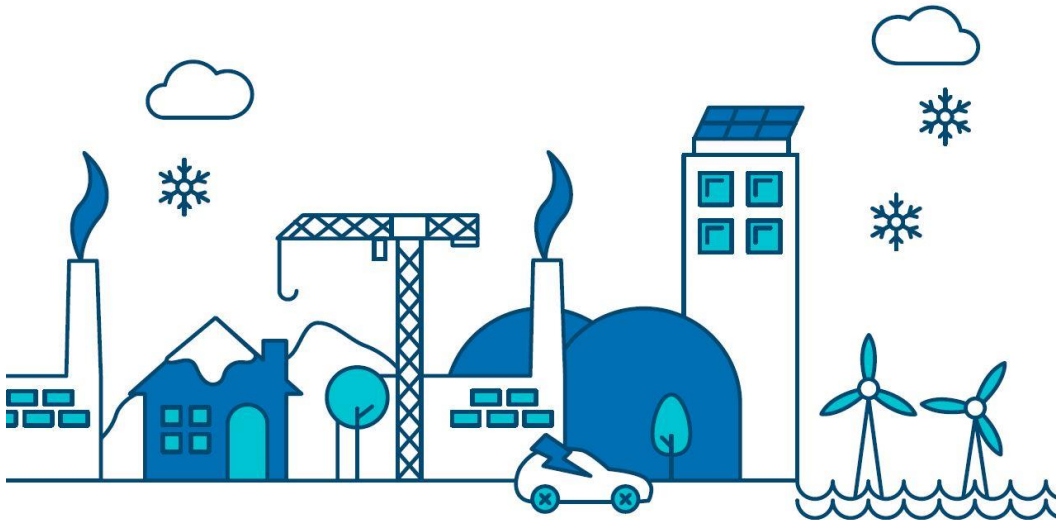


Winter Outlook

Winter Outlook 2018/19 will be published on the National Grid website in mid October

This report draws together our analysis of the supply and demand of both gas and electricity for the upcoming winter based on industry feedback.

<https://www.nationalgridgas.com/insight-and-innovation/winter-outlook>





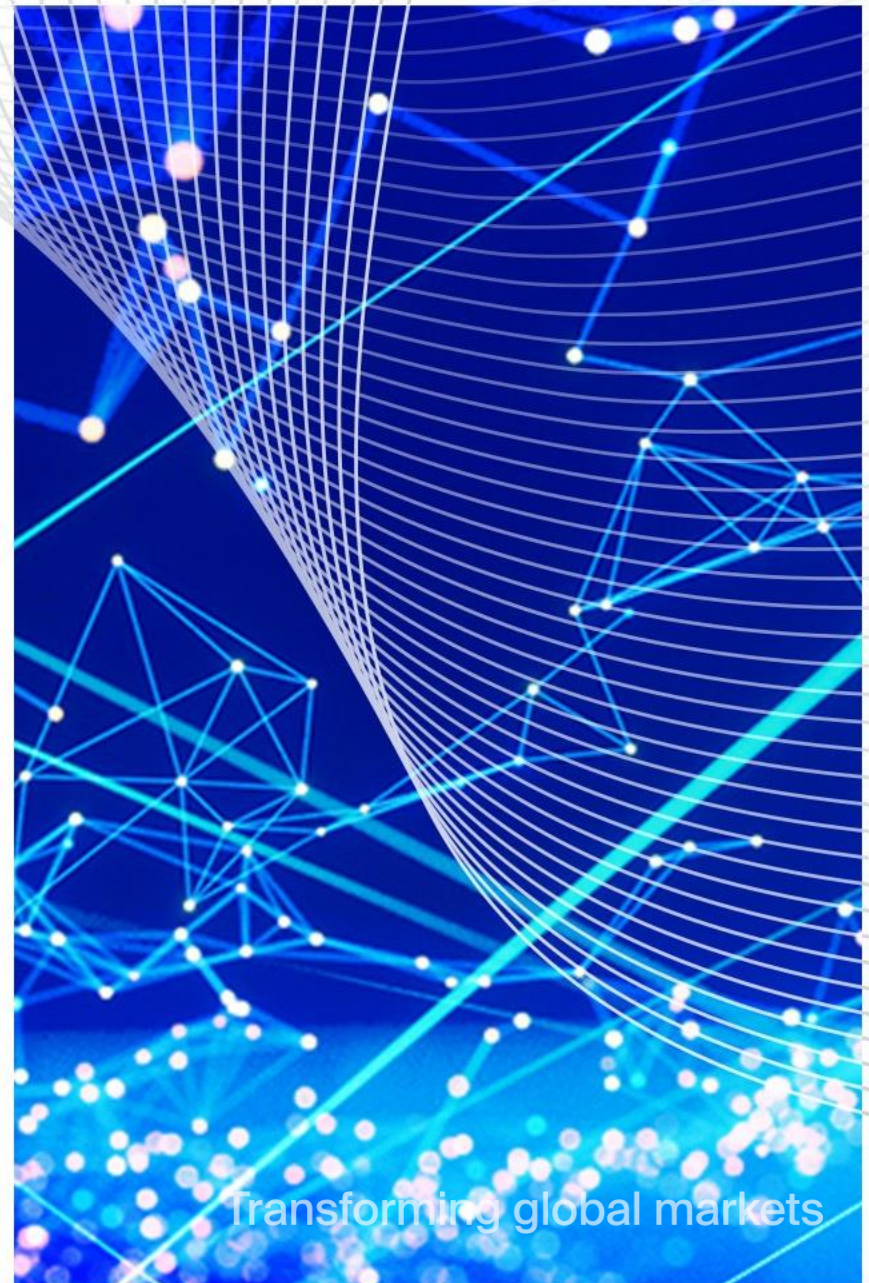
ICE OCM Commercial Update

National Grid Operations
Forum (Presentation not
included in this pack)

Wouter de Klein

Commercial Director ICE Endex

London, 27 September 2018



Transforming global markets

Gas System
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04

Information Provision Update

Shaping the future of the Gas
Transmission Network

nationalgrid



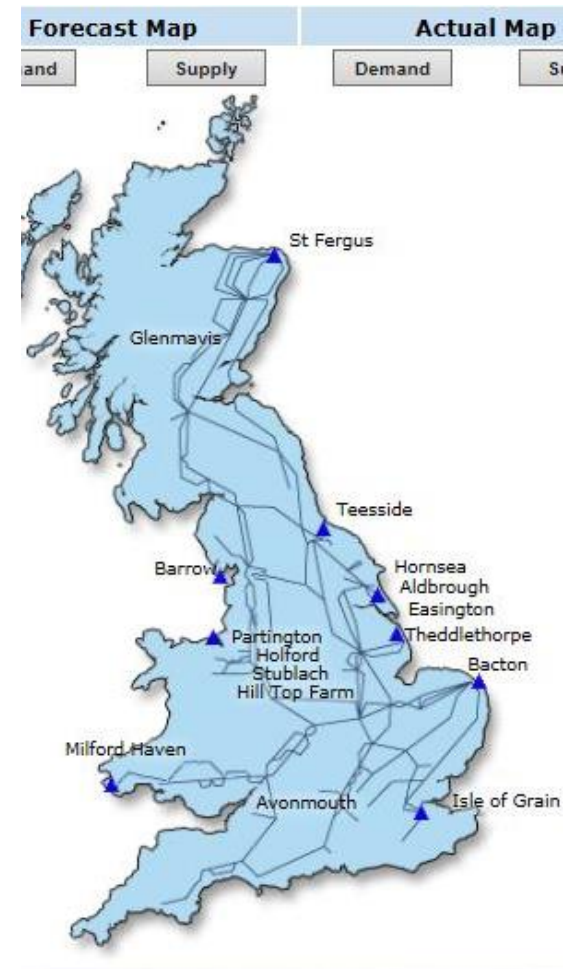
Stakeholder Priorities: Information Provision

T1: Current Regulatory Framework

- Current Regulatory period in place until 2020
- Looking to enhance the system with resource available in current investment plan
- Proposals Paper for Operational enhancements detailing our proposals available for review now
- We encourage involvement from across Industry – feedback on proposals and attendance at Industry working Group

T2: Next Regulatory Framework

- We are currently in the process of forming plans for next deal (2021 onwards)
- Feedback collated from previous 'Future needs of the Gas Transmission System' events
- This Feedback will feed into a larger planning piece for the future of our Operational Data



T2: Feedback so far

Update Regularity	“We would prefer to have data updated at regular times if possible”
Push / Pull	“We prefer to pull the data as we aim to get the latest update faster than competition”
Outages	“We need adequate communications before outages”
Changes	“Significant changes to format of data could cause extra work to update our APIs”
Navigation	“Current system isn’t the easiest to navigate”
Gas Quality and Pressures	“Gas Quality and pressure information would allow us to make more effective Operational decisions”
Data Quality	“Data Quality is a priority for us over addition of new data items”
Frequency	“A higher update frequency will always be of value – the ideal scenario would be instantaneous readings”

Proposal Paper – for delivery in T1

- **Standardise system maintenance (outage) window.** The timing and frequency for this is proposed in the consultation paper
- **Close Data Item Gaps.** Proposal to create a ‘data dictionary’, understand what isn’t used, and ongoing work with users to identify enhancements
- **New Data Provision.** Development of pressure forecasts, addition of CV data at some entry points, and instantaneous demand

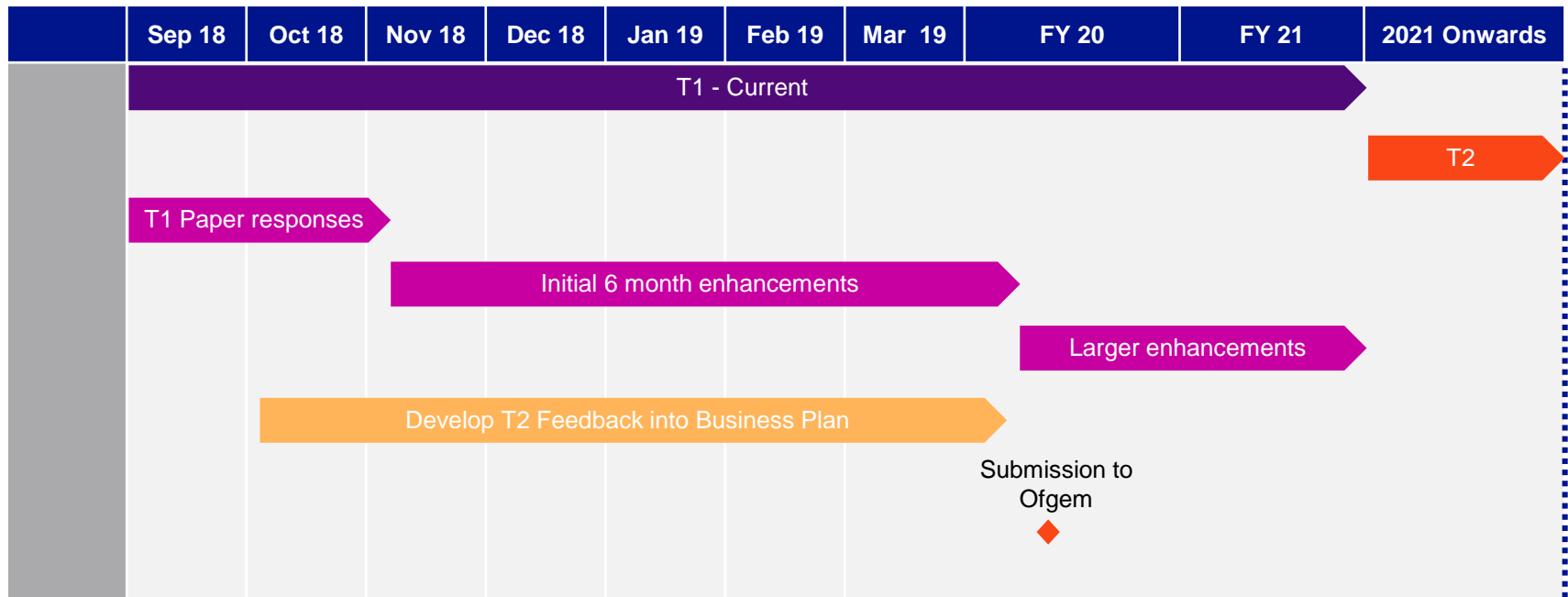
Please provide any questions or responses to this paper to Karen Thompson
(Karen.Thompson@nationalgrid.com)

Deadline is the 6th November

Proposals paper – Feedback required

Initial Response	Initial response to the published paper with your thoughts on the proposals, and any questions to enable an informed response
Agree/Disagree	Confirmation if you agree with the proposals, or if there is anything that you disagree
Working Group	Volunteers to attend a working group to shape direction for closing data item gaps
Additional Information	As always, provide any information about how you use operational data which may be useful for us to consider

Information Provision Next Steps – T1 and T2



05

Pressure Forecasts

Introduction to new data set



Pressure Forecast Service

Weekly Pressure Forecast Developed in response to Customer Feedback

Provides an **estimated** pressure range at each Terminal for a given week

Will deliver greater certainty to aid customers in making physical and commercial decisions

Information Provision identified by our customers as your most important focus area

Currently collating further feedback as customers use this service to identify potential improvements and refine the process

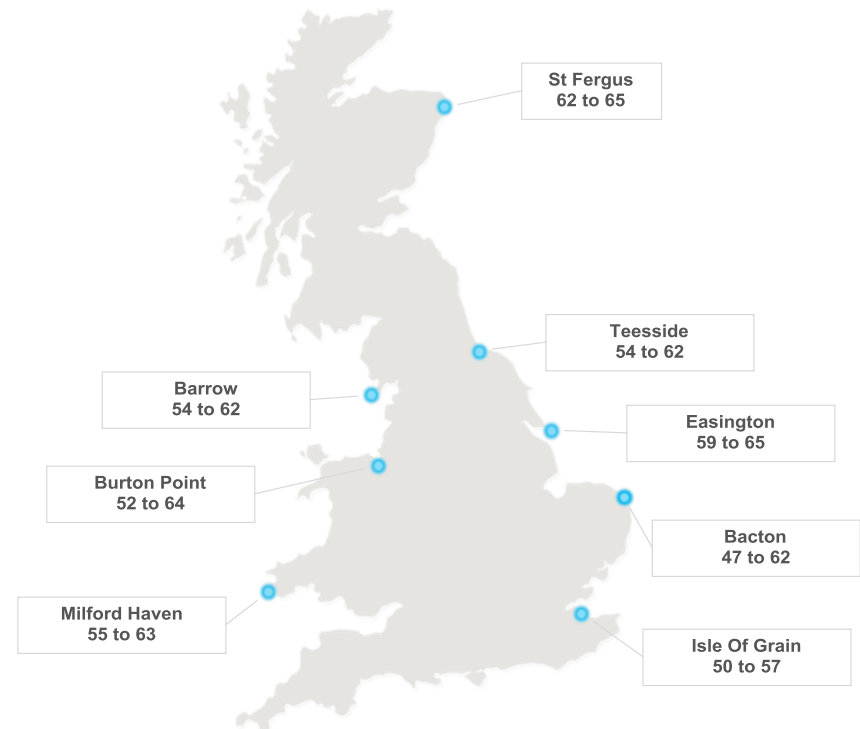
Forecasts available in excel format

<https://www.nationalgridgas.com/data-and-operations/transmission-operational-data>

Pressure Forecast

Forecast for period: 27/08/18 to 02/09/18

Forecast produced on: 23/08/18



All values expressed in Barg

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Winter Webinars

Webinars available on website

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Winter Webinars

Winter Webinars are now published on the Operational Data website

TSO to TSO Nomination Process Contingency

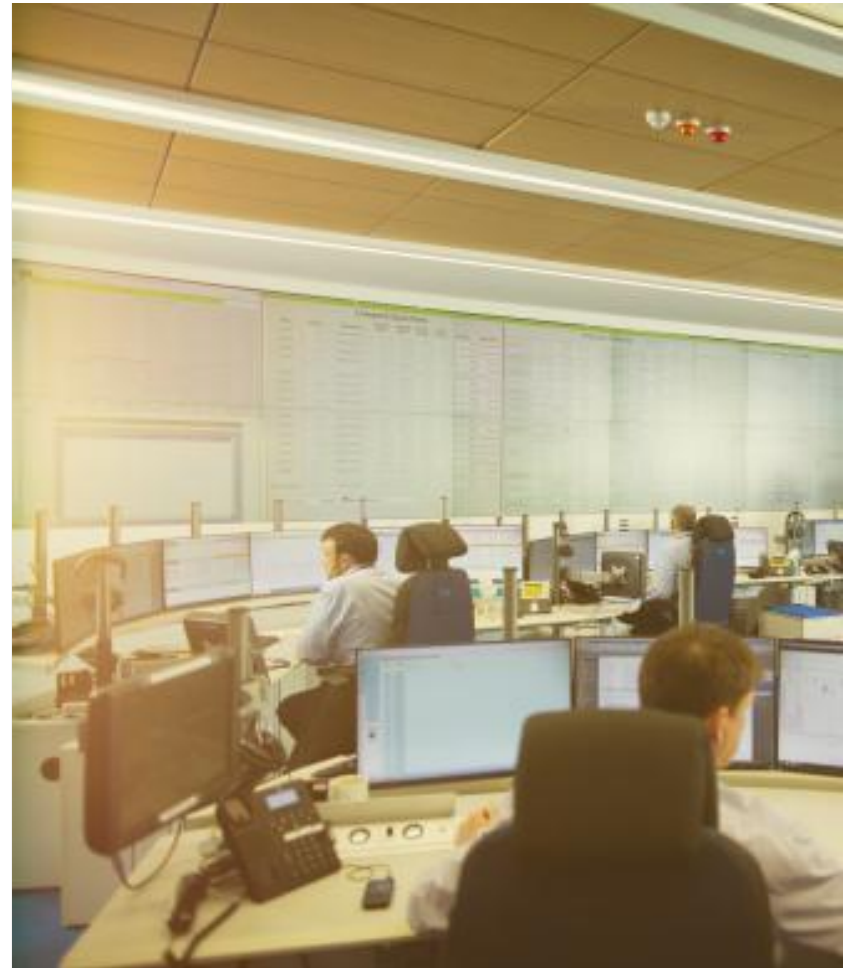
Future of Gas

Emergency Response Zeus

Pre Emergency Commercial Tools

Operational data Overview

Deep dive on Supply & Demand operational data (in next few weeks)



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07

Pre Emergency
Commercial Tools

nationalgrid



Background

Shipper Feedback following GDW on 1st March 2018.

Uncertainty and confusion with infrequently used tools leading to risk:

- Locational trades – IP's
- DSR – placing of bids / opening the Market
- GDW and Margins Notice

Visibility of the bigger picture regarding tools

Lots of information but **hard to find** and not pitched at an **operational level**

Scope

An industry in a **strong position** ahead of Winter 2018, with better informed Shippers, who can **access** high quality **material with ease**, and able to **use the range** of commercial tools available to address any issues faced.

Ready and prepared - if 1st March 2018 were to happen tomorrow.

- Tools in there current form
- Not intended to influence any ongoing development
- Longer term GDW review led by Phil Hobbins – <http://www.gasgovernance.co.uk/0669>

Our Approach

Holistic view of all available tools

- Business as Usual (BAU), Pre-emergency and Emergency
- Focus in on specific Pre-emergency tools - Option to expand
- Level of information based on type of tool / categorisation
- Signpost key material for ease of location in high pressure events
- Plain English, no National Grid jargon or assumed knowledge

Notes on use

- Sequencing of tools is not indicative of exact order used as this will vary based on the scenario on any given day.
- Maintained on our website to ensure most up to date information is available at all times – live document, do not save files.

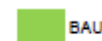
Tool Categorisation

Differentiation based on level of Shipper interaction required

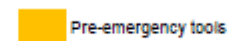
	Cat 1 - Awareness	Cat 2 - Action
Tool Aim	Vital information relating to condition of the network that will influence your decisions.	Non routine action required to manage the integrity / risk on the NTS
Requirement for Shippers	Continue to manage portfolio as normal	Call to action - Tool provides a means for Shippers to aid in the resolution of an event.
Example	Capacity Scale back	Locational Trades
Links provided	Background information	Background plus: Guidance notes detailing: <ul style="list-style-type: none"> • Aim of tool / NG actions • Function of tool • Required action by Shippers • Process map / instruction

Commercial Tool Overview

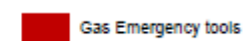
Key:



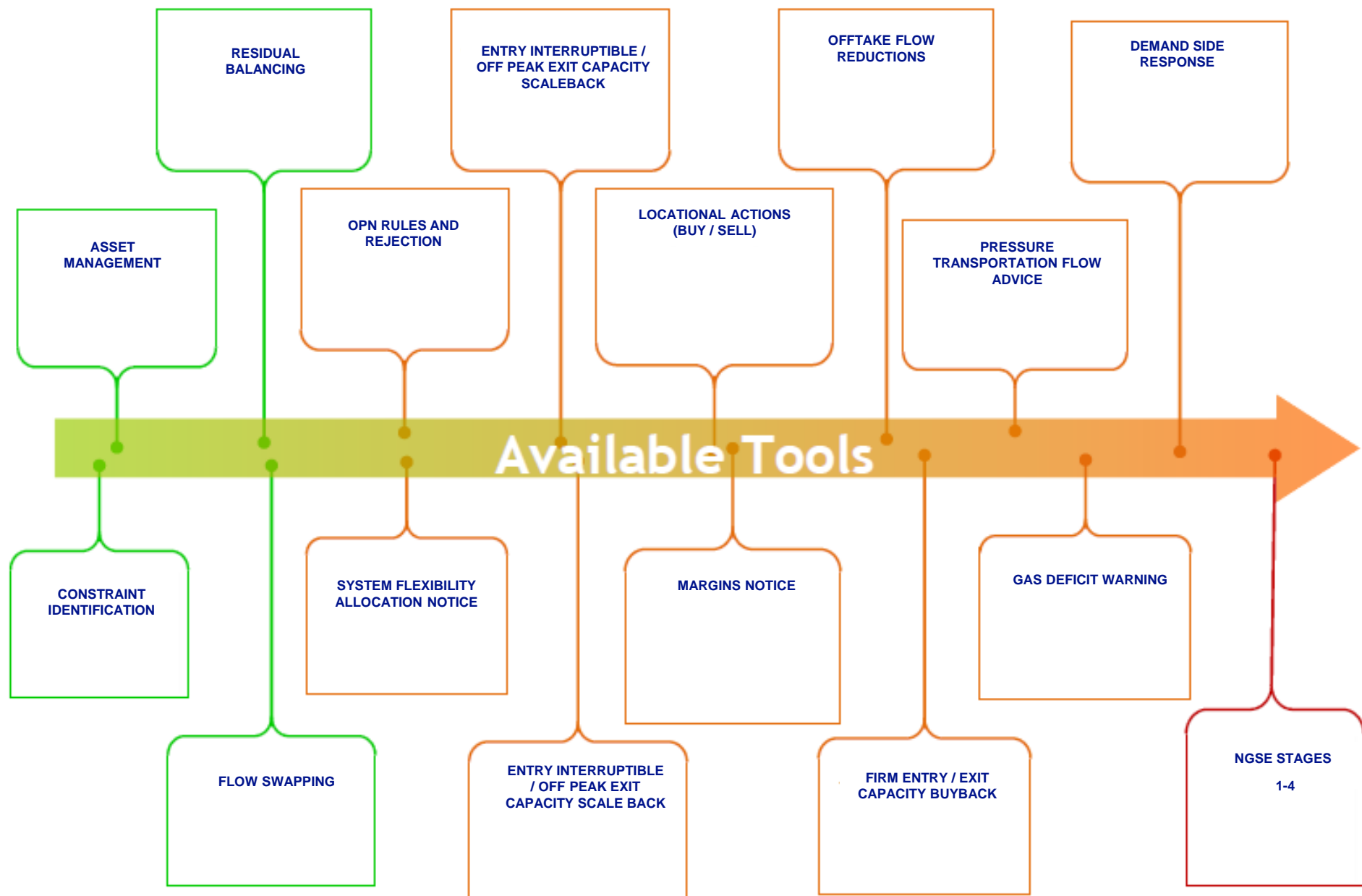
BAU



Pre-emergency tools



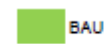
Gas Emergency tools



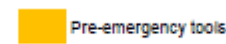
NOTE: Sequence indicative not exact

Commercial Tool Overview

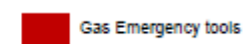
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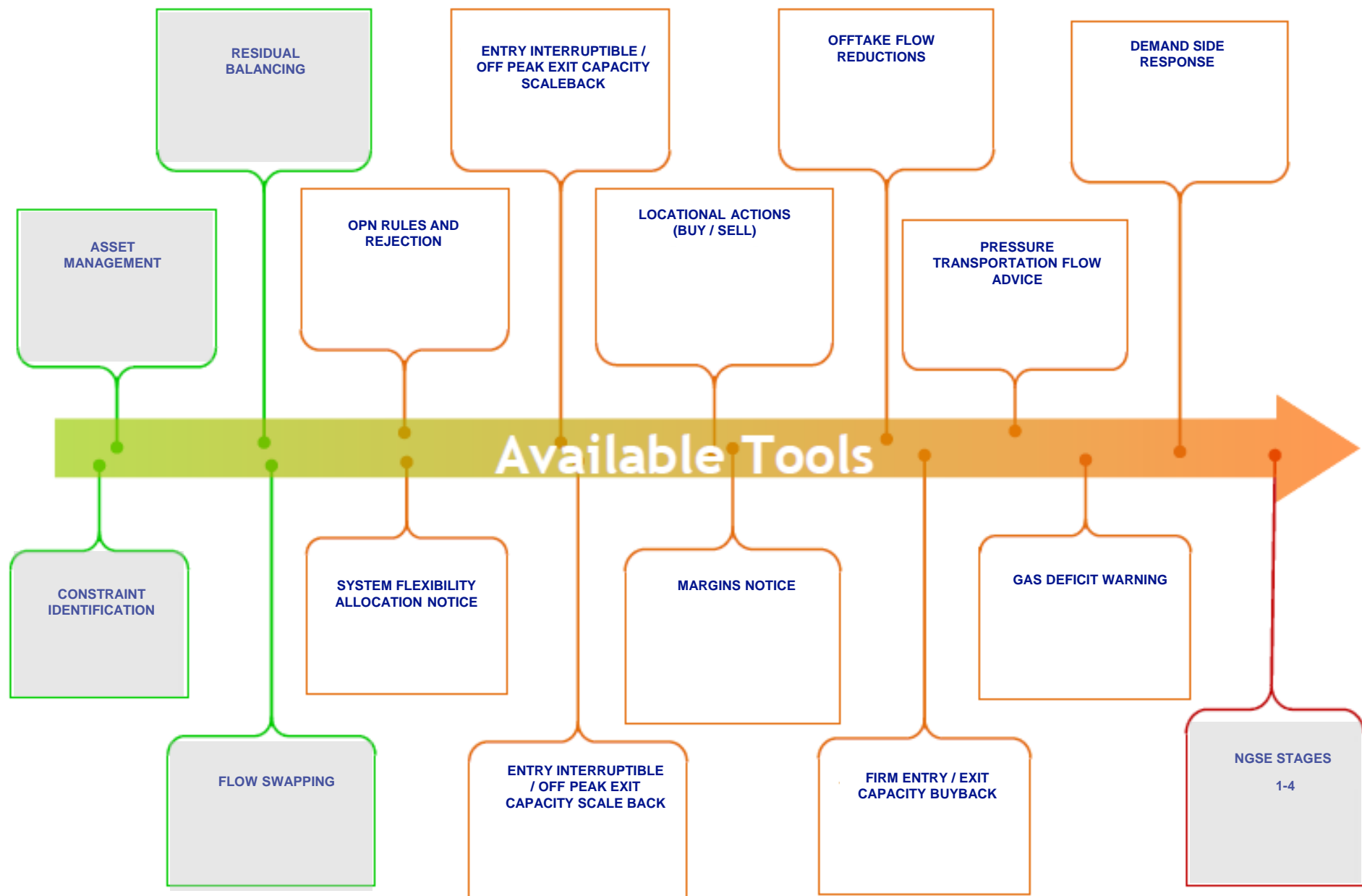
BAU



Pre-emergency tools



Gas Emergency tools



NOTE: Sequence indicative not exact

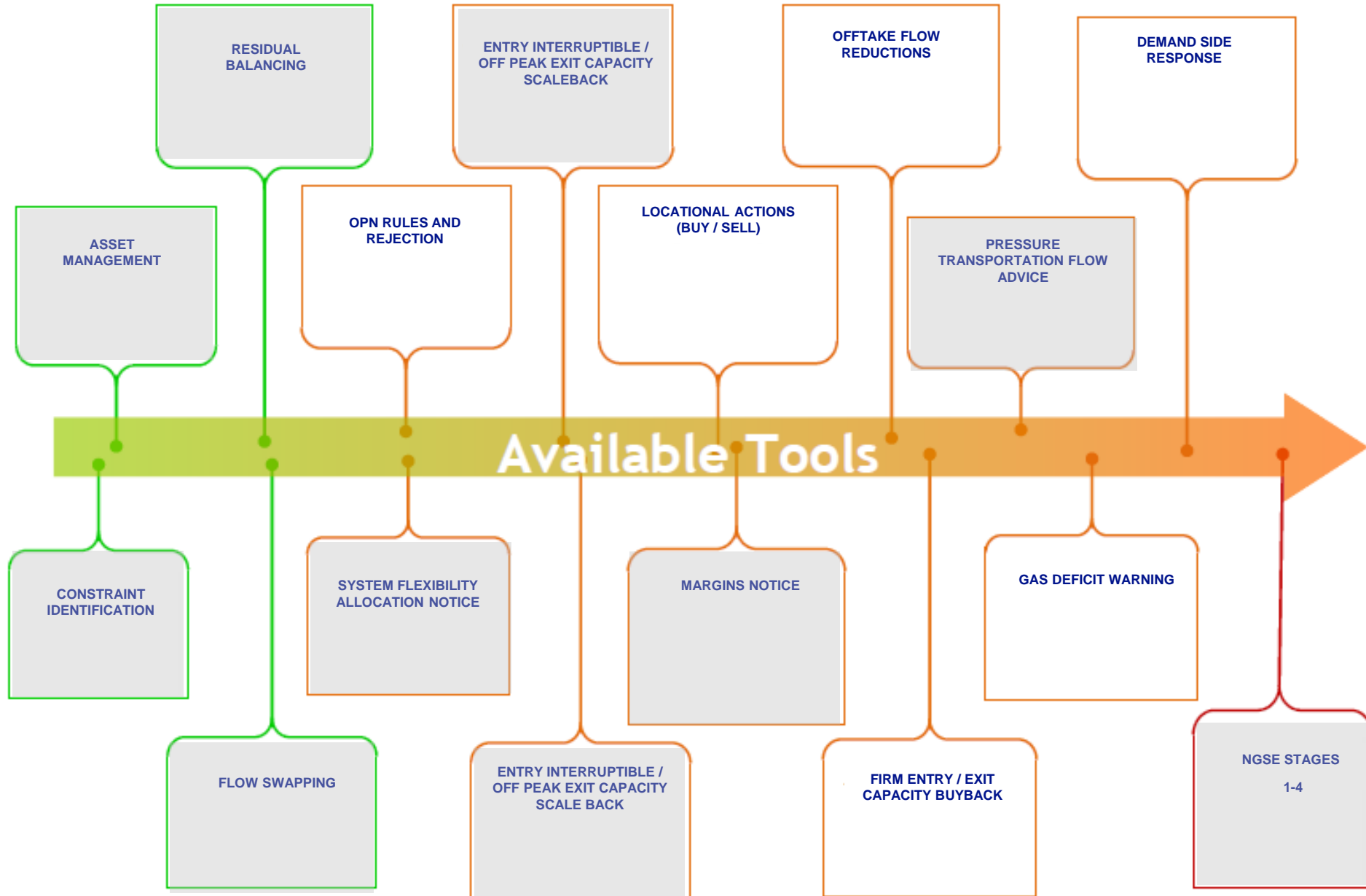
Commercial Tool Overview

Key:

BAU

Pre-emergency tools

Gas Emergency tools



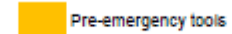
NOTE: Sequence indicative not exact

Commercial Tool Overview

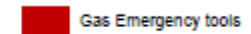
Key:



BAU



Pre-emergency tools



Gas Emergency tools



NOTE: Sequence indicative not exact

Commercial Tool Overview

Key:

BAU

Pre-emergency tools

Gas Emergency tools



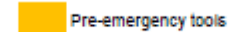
NOTE: Sequence indicative not exact

Commercial Tool Overview

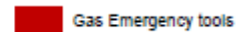
Key:



BAU



Pre-emergency tools



Gas Emergency tools



NOTE: Sequence indicative not exact

Our Approach – The benefits

Tool Overview provides:

- Consolidated / Holistic view of available tools
- Hyperlinks to relevant information to ease of reference
- Information pitched at the right level based on input required
- Plain English, no National Grid jargon or assumed knowledge
- Live document, confident in accessing up to date material

Tool Overview Link - <https://www.nationalgrid.com/uk/gas/market-operations-and-data/transmission-operational-data>

Next Steps

Expand the approach to cover all listed tools and suggested topics:

- Eu Nominations
- Charging
- Multiday trades
- UIG awareness

Interactive Webinar – 22/10/18 14:00

Feedback mechanisms

PLEASE TELL US HOW USEFUL YOU FOUND THIS INFORMATION AND PROVIDE FEEDBACK ON ANYTHING YOU FEEL IS MISSING BY CLICKING ON ONE OF THE FOLLOWING RATINGS:



Pleased with the information covered

CLICK: [3 STARS](#)



Satisfied with the information but would like to see further improvements

CLICK: [2 STARS](#)



Unhappy with the information covered

CLICK: [1 STAR](#)

Or box.NTS.EnergyBalance@nationalgrid.com

08

Xoserve Update

Introduction to new data set





IS Operations – Gemini Updates

September 2018

Gemini Updates – Operational Issues

- **Gemini Allocation/invoicing suite delays**
 - Batch job enhancement to improve performance successfully implemented on 6th September, reducing the run time by 75%
 - Longer term archiving solution to be considered as part of Gemini Re-platforming Project
- **QSEC Auction Database Errors**
 - Oracle issues identified and fixed
 - Ongoing work with National Grid/Xoserve to identify and implement process improvements

Gemini Updates – Service Improvements

Gemini Help Function

- To enhance self service capabilities, Xoserve and National Grid introduced a help function in Citrix and Gemini to highlight frequently asked questions (FAQs) and possible solutions
- Further information here - [National Grid News](#) (9th August) and here [Xoserve Gemini FAQ's](#)
- If you would like to respond with comments, please send an email to [Gemini Application Support](#)

Gemini Updates – Service Improvements

EU Nominations Process Guide

- Xoserve and National Grid have documented a user guide to provide knowledge and understanding of the process
- Due to be published in October 2018. A communication will be distributed with further information

Communication Improvement Plan

- To enhance the customer experience, Xoserve worked closely with its suppliers on new ways of working to improve communication and incident handling
- Any findings are embedded in training material for new resources with regular quality assessments scheduled

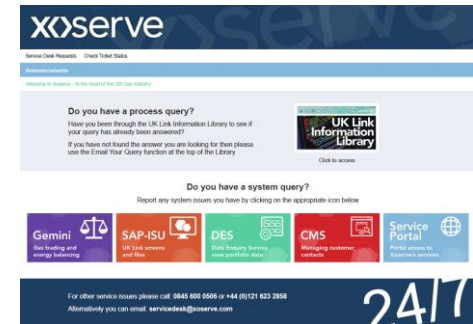
Rant and Rave

- New survey initiative rolling out across Xoserve to allow customers to provide instant feedback when contacted by email to confirmed issues / queries have been resolved. Primarily for issues unrelated to incident tickets

Upcoming Service Improvements

■ Self Service Incident Ticket Interface

- Revised ticket logging service on Xoserve.com
- Automates ticket creation and will allow the customer to view key details of own tickets
- Some minor amendments made based on customer and internal feedback to the ticket input forms
- Expected to deliver early Q4 2018



■ Automated Incident Ticket Quality Feedback

- Alongside 'Rant and Rave' (for non ticket issues)
- Revised more automated and customer friendly option to comment on Xoserve's performance when a ticket is resolved
- Expected to deliver mid Q4 2018



UIG Task Force Progress Report

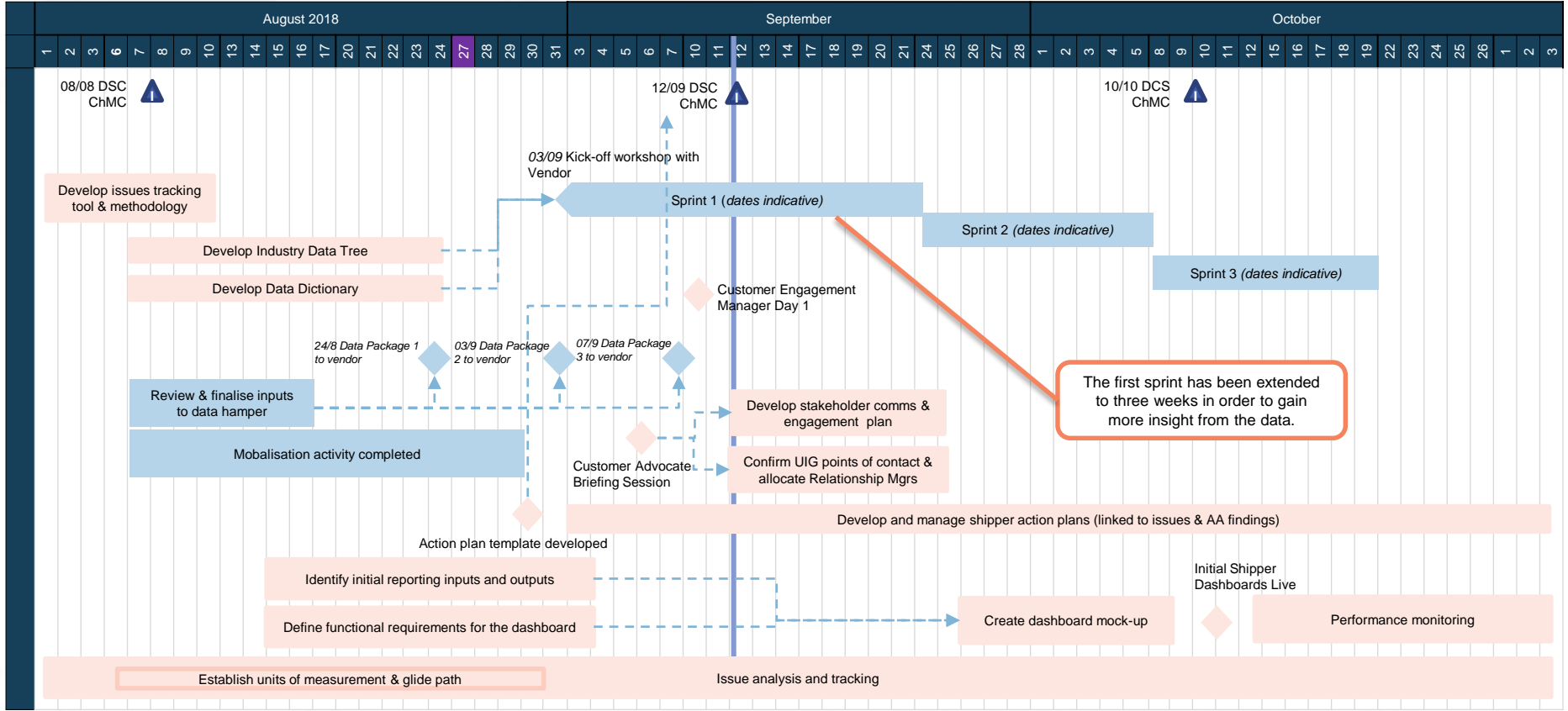
(Extract from ChMC 12th September 2018)

Background

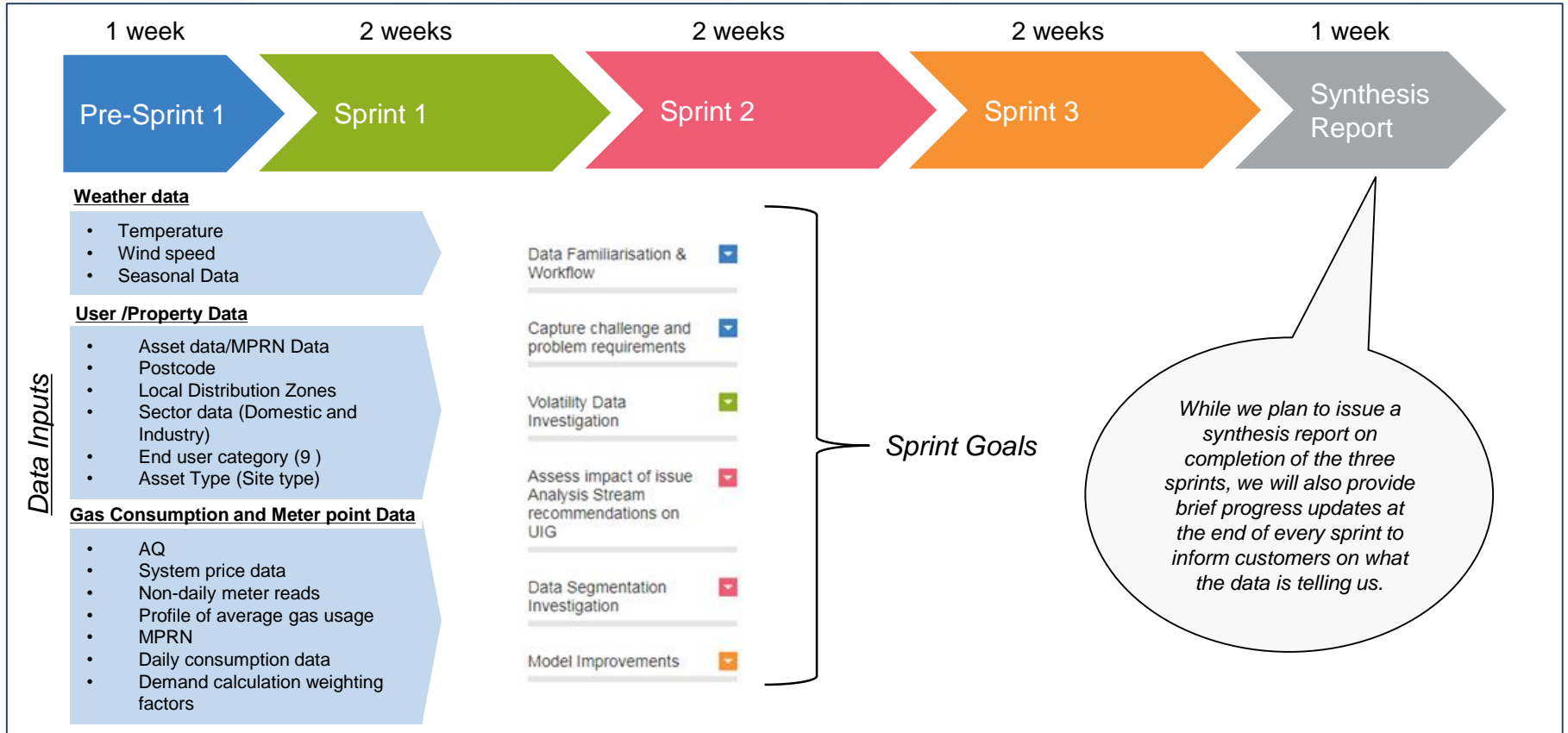
- Modification 0658: ‘CDSP to identify and develop improvements to LDZ settlement processes’ approved by Ofgem on 6th July 2018
 - Modification raised to authorise the CDSP to assign resources and incur costs related to a task force to investigate the causes and influencers of Unidentified Gas (UIG), with a target of reducing the volatility and scale of UIG and developing a robust predictive model for daily UIG for use by all parties.
- BER for Change Reference Number XRN4695: ‘Investigating causes and contributors to levels and volatility of Unidentified Gas’ approved at ChMC on 11th July 2018
 - This Change Proposal added an additional service line into the DSC to enable Xoserve access to investigate, using resources and technology, causes and contributors to levels and volatility of Unidentified Gas. Xoserve is to provide monthly update reports and recommend proposals and subsequent changes or modifications for the industry.
- The following slides provide;
 - Task Force Dashboard
 - POAP
 - Progress updates for Advanced Analytics & Issue Analysis streams
 - Proposal for customer engagement
 - Reporting on budget.

Plan On A Page

◆ Delivery team milestone
◆ : Advanced Analytics
▲ DSC ChMC governance



Advanced Analytics Update

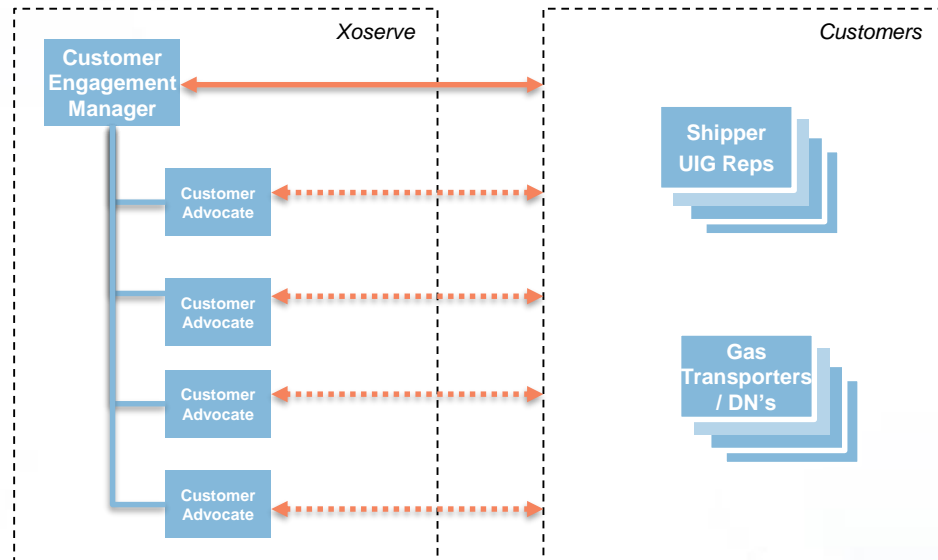


Proposal for Engaging Customers

- As Task Force recommendations lead to bespoke action plans and associated UIG dashboards, Xoserve will need to intensify its engagement with shippers individually to track progress and monitor performance.
- To enable this, we propose that all shippers put forward a dedicated UIG Representative* who would be responsible for leading the realisation of actions in their organisation.
- Each UIG Rep would then receive a dedicated engagement manager from Xoserve. This will be the Customer Engagement Manager with support from members of the Customer Advocate Team, as illustrated below.

Customer Engagement Manager:

- First port of call for individual shippers on UIG at the operational level
- Releasing bespoke action plans & performance dashboards for every shipper
- Gathering insights to feed into the Task Force
- Solicit support from Customer Advocates as needed



Customer UIG Reps:

- First port of call for Xoserve customer team on UIG
- Responsible for leading the delivery of UIG recommendations and actions within the organisation
- Sharing UIG insights with the Task Force
- Raising concerns or risks related to UIG early

*In some cases (e.g. for Class C shippers) this may be a responsibility carried out by the current operational contact.

For more information

- You can find out information on Xoserve.com
 - <https://www.xoserve.com/index.php/unidentified-gas-uig/>
- If you'd like to contact us regarding UIG you can do so at
 - UIGtaskforce@xoserve.com

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09

Industry Queries

Common Query Themes

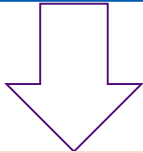
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Common Queries

MIPI (Information Provision)

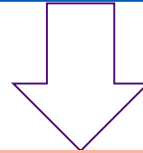
- Missing / Inaccurate Data
- APIs
- Technical Understanding



- ✓ A guide to APIs can be found on the NG.com website.
- ✓ Proposal paper released on 26/09 based on 3 topics of operational data

Gas Pressures

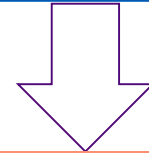
- Pressure Requests
- Pressure fluctuations



- ✓ We now publish weekly Pressure Forecasts.
- ✓ Looking to enhance these reports over time

Notification Faxes

- Manual faxing is time consuming and expensive.



- ✓ Initiated a Fax Replacement Project (EDSS).
- ✓ Working with our customers to implement EDSS.

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UNC Modifications Overview

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Live Transmission-Related UNC Modifications

- **0621 (plus alternatives) – Amendments to Gas Transmission Charging Regime**
 - With Ofgem for impact assessment
- **0656 – Changes to Modification Panel Arrangements**
 - Aims to improve governance of the Modification Panel
 - Consultation closes 11th October 2018
- **0661R – Reconciliation and Imbalance Cashout Prices**
 - Seeks to incentivise shippers to purchase the right amount of gas for NDM sites and de-risk shipper imbalance costs
- **0662 – Revenue Recovery at Combined ASEPs**
 - Aims to create equal treatment for storage capacity booked at Combined ASEPs with that of a 'storage site' in terms of any revenue recovery charge based on capacity bookings.

Live Transmission-Related UNC Modifications

- **0667 (urgent procedures requested) – Inclusion and Amendment of Entry Incremental Capacity Release NPV Test in UNC**
 - Seeks to insert the NPV test required for non-IP incremental entry capacity release into UNC and amend the mechanics of the test
 - With Ofgem for decision on urgency
- **0669R – Review of Gas Deficit Warning and Margins Notice Arrangements**
 - To review the processes, timeliness and information provision associated with National Grid's gas security notices and the term 'Gas Deficit Warning'
 - First Workgroup discussion to be held within Transmission Workgroup on 4th October 2018

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Gas Regulatory Change Programme Update

GB Charging Review

EU Tariff Code

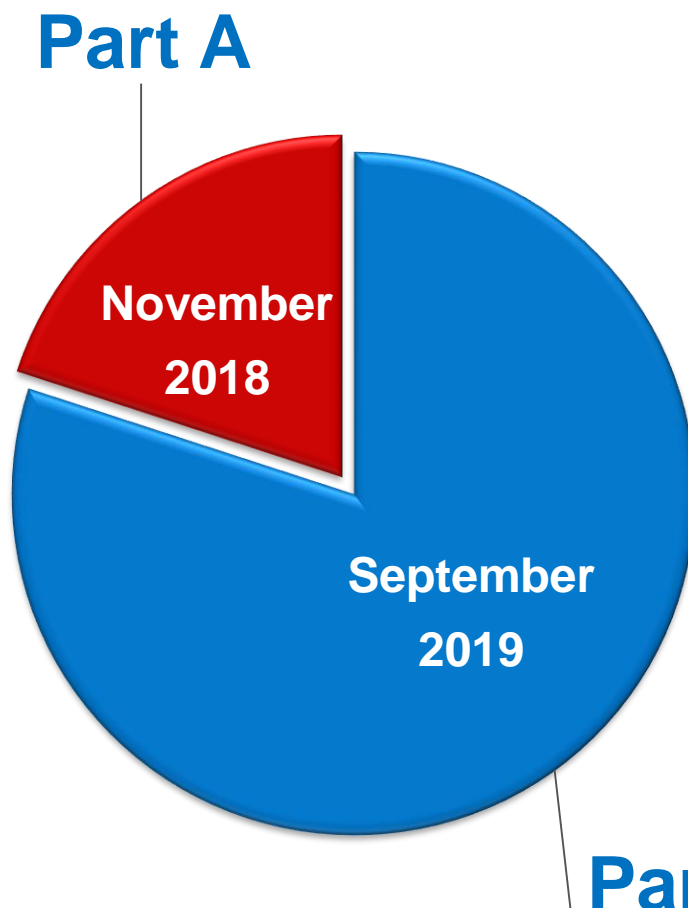
GEMINI Sustain Programme



EU/GB Charging 2019 – Scope Parts A & B

Mod 621 and EU Tariff Code resulting in changes to:

- **Go Live 18th November 2018**
- **No extended Gemini outage**
- **No MIPI outage**
- System changes related to transparency data obligations
- Entry Capacity Availability (NORD07) Report

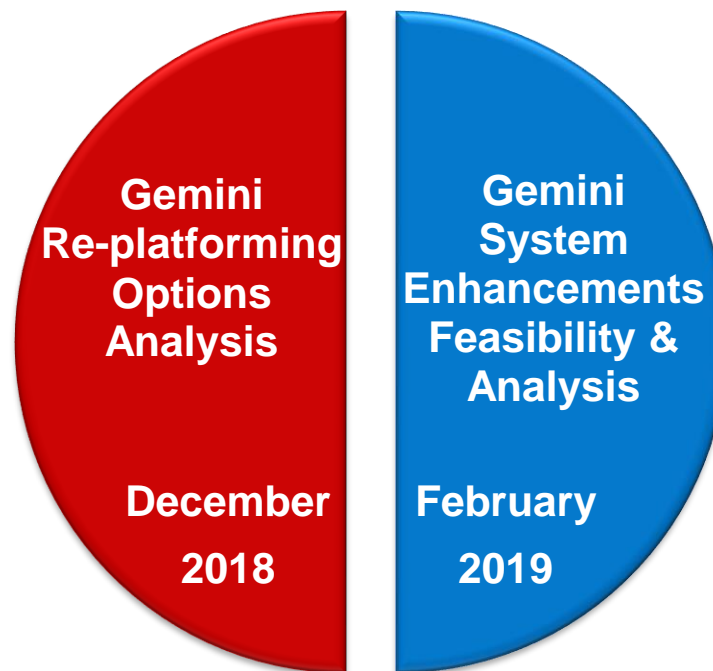


- System change in Gemini and UK Link
- Floating Capacity Pricing at GB Entry Points
- New NTS Optional Charge
- Capacity Revenue Recovery Mechanism
- New Invoicing Charge Types

Gemini Sustain Programme Scope

Gemini System Enhancements and Gemini Re-platforming

- No impact to Gemini user interface
- Non Functional Requirements
- Infrastructure refresh and improvements



- Scope being developed with Gemini users
- NG working with Xoserve to prepare solution options
- NG have also facilitated 1-2-1 engagement on specific items to develop optimal solution options
- Gemini users will continue to be engaged throughout the project

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Gas System
Operator

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Operational Data (MIPI) Service Overview

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Incident 1

Date	26/08/2017 14:07
Duration	24 hours 23 mins
Category	Database capacity
Business Impact	MIPI prevailing view webpage was not displaying current, updated data.
What happened	A tablespace storage threshold was reached, causing database batches to fail. An additional 5GB was added to recover the service
Next Steps	Database administrator checks are now every 30mins during business hours. 2 checks outside of business hours. Increase capacity in accordance with growth evaluation and forecast. Application monitoring also being assessed.

Incident 2

Date	15/09/2018 14:02
Duration	4 hours 16 mins
Category	Hardware component failure
Business Impact	MIPI webpages not displaying updated data
What happened	Hardware failure led to data only being received from upstream services, but unable to publish on MIPI.
Next Steps	Analyse logs to identify cause tool failure. Additional service check to be introduced

Incident 3

Date	20/09/2018 05:34
Duration	11 hours 37 mins
Category	Server application issue
Business Impact	Late Publication of Data
What happened	<p>Application server in-between Gemini and MIPI failed affecting flows of data.</p> <p>Attempted to restart primary database unsuccessfully, and so switched to DR database. This did not resolve issue, so application server was restarted and configuration change applied.</p>
Next Steps	Database to be rebuilt. Daily database backups in meantime, configuration change required for production database

**Gas System
Operator**

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**Additional
Information & Any
Other Business**

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Exercise Zeus **NEC**



Exercise Zeus is on the 3rd and 4th of October

A range of emergency procedural information, including the briefing document, is available on the National Grid website

- <https://www.nationalgrid.com/uk/gas/network-gas-supply-emergencies-ngse>

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Glossary – Acronyms used today



Glossary

Acronym	Term	Definition
CDSP	Central Data Services Provider	Central Data Services Provider is the person appointed by Transporters as central data services provider pursuant to the CDSP Licence Condition
CSEP	Connected System Exit Point	A CSEP is an offtake from a Gas Transporter distribution network to a network owned by an iGT. There is no meter at the exit point. A connected systems exit point is the point at which a third party pipeline operator connects a gas network to a large Distribution Networks pipework from a point owned and managed by third.
DM	Daily Metered	Sites with meters which read on a daily basis. Readings provided via daily read equipment (DRE) and sent via telemetry. Class 1 sites are daily metered,
DSC	Data Services Contract	The contract between the Parties and the CDSP in the agreed form (As provided in Part 1 paragraph 3 of the Transition Document) as from time to time amended in accordance with terms and provisions of GTD.
GEMINI	Gemini System	Application for energy balancing which includes: Gas Nominations, Gas Trades, Energy Balancing, NTS Entry Capacity Booking, NTS Entry Capacity Trading
IUK	Interconnector (UK)	A bi-directional gas pipeline between Bacton in the UK and Zeebrugge in Belgium http://www.interconnector.com/

Glossary

Acronym	Term	Definition
LDZ	Local Distribution Zone	A gas distribution zone connecting end users to the Gas National Transmission System. Operated by Distribution Companies
LNG	Liquefied Natural Gas	LNG is formed by chilling gas to -161oC so that it occupies 600 times less space than in it's gaseous form. LNG terminals operate in the UK receiving supplies by ship and importing into the NTS.
MIPI	Market Information Provision Initiative	This forms part of the data which is provided on our Operational Data pages: https://www.nationalgridgas.com/data-and-operations/transmission-operational-data
MPRN	Meter Point Reference Number	Unique Identifier for Supply Meter Point
NORD07	Capacity Availability Report	Report which can be found on Operational Data pages https://www.nationalgridgas.com/data-and-operations/transmission-operational-data
NTS	National Transmission System	A high-pressure gas transportation system consisting of compressor stations, pipelines, multijunction sites and offtakes NTS pipelines transport gas from terminals to NTS offtakes and are designed to operate up to pressure of 94 bar(g)
POAP	Plan on a page	Where all high level timelines are depicted for each work stream in order to identify key dependencies

Glossary

Acronym	Term	Definition
SPAA	Service Provider Agreement	During the stakeholder creation process, stakeholders must meet certain checks and contractual obligations. The Customer Life Cycle team perform these checks and the outcomes are captured as agreement parameter values in Service Provider Agreement
UAG	Unaccounted for Gas	Gas 'Lost during Transportation. Includes leakage, theft and losses due to the method of calculating the Calorific Value. This was described in more detail during the Shrinkage Overview by George Charalampous in the June Ops Forum. You can find this pack on our website: https://www.nationalgridgas.com/data-and-operations/operational-forum
UIG	Unidentified Gas	An amount of Gas which could not be attributed to any system user. As only a minority of supply points submit daily reads into the allocation process, the remainder of gas is allocated based on estimates and historic data. Xoserve aims to support customers to understand and manage UIG further https://www.xoserve.com/index.php/unidentified-gas-uig/
UNC	Uniform Network Code	The Uniform Network Code is the legal and commercial framework that governs the arrangements between the Gas Transporters and Shippers operating in the UK gas market. The UNC comprises different documents including the Transportation Document (TPD) and Offtake Arrangements document (OAD). You can find all of these documents on Joint office: https://www.gasgovernance.co.uk/
UKCS	United Kingdom Continental Shelf	The UK continental Shelf (UKCS) comprises those areas of the sea bed and subsoil beyond the territorial sea over which the UK exercises sovereign rights of exploration and exploitation of natural resources.