Preliminary Safety Monitor Requirement 2017/18

May 2017

Executive Summary

The provisional Safety Monitor for 2017/18 shows little change from last year. The 2017/18 space requirement of 711 GWh compares with 697 GWh in 2016/17. This equates to 5.3% of total storage space.

Introduction

This document sets out the preliminary 'Safety Monitor' for the 2017/18 winter, pursuant to National Grid's obligations under the Uniform Network Code Section Q.

The preliminary safety monitor provided in this note uses our initial 2016/17 demand forecasts and our latest supply analysis produced in May 2017. Our demand forecasts are yet to be completed for 2017/18 and some elements of our supply analysis are to be finalised. These will potentially lead to changes in the final monitor published in September.

It is our responsibility to keep the safety monitor under review (both ahead of and throughout the winter) and to make adjustments, if it is appropriate to do so, on the basis of the latest information available. We will continue to provide within winter feedback to industry regarding supply assumptions and any resulting changes to safety monitors by means of monthly updates via Operational Forum meetings and information on our web site. In doing so, we must recognise that the purpose of the safety monitor is to ensure an adequate pressure can be maintained in the system at all times and thereby protect public safety.

Background

The Uniform Network Code (UNC) (inter alia) requires us to publish the safety monitor and to provide regular reporting of actual storage stock levels for comparison with the monitor. As the name suggests, the focus of the safety monitor is public safety rather than security of supply. It provides a trigger mechanism for taking direct action to avoid a potential gas supply emergency (as defined in the Gas Safety (Management) Regulations).

Methodology

There continues to be two main steps in the assessment of the safety monitor:

- The calculation of the total storage requirement at the start of the winter
- The assessment of the way in which this initial requirement declines as the winter progresses, known as the winter profile. This second step also includes an assessment of how the total storage deliverability requirement reduces as the winter progresses.

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This note only covers the first step, by providing a preliminary assessment of the safety monitor space requirement. The safety monitor requirement is highly dependent on the assumptions made regarding the aggregate level of non-storage supply (NSS). We will be consulting on the likely non storage supplies we may see this coming winter. Once the winter consultation process is complete, we will publish the final safety monitor in September, including the monitor storage space requirement and the deliverability requirement.

Safety Monitor Calculation Process

The concept behind the safety monitor is to ensure that sufficient gas is held in storage to support those gas consumers whose premises cannot be physically and verifiably isolated from the gas network within a reasonable time period. To achieve this all gas consumers are categorised into one of two groups:

- Protected by Monitor - Gas is held in storage to facilitate continuity of supply to these consumers even in a 1 in 50 winter
- Protected by Isolation – Network safety would be maintained if necessary by physically isolating these customers from the network

The categorisation into these groups is summarised in the table below:

Table 1: End Consumer Categorisation for Safety Monitors

Protected by Isolation - Sites which can be safely isolated from the network	**Protected by Monitor** - Sites which require protection under the safety monitor
NTS Power	Priority[1] DM[2]
NTS Industrial	NDM
DM (excluding priority customers)	Exports to Ireland for NDM
Exports to Ireland for DM	

The safety monitor storage requirements comprise two elements:

- **Supply-demand**: Storage required to support 'protected by monitor' loads, assessed using a severe (1 in 50) winter load duration curve and assumed supply levels;

- **Isolation**: Storage required during the process of demand reduction, effectively to support 'protected by isolation' loads during the period in which these loads are isolated from the system.

Supply

There continues to be uncertainty regarding the aggregate level of non-storage supplies especially the individual components of these supplies. LNG and interconnector imports continue to be elements with most uncertainty.

[1] Currently, priority daily metered (DM) loads represent less than 2% of protected by monitor demands.
[2] Daily Metered

The focus of the safety monitors is public safety and hence, it is prudent to ensure that the assumed level of NSS will be available throughout the winter, notably at times of high demand.

Our final view of supplies for next winter will be detailed in our Winter Outlook Report document to be published in October. Our NSS assumptions can be summarized as follows:

- Rather than use our forecasts for NSS for winter 2017/18, our NSS assumption is based upon a NSS versus demand relationship based upon a weighted rolling average of the last five years of historic data.
- Analysis of previous winters' data shows that assuming an availability of 95% captures typically 95% of all data points, with those that are still below often the result of short term supply losses.

Table 2 shows the anticipated availability of storage capacity in winter 2016/17.

Table 2 - Storage

	Space (GWh)	Deliverability (GWh/d)	Space (mcm)	Deliverability (mcm/d)
Medium (MRS)[3]	12439	1049	1131.84	95.36
Long (Rough)[4]	1084	0	98.54	0
Total	**13523**	**1049**	**1230.38**	**95.36**

Demand

The demand background used for the analysis in this section uses our demand forecasts for 2016/17 that were produced in June 2016: the final safety monitor will be based upon our final 2017 demand forecasts for 2017/18.

[3] Includes Hornsea, Hole House Farm, Hatfield Moor, Humbly Grove, Aldbrough, Holford and Hill Top Farm: numbers may be revised as new information becomes available

[4] Centrica have announced that there will be no injection into Rough until May 2018. We have therefore assumed that the current stock levels of 1084 GWh of gas will be available for this winter. We will review this situation ahead of the final calculations

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Preliminary Safety Monitor Space Requirement

Table 3 shows the total safety monitor space requirement on the basis of the supply and demand assumptions outlined above. The 2017/18 space requirement of 711GWh compares with 697 GWh in 2016/17.

The safety monitor space requirement has increased slightly since last year due to changes in supply and demand assumptions.

Table 3 – Total Preliminary Safety Monitor Space Requirement

	Total storage capacity (GWh)	Space requirement (GWh)	Space requirement %
Total	**13523**	**711**	**5.3 %**

Table 4 gives a high level indication of the potential supply demand balance on the highest demand day of a 1 in 50 severe winter.

It shows the protected by isolation demand supported under the safety monitor on day 1 of the 1 in 50 winter. It also shows total supplies available for the same day. It should be noted that there is additional deliverability over and above that required to meet NDM and BEIS defined priority load demand on the day. As these are preliminary numbers, they are likely to change.

Table 4 – Preliminary Peak NDM & Priority Demand and Peak Day Supply

Demand	**GWh/d**
Peak[5] NDM & Priority Demand (A)	3403
Peak Supplies	
NSS[6]	3839
Storage	1049
Total Supplies (B)	4855
Supply Surplus (B) – (A)	**1485**