

GDN Control Centre High Level Analysis of Gas Day Change

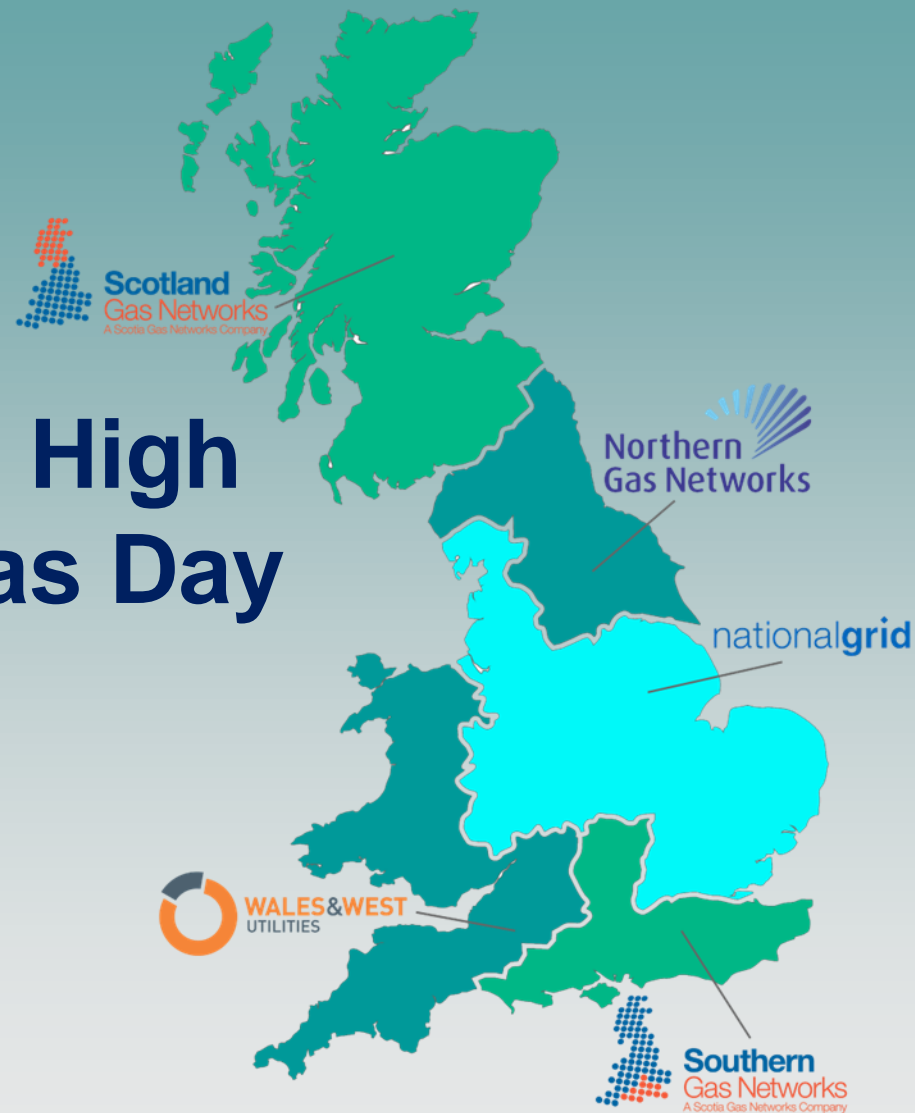
Developed by :

National Grid – UKD

Northern Gas Networks

Scotia Gas Networks

Wales and West Utilities



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Impact of Gas Day Change on GDNs – Control Centre Systems

Area of Impact	Systems	Affected Components	Impact Level
<p>CNI Systems</p>	<ul style="list-style-type: none"> •SCADA •Telemetry •Fiscal Measurement •CNI SCADA to CNI SCADA Links Testing 	<p>Processes Historic Data Algorithms Scheduling Alarms File Transactions</p>	<p>HIGH</p>
<p>Gas Balancing Systems</p>	<ul style="list-style-type: none"> •Business Applications •Demand Management System / CosMos •Demand Estimation System •Demand Forecaster 	<p>Processes Historic Data Algorithms Scheduling Alarms File Transactions</p>	<p>HIGH</p>
<p>Capacity Planning tools</p>	<ul style="list-style-type: none"> •Synergiee •Graphical Falcon •SSM 	<p>Demand Profiles</p>	<p>Low</p>
<p>External System Interface / Relationships</p>	<ul style="list-style-type: none"> •UKT iGMS (CNI) •UKT Aggregator •Gemini •Xoserve 	<p>Processes Historic Data Algorithms Scheduling Alarms File Transactions</p>	<p>HIGH</p>

Impact of Gas Day Change on GDNs - Systems

Area of Impact	Systems	Impact Examples
<p>CNI Systems</p>	<ul style="list-style-type: none"> •SCADA •Telemetry •Fiscal Measurement 	<p>SCADA – Gas Day definition is the reference point for multiple algorithms and gas day rules e.g., Daily Demand / Intake and Flex. Telemetry – RTU potential software updates necessary for pressure profile changes Fiscal Measurement – Danint flow computers require local update to re-align calculation process</p>
<p>Gas Balancing Systems</p>	<ul style="list-style-type: none"> •Business Applications •Demand Management System / CosMos •Demand Estimation System •Demand Forecaster 	<p>Business Apps – Five Years of Historic Data Re-aligned for use within DMS / CosMos – Offtake Profiles and output files (issued to UKT) re-aligned to start and finish at 05:00 DES – Algorithms Modified to re estimate demand over new Gas day Demand Forecaster – Within Day models re-training</p>
<p>Capacity Planning tools</p>	<ul style="list-style-type: none"> •Synergiee •Graphical Falcon 	<p>Synergiee / GF - Demand Profiles modified to new gas day. Impact on models and capacity requirements analysed and documented</p>
<p>External System Interface / Relationships</p>	<ul style="list-style-type: none"> •UKT iGMS (CNI) •UKT Aggregator •Gemini •Xoserve 	<p>iGMS (CNI) – Access to test environments Aggregator – File transfer time changes, file content modified to gas day Gemini – Energy reconciliation process impact? Xoserve – Reporting and Report content</p>

Impact of Gas Day Change on GDNs - Wider Issues

Systems / Testing

- Local Build and test environments
- Access to remote (UKT) CNI test systems and other test environments
- Access Congestion during testing phase into remote systems
- Conflict with existing internal and external IT programmes
- Significant Impact analysis for CNI Systems

Resources

- Control Centre expertise for SCADA and BA – Requirements gathering, FDS, TDS etc.
- IT Resource Constraints for multiple systems
 - (BA/DMS) – Programme Management, Requirements, Design, Build, Test, Rollout
 - (SCADA) - Requirements, Design, Build, Test, Rollout
 - (Forecaster Re-training)
- Project Assurance Resource

Potential Issues

- Winter Change Freeze Periods
- NRO development
- Collaboration Agreements
- Xoserve testing into DN's (File transmission and content)?
- Governance
- Parallel Running and Simultaneous Cut-Over

Potential costs and exceptions

Cost Expectations?

- Issues identified cover the impact on DN Control Centre Systems
- The costs to resolve these issues are uncertain but ...
 - They may be considerable to transition the control centre systems to a 05:00 gas day
- The GDNs will need to carry out further analysis to better understand the cost impact but will also undertake a review of what can be done to avoid additional costs
- Further costs are likely once analysis of other DN systems and interfaces, external to the Control Centres, have been accounted for
- Systems Used by the DNs and wider Industry will also be significantly impacted
 - Will require detailed analysis and modification to adopt the new gas day
 - Examples of which are:
 - Xoserve systems (Currently being assessed)
 - Commercial contracts
 - NExAs and NEAs

Summary

- Stimulate thinking
- NOT an insignificant piece of work !!!
- Numerous systems impacted
- Considerable potential cost including
 - High level of resources for
 - Impact analysis
 - Testing
 - Implementation
- Timescales are extremely challenging
- Need to start work NOW !
- The wider industry will be similarly impacted.