



Key Messages

- Gas supplies from Great Britain (GB) via the Moffat Entry Point will continue to meet over 93% of the Republic of Ireland's annual gas demand, with the balance met from indigenous production and storage. The reinforcement of the 50 km single section of transmission pipeline in South West Scotland remains a priority.
- The outlook for ROI indicates sufficient gas supplies and network capacity to meet the anticipated demands over the winter period, subject to acceptable flow profiles and pressures at the Moffat Entry Point.
- The latest gas demand forecast for the forthcoming winter are as per the Network Development Plan, published in September 2013.
- The South West Scotland Onshore System (SWSOS) is likely to be within 94% of its capacity limits, in the event of severe weather causing peak gas demands in winter 2013/14.
- Inch production and storage gas supplies are assumed to be fully available during the forthcoming winter.
- There will be limited system flexibility to accommodate within-day shipper re-nominations at the Moffat Entry Point should severe weather conditions occur. This limitation will be further compounded if electricity imports are lower than anticipated.

Overview

This winter outlook report sets out Gaslink's analysis and views of the adequacy of the gas network for the coming winter. The ROI's gas supply position is dependent on both the supply of gas and on the system's ability to transport the gas to the end user.

In 2012/13, GB imports through the Moffat Entry Point met 96.5% of annual ROI gas demands and 85.8% of peak day gas demands. The balance of gas supply was met by supplies through the Inch Entry Point.

It is anticipated that PSE Kinsale Energy Limited's gas storage and production facility will continue normal operation throughout the winter period.

The Corrib gas field is not expected to commence full commercial operations until 2015.

The majority of ROI gas demands will continue to be met by GB imports through the Moffat Entry Point in 2013/14 with the balance supplied through the Inch Entry Point. The latest gas demand forecast predicts Moffat flows will approach capacity limits in the event of 1-in-50 winter peak conditions occurring, and consequently, there will be limited system flexibility to accommodate within-day shipper re-nominations at Moffat.

Winter Period 2012/13

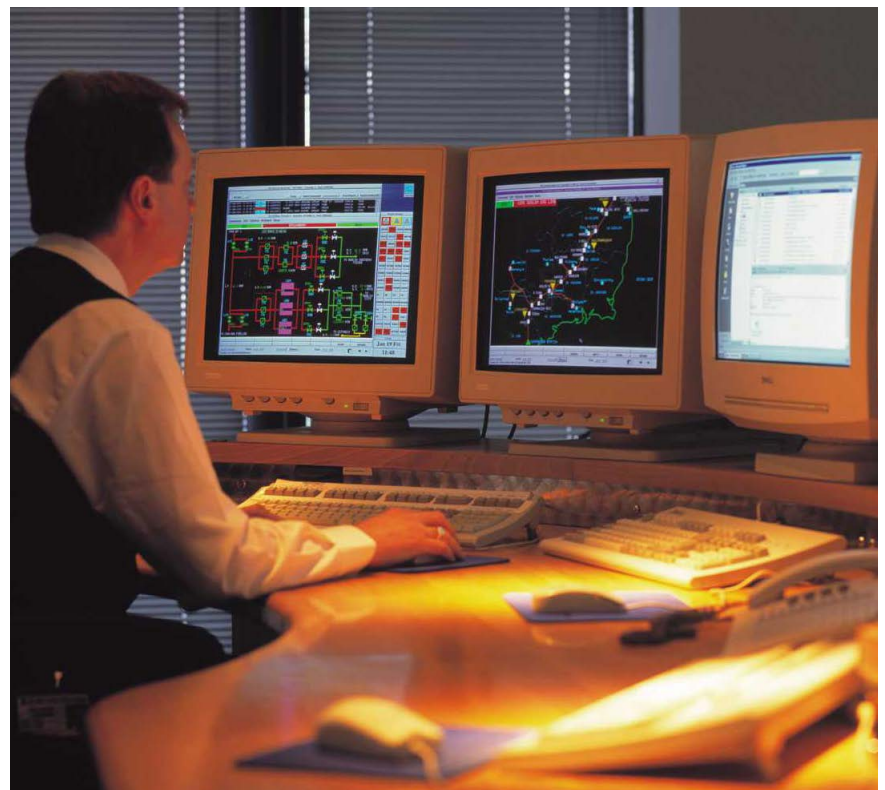
The 2012/13 winter period was colder than previous years. Annual gas demands however were lower than 2011/12 due to further reductions in the power generation sector gas demand driven by an increase in coal fired generation and additional electrical imports.

The 2012/13 Bord Gáis system peak day throughput of 25.6 mscmd occurred on 12th March 2013. This figure includes for flows to ROI, Northern Ireland (NI) and Isle of Man (IOM) of 19.9mscmd, 5.3mscmd and 0.4mscmd, respectively.

The 2012/13 annual temperature was approximately 11% colder than the 20 year average and was more reflective of 2009/10 and 2010/11 annual temperatures but with milder temperature extremes.

Wind speeds for 2012/13 were 1% higher than the 20 year average. Wind powered generation reached a maximum output of 1,506 MW on 18th December 2012, while wind powered generation during the 2012/13 peak gas demand day varied from a minimum of 299MW to maximum of 658MW.

The severe cold weather spell which occurred across Europe in March 2013 was the coldest March on record in Ireland and the coldest since 1962 in the UK. The UK's storage facilities came close to empty in March.





Great Britain National Grid Outlook

National Grid UK report that the maximum supply forecast to the UK for 2013/14 will sufficiently exceed the anticipated peak gas demand through a combination of UK supplies and a diverse range of import capacity and storage. UK indigenous gas production will account for less than half of the total gas demand with imports, LNG and storage supplying the balance. The UK estimates a slight increase in the deliverability of gas from storage for the coming winter due to modifications at Holford and Aldbrough. Forward energy prices for winter 2013/14 are anticipated to strongly favour coal over gas for power generation. Exports through Moffat are predicted to be similar to last year. The key operational challenges for winter 2013/14 are expected to be associated with managing day to day supply uncertainties, unplanned events and increasing within day linepack variation driven by an unpredictable supply and demand environment.

Forecasted 1-in-50¹ Year Peak Day Demands for Winter 2013/14

Table 1 presents the 1 in 50 year peak day system demand forecast for 2013/14 as per the Network Development Plan 2013. This forecast assumes that the Moyle Electrical Interconnector will continue to be on partial outage and the EWIC would be operating at full capacity. This forecast indicates that Moffat supply flows could be within 94% of its technical capacity limit. On such a peak day flows through the Moffat Entry Point are expected to be high, hence system flexibility will be low and pressures may approach 56 barg at Twynholm.

It is to be noted that an extreme weather event late in the winter period in conjunction with possible low withdrawal rates from storage, due to low quantities of stored gas from higher withdrawals earlier in the season, could expose the Moffat Entry Point to flows in excess of its technical capacity.

Table 1: 1 in 50 Year Peak Day Flows for NDP 2013

^{*} Required flows exceed the technical capacity of the Moffat Entry Point of 31mscm/d



¹ Gas demand under weather conditions statistically likely to occur once every 50 years.



Operational Challenges for Winter 2013/14

The latest gas demand forecast predicts Moffat flows will approach capacity limits in the event of 1-in-50 winter peak conditions occurring, and consequently, there will be limited system flexibility to accommodate within-day shipper re-nominations at Moffat.

The flow profile at the Moffat Entry Point will need to be flattened and predictable; therefore, shippers at the Moffat Entry Point are advised to:

- Ensure D-1 nominations/re-nominations are as accurate as possible;
- Provide re-nominations in a timely and accurate manner in compliance with contractual arrangements; and
- Operate in accordance with the flow nomination information they have provided to the TSO.

In addition to the occurrence of 1-in-50 winter peak day demands, there are a number of other factors which could impact on the capacity and/or system flexibility at the Moffat Entry Point;

- Lower pressures available from the UK National Transmission System (NTS) at Moffat – implies lower station capacity and/or station discharge pressure;
 - The current technical capacity of the Moffat Entry Point is based on an Anticipated Normal Offtake Pressure (ANOP) of 47 barg.
 - Within day pressure volatility at Moffat on the UK NTS also impacts on compressor station operations. The frequency and magnitude of such volatility has increased in recent years, as a result of a change in demand/supply patterns in the UK NTS.
- Gas with a lower Gross Calorific Value (GCV) at Moffat means higher volumes are required to meet downstream energy requirements.
 - Current technical capacity (31 mscmd) is based on a GCV of 39.8 MJ/scm², though the GCV at Moffat typically ranged between 39.5 MJ/scm and 40.0 MJ/scm. During winter 2011/12, there were instances of the GCV approaching 39.0 MJ/scm.
- Bord Gáis Networks are currently progressing a project for the implementation of a short term network planning tool. This tool will be deployed in transmission grid operations to inform operational decision making. It will play a pivotal role in ensuring the transmission network continues to be operated in the most optimal manner with regard to efficiency, economy, safety and security of supply. Hydraulic modelling software will interface with existing Bord Gáis Networks operational information management systems to run real-time online transient network models and predictive/what-if scenario network models.
- EirGrid anticipate that the cessation of the Winter Peak Demand Reduction Scheme may increase peak demand periods by 100 – 140MW. This may increase gas demands on peak demand days.
- Bord Gáis Networks have finalised a Local Operating Procedure (LOP) with Premier Transmission Ltd (PTL), which clarifies the necessary profiling arrangements at the Twynholm Exit Point in southwest Scotland, where PTL's system connects to the Interconnector System. The capacity of the Interconnector System is influenced by the gas flow profiles at the Moffat Entry Point and Exit Points on the South-West Scotland Onshore System (SWSOS), including Twynholm. The implementation of this LOP is required in November 2013 and it will provide Bord Gáis Networks clarity in managing the SWSOS.

² Validated by actual GCV observations at the Moffat Entry Point.

Security of Supply - Interconnector Linepack

Subsea Interconnector pressures will be maintained to ensure minimum operational requirements and sufficient linepack to meet an amount of ROI non-power generation gas demand, in the event of a supply disruption.

At times of peak demand, such a stock position (high linepack in subsea ICs) may need to be reduced in order to free up transportation capacity, thereby ensuring end of day volumes are met.

Commercial Arrangements

Gaslink has conducted a review of the existing commercial arrangements regarding re-nominations and is considering amendments to existing Code of Operations re-nomination procedures to reflect current realities in the gas and electricity markets.

Gaslink reiterates the importance of accurate and timely re-nominations in enabling Gaslink to operate the gas network in an effective and efficient manner.

