Gaslink's Response to Common Arrangements for Gas Security of Supply

January 2009

1. Gaslink Response

1.1 Introduction

Gaslink welcomes the opportunity to comment on the consultation paper: "Common Arrangements for Gas Security of Supply" (19th December 2008). Gaslink believes that the development of a more formal approach to security of supply, would significantly enhance the future security of natural gas supplies.

It is also sensible that any such security of supply arrangements are harmonised on an all-island basis, to ensure that can be implemented on a least-cost basis (and avoid any unnecessary duplication). Gaslink welcomes the joint approach taken by the two Regulators as part of the Common Arrangements for Gas (CAG) project.

1.2 Current SOS Capability

Currently the Republic of Ireland (ROI) market sources the majority of its annual gas requirements from Moffat in Great Britain (c. >90% in 2007/08), with the balance being supplied from a combination of Kinsale production and storage gas at Inch.

Previous studies by Bord Gáis Networks (BGN) indicate that supplies to the "non-power" sector could be maintained for between 2 – 5 days (depending on the severity of the weather), provided:

- All power stations stopped consuming gas within 5-hours; *and*
- Supplies of approximately 4 million standard cubic metres per day (mscm/d) were available at Inch.

A key question for the current consultation is to determine whether this existing capability is sufficient? Other continental Europe countries can survive for significantly longer periods in the event of the loss of a major source of supply. Does Ireland need the same capability, particularly as the GB market becomes increasingly dependent on imports?

Obviously the security of supply outlook will improve significantly once the Corrib gas field commences production, and potentially with the Shannon LNG terminal (depending on their supply profile).

Production from the current gas field is forecast to decline within a few years, however, and in the longer-term security outlook for the market could revert back to the current situation (outlined above).

The ability to survive for between 2 – 5 days is adequate to overcome "technical failures on the transmission system, but would be insufficient in the event of a prolonged gas supply emergency. The recent Russia/Ukraine gas dispute lasted for c. 12+ days.

Gaslink and BGN believe that additional storage (over and above held in the existing Kinsale storage facility), will be required to ensure the long-term security of natural gas supplies to Ireland.

It would be prudent to build-up the equivalent of 90-days gas storage for the non-power sector. This would be more in line with Continental Europe levels and would also be consistent with the requirement to hold 90-days of strategic oil reserves.

There are currently a number of projects being developed that could provide this capability, e.g. the expansion of the existing Kinsale storage facility, salt-cavity storage in Northern Ireland (NI), LNG storage at the Shannon LNG facility and converting the depleted Ballycotton gas field into a storage facility.

Gaslink believes that the market is best placed to determine whether one or more of these projects is best placed to provide the additional storage. The market should also determine whether this is provided on a commercial or strategic basis or both.

It also highlights the importance of maintaining the existing Kinsale storage facility in service, and to encourage further indigenous exploration and production in Irish waters.

1.3 Which sectors should be protected?

In the event of an actual gas supply emergency (i.e. a shortage of gas), the largest customers are isolated first (i.e. the power stations) and the smallest customers last (i.e. the residential supplies).

This arrangement is necessary for safety reasons to maintain a positive pressure in the pipeline system (in order to avoid air being sucked into the pipes). It is essential, therefore, that gas-fired stations are able to switch to a secondary back-up fuel during a gas supply emergency.

The recent CER decision on secondary fuel obligations for power stations will require gas-fired power stations to hold between 2 – 5 days of stock, depending on whether or not they are a baseload station.

The above point highlights the increasing interconnection between the gas and electricity markets. It is essential that any security of supply arrangements take both sectors into account.

Both Gaslink and BGN believe it would be prudent for power stations to be able to survive for more than 5-days in the longer term. While gas storage is the most appropriate approach for the residential and I/C sector, it may be more economical to hold gas-oil stocks for power stations.

The potential scope for holding some NORA strategic gas-oil reserves at or nearby to gas-fired power stations should also be considered (over and above the latest CER requirement to hold 3-5 days of stocks).

1.4 Security of Supply arrangements

The CER has already made considerable progress in the development of security arrangements in the ROI, with the appointment of Gaslink as the National Gas Emergency Manager (NGEM), the formation of the Task Force on Emergency Procedures (TFEP) and its decision on secondary fuel Obligations for power stations,

Gaslink currently designs and operates the ROI transmission system to meet a 1 in 50 peak-day demand. Its preference would be to continue working to this standard, but it is prepared to work with the two Regulators and other interested stakeholders to identify the most appropriate standard for the Island.

If an alternative peak-day criteria were to be adopted (e.g. a 1 in 20 peak-day demand criteria), then it may have a follow-on impact on transmission and distribution tariffs, which would also have to be taken into consideration.

1.5 Response to consultations

Gaslink has also prepared a more detailed response to the individual questions raised in the consultation paper itself, and these are set-out in the following section.

CER/NIAUR CAG Security of Supply Consultation Paper - Gaslink Response

1. ***Should an obligation be placed on network operators to build and maintain the network to a 1-in-20 or a 1-in-50 peak-day?***

   Demand varies in accordance with weather conditions, particularly on the distribution system. Therefore, Gaslink believe that network operators should be obliged to design, build and maintain the network to a recognised industry standard. The European customary practice is to design a transmission system to meet normalised weather conditions, the two most common standards used are 1-in-20 peak day and 1-in-50 peak day.

   Gaslink currently design the transmission system to a 1-in-50 peak day standard. The National Transmission System in GB (Great Britain) is designed to a 1-in-20 peak day standard in accordance with 'Standard Special Condition A9' of the 'Transporters Licence'[1]. Whereas GRTgaz in France have a public service obligation to meet the 1-in-50 peak day demand[2].

   Studies by BGN have estimated the difference between 1-in-20 peak day demand and 1-in-50 peak day demand, is less than 5 % for the weather sensitive NDM (Non Daily Metered – Residential & small I/C) sector. The overall impact to the transmission system is less than half this, as NDM demand accounts for approximately 35% of total demand on the peak day.

   Gaslink believe a common standard should be applied, and favour the 1-in-50 peak day standard. However, Gaslink prefer to work with the regulators and other stakeholders to identify an optimum standard for the Island.

   The adoption of a common standard may have follow on implications for commercial arrangements in each jurisdiction, and require an adjustment to tariffs; this needs to be taken into account when deciding the appropriate standard.

   The high level process for calculating the 1-in-50 or 1-in-20 peak day demands should be documented and publicly transparent.

2. ***Is a period of five days appropriate for the period for which supplies to domestic customers must be protected in the event of a partial disruption to national supplies?***

   Gaslink believe 5 days is insufficient to protect domestic customers in the event of a partial disruption to supply.

[1] 'National Grid 2005 Gas Transportation Ten Year Statement'
[2] 'GRTgaz 2008-2017 10 Year Development Statement'

The 5 day period is based on previous BGN studies that showed supplies to the non-power sectors could be maintained for 2 to 5 days, depending on the severity of the weather and providing dual fuel gas fired power stations switched to a secondary fuel.

Inch as a single supply source is incapable of meeting the Non-Power sectors demand. This is demonstrated in the table below, which reflects the year to date peak day demand for 2008/09, the annual demand for gas year 2007/08, and the maximum supply received from Inch for year to date 2008/09.

Non-power peak-day (7th January '09)

	2008/09 YTD (GWh/d)	2008/09 YTD (MSCM/d)
NDM	79.7	7.6
DM I/C	21.5	2.1
Total	101.2	9.7
Inch	35.6	3.4
Shortfall	65.6	6.3

Non-power 2007/08 Annual Demand

	2008/09 YTD (GWh/d)	2008/09 YTD (MSCM/d)
NDM	12,125	1,1161
DM I/C	6,621	634
Total	18,746	1.795
Inch	4,772	457
Shortfall	13,974	1,338

NDM=Residential + small I/C, DM=Larger I/C

The shortfall between Inch supplies and the above peak day demand could have been met by using gas from 'Line-pack' in the sub-sea system, though this limited resource may have expired after 2 to 5 days depending on the severity of the weather.

The 5 day period provides protection from technical failure to the infrastructure, but may prove to be insufficient during a longer term gas supply emergency. Should there be loss of Moffat supplies during a long-term gas supply emergency that affected Britain, the Island would rely solely on supplies from Inch.

In addition the current level of backup storage is quite low compared to other EU countries that have high levels of gas imports. Please see table below

GAS STORAGE CAPACITY IN SELECTED EU COUNTRIES 2006

Country	Import Dependence	Storage Capacity in Number of Days compared to Average Daily Demand	
		Total Market	Residential & Services (Commercial)
	%	Days	Days
Austria	79%	156	636
France	97%	98	174
Germay	82%	77	151
Italy	87%	66	184
Denmark	0%	72	334
Netherlands	0%	48	117
Spain	100%	41	320
Belgium	100%	14	40
UK*	11%	18	40
Ireland (ROI + NI)**	94%	11	55

*** UK excludes NI consumption figure**

**** Ireland (ROI + NI) is based on 2006/07 Consumption figures**

Historically GB has been a net exporter of gas, and therefore has been a highly reliable supplier of gas to the Island. With production declining in the North Sea, and no significant new discoveries, GB is going to become highly dependent on gas imports in the future, e.g. inter-connectors from Continental Europe and Norway, and also LNG.

In the short to medium term the Corrib field will greatly enhance the security of supply situation on the Island. However its production is predicted to plateau and decline within 5 to 6 years, and with the absence of any new discoveries, the Island will revert back to being highly import dependent on gas supplies from GB, who at that stage will also be heavily dependent on imports.

Given this long term outlook, Gaslink believe it would be sensible to increase storage levels on the Island towards European levels, particularly in line with the member states who have a similar import dependency to the Island, i.e. holding stocks up to 90 days for the non-power sector.

This level of storage could be achieved through commercial storage, or strategic storage or storage encompassing both components.

3. ***Does a peak-period (as specified in 19A (1)(c)(ii) of the 2002 Act) need to be specified? Or does a 1-in-50/1-in-20 peak-day imply a sufficient period for this purpose?***

Gaslink believe the decision as whether to adopt peak day or peak period criteria is largely influenced by the level of storage.

If storage makes up the majority of the supplies to the market, then it is necessary to have peak period criteria to supplement peak day criteria, in order to ensure supplies can be maintained when storage is exhausted.

Gaslink believe that the peak day criterion is sufficient for the short to medium term given the low level of storage on the Island, and the seasonal operation of the facility, (i.e. long range storage).

This decision may need to be reviewed going forward as the level of storage increases on the Island, particularly if shorter range storage is implemented, e.g. salt cavities.

4. **Are there additional minimum standards required for other energy undertakings or offshore producers?**

Gaslink believe in the event of a supply emergency, it would be beneficial to the gas industry as a whole if producers are obliged to maximise their production, with the appropriate arrangements in place to accommodate this. These obligations should be embedded in their licensing and safety case arrangements.

Given the interdependence between the gas and electricity systems, it would also be essential that power stations have sufficient stocks of secondary backup fuel (Gas Oil or LSFO) available in the event of a gas supply emergency.

The amount of backup fuel held at the power stations should be consistent with the level of gas storage held to protect customers in the non-power sector. As the majority of gas heating systems require electricity to function, it would be pointless developing gas storage for the non-power sector, if it can't be utilised in the absence of an electricity supply.

Gaslink welcomes the CER's 'Secondary Fuelling Obligation', that requires gas fired baseload power generators to hold 5 days and peak power generators to hold 3 days of secondary fuel stock.

In the longer term Gaslink believe greater volumes of fuel stocks should be held at Power Stations, or in close proximity to Power Stations for reasons discussed above.

5. **Should shippers/suppliers be required to book peak-day/severe winter capacity for a 1-in-50 or a 1-in-20 for peak-day? What costs would be incurred by shippers/suppliers in order to meet such proposed requirements?**

   Gaslink believe the capacity booking regime should be cost reflective, and shippers should be required to book sufficient capacity to meet 1-in-20 or 1-in-50 peak day demand of their NDM customer portfolio.

   Gaslink note however that not all sectors are temperature sensitive. Distribution connected customers are by far the most weather sensitive, particularly the NDM sector (Residential & Small I/C).

   Gaslink would recommend at the very minimum, shippers should be obliged to book 'Exit Capacity' to meet demand of the 1-in-50 NDM peak day, as per the code of operations.

6. **Should shippers/suppliers be required to secure supplies for a 1-in-50 annual demand or a 1-in-20 for peak-day? What costs would be incurred by shippers/suppliers in order to meet such proposed requirements?**

   Gaslink believe the advantage of designing a transmission system to meet 1-in-20 peak day or 1-in-50 peak day demand would be offset by the inability of shippers to provide gas supply to their customers. Therefore shippers should be obliged to supply customers during a 1-in-20 or 1-in-50 peak day.

   Gaslink believe that gas will always be available from Moffat, providing Shippers are prepared to pay the asking price. Shippers must make an economic decision, as whether to contract gas supplies to guarantee supply for the 1-in-20 or 1-in-50 peak day, or whether to take the risk of buying gas on the day at a potentially higher price.

   Therefore shippers are best placed to determine how they meet this obligation.

7. **Should obligations be placed on shippers/suppliers ensuring minimum levels of diversity in their contracted sources of supply?**

   If there were multiple entry points, this obligation should be considered for shippers supplying the NDM sector as a security provision, in the event of loss of supply from 1 or more of the supply sources.

8. **Should obligations be placed on shippers/suppliers relating to long-term contracts?**

   Gaslink believe the market is best placed to determine the duration of contracts to secure the level of supply.

   There are also strategic questions to consider for the country, to have long term supply contracts in place.

9. **Are shipper/supplier obligations best provided for through licence conditions or through the Code(s) of Operations?**

   Gas supply conditions and capacity obligations should be inserted in the licence conditions, and where appropriate be also reflected in the Codes of Operations for both jurisdictions.

10. **Should storage operators be required to hold minimum levels of storage?**

    Gaslink believe there should be a requirement to maintain minimum levels of stock in storage in order to maintain the safety of the system. This requirement could be similar to the Gas Monitor regime employed in the GB market.

    The two regulators are best placed to determine whether shippers or storage operators should fulfil this obligation

11. **Should shippers/suppliers be required to hold minimum levels of storage?**

    Please see response to question 10.

12. **Should storage stocks in GB storage facilities be considered an appropriate security of supply measure?**

    Gaslink believe it's advantageous to have gas stored as close to the market as possible, since this increases the likelihood of gas being delivered to the market in the event of an emergency.

13. **Would obligations in relation to storage distort the Irish gas market?**

    Storage obligations could potentially distort the gas market, as it restricts the ability of shippers to take advantage of price differentials.

These difficulties can be overcome by holding separate strategic and commercial stocks, the strategic stocks being only accessible during a supply emergency and not in response to price volatility.

It should be possible to organise this arrangement without distorting the market.

In an ideal world these services could be provided on a commercial basis, however it may be necessary to pay for the strategic component through a PSO (Public Service Obligation). It could be possible for a storage facility to have both strategic and commercial elements. The PSO levy could enhance the financial viability of the commercial proportion of the facility, and help to promote greater development of commercial storage on the island.

14. Are there sufficient incentives in place for the commercial provision of adequate storage?

Please see response to question 13.