

Preliminary Safety Monitor Requirement 2014/15

12th August 2014

Introduction

This document sets out the preliminary 'Safety Monitor' for the 2014/15 winter, pursuant to National Grid's obligations under the Uniform Network Code Section Q.

The preliminary safety monitor provided in this note uses our 2013 demand forecasts and our latest supply analysis produced in May 2014. We expect to update our safety monitor analysis to use our 2014 demand forecasts with consideration of any feedback that we receive via the winter 2014/15 consultation process.

Our Winter Consultation Report 2014/15 which was published in July presented an initial view of gas demand and supplies for the coming winter. It highlights continuing uncertainty with regard to potential non-storage supply levels, notably for LNG and interconnector imports. We request that market participants respond to our winter 2014/15 consultation process to assist us in developing our final monitor determinations 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.

This year the safety monitor calculation has been revised to ensure consistency between Irish and GB monitor requirement. This has reduced the safety monitor requirement.

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 decays as the winter progresses, known as the winter profile. This second step also includes an assessment of how the total storage deliverability requirement decays 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 winter profile 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
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 could be isolated from the system.

This year the Irish demand categorisation has been split in the same way as GB demand. This is a change of method to ensure it is treated with a consistent approach to GB demand. This change reduces the total Safety Monitor requirement.

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

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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.

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 assumption of NSS for calculation of the safety monitors is based upon a weighted rolling average of the last five years of NSS. Our assumption of NSS for winter 2014/15 is higher than for winter 2013/14, as the weighted rolling average has been driven up by the higher actual levels of NSS in 2013/14 than in 2012/13.

Our final view of supplies for next winter will be detailed in our Winter Outlook Report document to be published in October.

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 NSS assumptions can be summarized as follows:

- Rather than use our forecasts for NSS for winter 2014/15, 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 2014/15.

Table 2 - Storage

	Space (GWh)	Deliverability (GWh/d)	Space (mcm)	Deliverability (mcm/d)
Short (LNG)	676	150	61	14
Medium (MRS) ²	12859	863	1169	78
Long (Rough) ³	40700	485	3700	44
Total	54235⁴	1498	4930	136

Demand

The demand background used for the analysis in this section uses our demand forecasts for 2014/15 that were produced in June 2013: the final safety monitor will be based upon our 2014 demand forecasts for 2014/15.

² Includes Hornsea, Hole House Farm, Hatfield Moor, Humbly Grove, Aldbrough, Holford and Hill Top Farm: numbers may be revised as new information becomes available

³ Reflects latest information from Centrica Storage Limited regarding Rough maximum capacity

⁴ Operating Margins space bookings are included

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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 2014/15 space requirement of 958 GWh compares with 1017 GWh in 2013/14.

The safety monitor space requirement has decreased since last year due to the assumption of higher levels of NSS for the coming winter and the change of method to ensure Irish demand is treated with a consistent approach to GB.

Table 3 – Total Preliminary Safety Monitor Space Requirement

	Total storage capacity (GWh)	Space requirement (GWh)	Space requirement %
Total	54235	958	1.8%

Preliminary Storage Safety Deliverability Requirement

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 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 DECC defined priority load demand on the day. This year, preliminary numbers indicate all of the peak NDM and priority demand requirement can be met by NSS supply, with storage being surplus to this specific requirement. 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)	4044
Peak Supplies	
NSS ⁶	4044
Storage	1498
Total Supplies (B)	5542
Supply Surplus (B) – (A)	1498

⁵ Note that in this instance peak refers to Day 1 of the Severe (1 in 50) diversified load duration curve, as this represents the highest level of NDM and priority demand that would be supported during a severe (1 in 50) winter

⁶ The level of NSS is derived from 95% of the weighted rolling average of the last 5 years of actual NSS based on peak day demand conditions