

December 2014

nationalgrid

**Development of a  
Demand Side  
Response  
Methodology for use  
after a Gas Deficit  
Warning**



# Executive Summary

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This industry consultation seeks your views on the draft Demand Side Response (DSR) Methodology, which is aiming to introduce a mechanism that facilitates a 'route to market' through which Large End Users may offer to turn down their consumption of gas 'Demand Side Response' (DSR) during times where such response may help to reduce the likelihood, severity or duration of a national Gas Deficit Emergency (GDE).

This industry consultation has been raised following the publication of Ofgem's revision to National Grid's Gas Transporters Licence, which introduced a new Special Condition; Special Condition 81 – 'Development and Implementation of a Demand Side Response Methodology for use after a Gas Deficit Warning'

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## Section 1

# Background to the development of the DSR Methodology and the proposed new DSR Product

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Ofgem's Security of Supply (SoS) Significant Code Review (SCR) identified that in the build up to a *Gas Deficit Emergency (GDE)*, there may be merit in developing a mechanism, which may further facilitate additional DSR volume, allowing *Daily Metered (DM) End Users* to signal their willingness to come off the system i.e. that which may otherwise not be offered through existing market mechanisms.

It was noted during the review that encouraging as much DSR volume off the system, post a *Gas Deficit Warning (GDW)* and prior to the end of *GDE* stage 1, may in some circumstances provide sufficient additional system balancing volumes to avoid entering into a *GDE* stage 2 emergency. This may therefore help the industry avoid the high costs and risks associated with an escalation into a *Gas Deficit Emergency*.

The outcome of Ofgem's SoS SCR workshop discussions concluded that there would be merit in further development of a DSR mechanism. Ofgem considered that further development could be achieved outside of the SoS SCR process and therefore proposed that a DSR Methodology continued to be developed through a new licence obligation on National Grid.

As part of the SCR SoS Final Policy Decision Document (12 February 2014), Ofgem included a consultation on the Draft Licence Obligation 'Special Condition 8I – Development and Implementation of a Demand Side Response Methodology for use after a Gas Deficit Warning'.

Following a consultation on the draft licence obligation, Ofgem published their Gas SCR SoS Conclusions in September 2014. This confirmed their decision to proceed with the development of a centralised DSR Mechanism and to place a licence obligation on National Grid to develop it. The decision to modify the Gas Transporter licence to include Special Condition 8I took effect on 19<sup>th</sup> November 2014.

This consultation explains the outcome of subsequent industry developments for new arrangements of a DSR Mechanism in line with the Gas Transmission Licence Condition 8I.

In June 2014, National Grid submitted an industry Uniform Network Code (UNC) contract change proposal, which highlighted how the DSR Methodology and supporting mechanism could be developed. This proposal was accepted by industry representatives as a suitable route to develop the arrangements and since July, National Grid have been working with the help of a wide variety of industry representatives, carrying out a series of workgroups outlining the options in order to produce recommendations for a potential DSR Product, DSR Methodology and supporting Mechanism. This document describes the results of this development process.

Further information of the discussions within the workgroup meetings can be found on the Joint Office of Gas Transporters website at: <http://www.gasgovernance.co.uk/dsr>.

Following this consultation National Grid will:

1. submit a draft DSR Methodology to the Ofgem (the Authority) no later than 1<sup>st</sup> March 2015;
2. where subsequently Directed by the Authority to do so, run a trial of the approved draft Demand Side Response Methodology;
3. following such a trial, submit to the Authority a report on the outcome and a final version of the Demand Side Response Methodology amended if necessary to address issues identified during the trial; and
4. where Directed by the Authority to do so, implement the Demand Side Response Methodology.

This document sets out a potential future change to the commercial framework between National Grid, Shippers, Suppliers and *Daily Metered End Users* should the Authority decide to direct National Grid to implement the Demand Side Response (DSR) Methodology following the submission deadline.

For further clarification on the terminology used within this document a glossary of terms is provided in Appendix one. Throughout the Methodology there are references to particular sections of the Uniform Network Code (UNC) document (these are highlighted using the UNC reference code). We have done this to ensure that this document remains aligned to the UNC should such areas of the main UNC document change in future and also to avoid replicating the existing UNC commercial regime methodologies within this document. The UNC document can be found on the Joint office website at: <http://www.gasgovernance.co.uk>

## Section 2 Summary

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This consultation on the draft DSR Methodology document, seeks to encourage *DM End Users* to offer to reduce their gas demand at times of gas system supply stress, and be compensated for doing so. The aim is that by providing DSR prior to entering a *GDE*, *DM End Users* have the potential to protect their critical loads by turning down other, less critical loads. The DSR Methodology design has been developed by National Grid with support of a number of industry representatives, during a series of DSR workgroup discussions, with the aim of addressing the eight DSR Principles as outlined within National Grid's Gas Transporter Special Licence Condition 8I.

As a result of the work with the industry and interested parties, the Methodology outlines that:

- DSR Offers may only be accepted by National Grid in its *Residual Balancing* role, once a *Gas Deficit Warning* has been declared.
- The DSR Product will utilise the existing gas industry 'On the day Commodity Market' (OCM) Locational Platform.
- The DSR Product must be associated with a specific *DM Supply Point* that has a registered *Annual Quantity (AQ)* greater than 2 million therms per annum.
- The DSR Product will be offered to National Grid as a single *Daily* or grouped *Multi-day* product, which in turn may be offered in the form of;
  - a "7-day profiled" offer (enabling the ability to submit differing values (volume and price) for each day of the week or the same value for each day if required) within which the offer values may continuously roll over once the initial 7-day profiled offer (strip duration) has completed; or
  - An offer that is input for a *Multi-Day* basis.
- Where a DSR Offer is submitted and then accepted by National Grid on a *Day* where National Grid subsequently declares that the gas network has entered a *Gas Deficit Emergency Stage 2* (**See appendix 4 for further information on the emergency stages**), the *Supply Point* at which the DSR offer has been accepted will be required to maintain its reduction in offtake quantity until instructed by the *National Emergency Co-ordinator (NEC)* that its offtake restriction has been removed.

Further details of the DSR service are described in section four.



## Section 3

# Wider Market Considerations

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### 3.1 Interactions with European Network Codes

The Gas Balancing of Transmission Networks Code (EU Balancing Code 312/2014 article 2.4) shall not apply in emergency situations where the transmission system operator has implemented specific national measures that confer to Regulation 994/2010 concerning measures to safeguard security of gas supply.

Regulation 994/2010 states:

- “Measures necessary to ensure the fulfilment of the supply standard may include additional storage capacities and volumes, linepack, supply contracts, interruptible contracts or any other measures that have a similar effect, as well as the necessary technical measures to ensure the safety of gas supply”.
- “Article 3 - The measures to ensure the security of supply contained in the Preventive Action Plans and in the Emergency Plans shall be clearly defined, transparent, proportionate, non-discriminatory and verifiable, shall not unduly distort competition and the effective functioning of the internal market in gas and shall not endanger the security of gas supply of other Member States or of the Union as a whole.” As outlined in Section 5, which details the DSR service against the requirements set out within National Grid’s Licence condition, we believe DSR does not distort competition as it provides no additional functionality than that which is already offered to shippers and consumers on the OCM Title Market.
- Within this Regulation, Annex II there is also a “list of market-based security of gas supply measures” which includes an equivalent to DSR “Demand Side Measure - voluntary *Firm Load Shedding*”.

In addition DSR is a preventative market measure which aims to safeguard against a gas security supply issue or an emergency. Therefore, we believe that the DSR product described within this consultation would be exempt in accordance with article 2.4 of the EU Balancing code.

### 3.2 Background to the use of the OCM Locational Market

The OCM Market refers to the ‘On the day Commodity Market’ operated by ICE Endex for trading natural gas in Great Britain. The OCM consists of three Markets, the;

- Title,
- Physical, and
- Locational

and is central to the operation of the commercial regime within the GB gas market. The Title Market is the most frequently used and “liquid” and is where the vast majority of trading takes



place. In contrast the Locational Market is used very infrequently, mainly by National Grid for constraint management purposes and hasn't been used by National Grid for gas balancing purposes since 2006. Historically, evidence has demonstrated that National Grid has been the only price taker in this market.

As a result of the current functionality available on the OCM Locational Market and the underutilisation of the platform, the DSR development workgroup agreed by consensus that the Locational Market would be a suitable platform to use for the DSR Mechanism. National Grid agree that extending the scope of the Locational Market Platform to include the new DSR Product would be more efficient and economic than building a separate DSR platform, particularly when considering the low probability of a *GDE* occurring.

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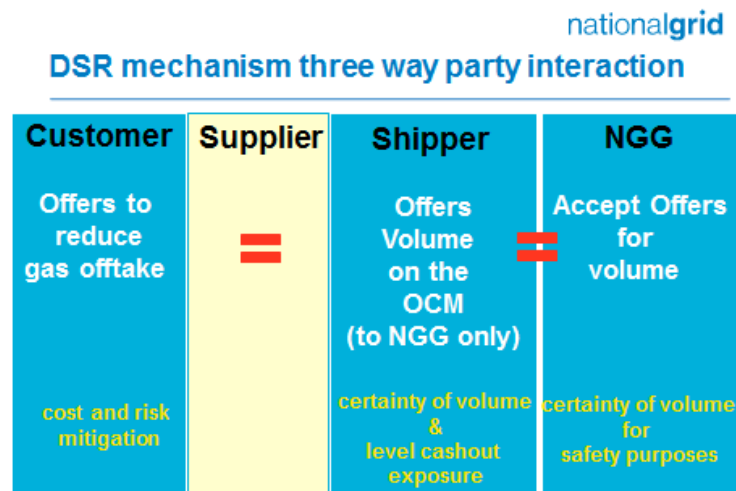
## Section 4

# The DSR Methodology Document

### 4.1 The DSR Service

The DSR Service involves a three/four way party interaction between customers, gas Shippers/Suppliers and National Grid (as shown in diagram below). The two principle financial contractual arrangements from this interaction are;

- Customer and Shipper/Supplier - For the reduction in gas quantity off taken at the relevant gas system *Supply Point* – Shipper/Supplier to *End User* contractual arrangement. The Shipper will offer a reduction in the rate of offtake from the System on behalf of the *End User* (where instructed to do so) in return for the payment of a service fee.
- Shipper and National Grid - For the gas procurement – Shipper to National Grid contractual arrangement. Acceptance by National Grid of an offer to sell title to gas, placed by the Shipper on to the OCM Locational Market platform.



### 4.2 The OCM Locational Market Platform

The DSR Service will utilise the existing OCM Locational Market platform. This will be revised from one in which all Shipper User OCM market participants may both post and accept locational trades to a market where Shipper Users may only post trades and only National Grid is able to accept trades.

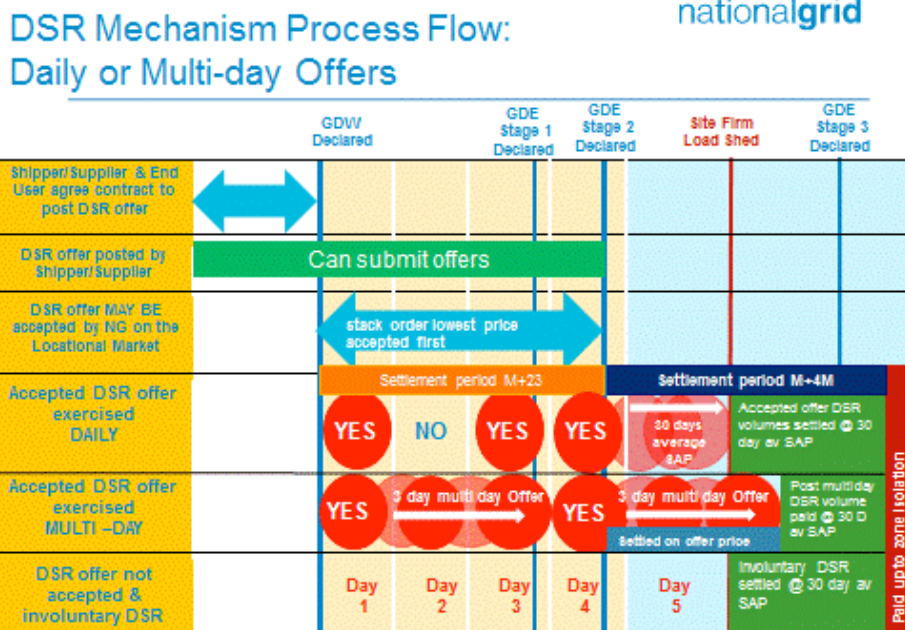
### 4.3 The DSR Product

- The DSR Product must be associated with a specific *Daily Metered Supply Point* (DMC) that has an *Annual Quantity* (AQ) greater than 2 million therms per annum.
- The product will be offered to National Grid as: a *Daily* product and, where appropriate, it will be accepted for each gas *Day* exclusively in accordance with UNC

Section D2.2.1 (d) or as a *Multi-day* product undertaken in accordance with UNC Section D4- *Multi-Day Balancing Actions*;

- Features of the *Daily* DSR Offer product.
  - The *Daily* product may be offered in the form of:
    - a “7-day profiled” offer (enabling the ability to submit differing values (volume and price) for each day of the week or the same value for each day if required) within which the offer values may continuously roll over once the initial 7-day profiled offer (strip duration) has completed; or
    - an offer that is input for a *Multi-Day* basis;
- The Product may only be “offered” on the OCM Locational Market platform by a *Registered User* at the relevant *DMC*;
- The DSR Product may be offered in multiple and separate tranches of volume, which may be priced individually, according to the *Value of Lost Load (VoLL)* associated to each separate tranche;
- Each tranche will be submitted as a single DSR Offer;
- There may be more than one DSR Offer at a specific *DMC*;
- DSR Offers by National Grid will be accepted on a daily basis, for the period between the *GDW* being declared and the former of the *GDW* being revoked or the end of the *Gas Deficit Emergency (GDE) Stage 1*. This time period is the DSR Period.
- *Multi-day Offers* if accepted will be for the duration of the offer.
- Where a DSR Offer is submitted and is subsequently accepted by National Grid on the *Day* of entry into a *Gas Deficit Emergency Stage 2*, the *Supply Point* at which the DSR Offer has been accepted will be required to maintain the associated reduction in its offtake quantity until instructed by the *National Emergency Co-ordinator (NEC)* that its offtake reduction is no longer necessary.

The diagram below shows the proposed design of the DSR Mechanism to provide further clarification.



#### 4.4 The DSR Offer

- All DSR Offers will be posted on the OCM Locational Market platform but these offers will not become visible on the platform until a *GDW* has been declared.
- DSR Offers may be placed, updated or withdrawn on the OCM Locational Market platform at any time up to the declaration of a *GDE Stage 2* for the relevant gas *Day*.
- DSR Offers may only be accepted once a *Gas Deficit Warning (GDW)* is declared for the relevant gas *Day*.
- DSR Offers may only be accepted by National Grid in its role as *Residual Balancer*.
- Each DSR Offer must be greater than 100,000 kWhs in accordance with UNC Section D4.3.
- Where a DSR Offer is accepted it will be regarded as a *Locational Market Balancing Action* that will be undertaken in accordance with UNC Section D2.2.1 (d).
- All accepted DSR Offers will be included in the calculation of *System Clearing prices* for the relevant gas *Day*.

## Section 5

# Assessment of the DSR Service against the requirements set out in National Grid's Licence

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This document has been developed as a result of Ofgem's revision to National Grid Transmission's Gas Transporter Licence. The potential changes to the UNC outlined in this document would, in National Grid's opinion, further the following relevant objectives as detailed in licence Condition A11d:

### **a) Efficient and economic operation of the pipe-line system and b) Coordinated, efficient and economic operation of the combined pipe-line system**

We consider that this draft DSR Methodology and Mechanism, if implemented, would facilitate further Demand Side Response from *DM End Users* who have indicated that they may not otherwise respond to a *GDW*, where the system is in a significant Supply/ Demand deficit. Provision by *End Users* of this type of DSR may provide additional volumes that in some instances would be sufficient to prevent escalation of a severe national gas supply / demand imbalance into a full Gas Supply Deficit Emergency. We believe that such additional response may therefore demonstrate an improvement to the efficient and economic operation of the pipe-line system during specified times where the system balance position is stressed. Additionally we believe that these proposed changes may provide an improvement in the coordinated efficient and economic operation of the combined pipe-line system as they seek to enable DSR from the entire on-shore gas network rather than just those directly connected to the National Transmission System.

### **c) Efficient discharge of the licensee's obligations**

This draft DSR Methodology consultation has been raised as a result of Ofgem's revision to National Grid Transmission's Gas Transporters Licence which introduces a new Special Condition; Special Condition 8I – 'Development and Implementation of a Demand Side Response methodology for use after a Gas Deficit Warning'. The Licence condition details a number of criteria which National Grid must consider when developing the DSR Methodology, including; developing the DSR Methodology in consultation with interested parties and also using reasonable endeavours to ensure that the DSR Methodology is developed in accordance with the 'Demand Side Response Methodology Principles', as outlined below;

***8I.2 The Licensee must develop the Demand Side Response Methodology in consultation with interested parties.***

To achieve the successful development of the DSR Methodology it is essential that National Grid understand the needs and requirements of all stakeholders that may have an interest participating in, or are potentially affected by, the DSR Mechanism. Therefore the DSR Mechanism requires participation from three key participants;

1. The End User - to make the DSR available; (in some cases through instruction from the Supplier to Shipper)
2. The Shipper - to place the DSR Offer that reflect the End Users DSR onto the market as a gas trade; and
3. National Grid - procures the gas through a '*title*' trade to manage the gas deficit.

Given the importance of stakeholder input in developing the DSR methodology we have strived to ensure we communicate with, listen to and involve as many stakeholders as possible. In order to do this we have held a number of;

- bi-lateral meetings,
- industry 'Associations Workshops',
- utilised the Joint Office workgroup structure to facilitate development discussions,
- surveyed stakeholders on the proposed product design
- And also published summaries of meeting outcomes to stakeholders who were unable to be present.

Overall we have held in excess of 25 meetings with interested parties, which has enabled us to engage directly with approximately 60 *End Users* and also a number of industry associations, who represent what we believe to be the majority of the larger demand side players.

In June, following some initial engagement with stakeholders whom we believed the development of a DSR Methodology was aimed at providing a route to market for; we raised a UNC Modification Proposal (0504) to provide the platform for a series of Joint Office administered industry workgroups to be held. To date we have held 5 of the scheduled 7 workgroups and it has been within this forum where we worked with the help of industry representatives to develop and broadly agreed the structure of the product outlined in this consultation. During these workgroups we have considered stakeholder views gathered earlier in the process, alongside wider industry views in order to develop the methodology. The development workshops have had representation from Shippers, transporters, industry associations, End User groups, Ofgem and some End Users.

As a result of the stakeholder engagement which we have undertaken to date, we believe that the DSR Methodology now represents a balanced consensus of stakeholder's views and opinions.

***8I.3 The Licensee must use reasonable endeavours to ensure that it develops the Demand Side Response Methodology in accordance with the principles set out in paragraph 8I.4 (the "Demand Side Response Methodology Principles").***

***8I.4 The Demand Side Response Methodology Principles are that the Demand Side Methodology must;***

(a) Ensure that any party making a Demand Side Response Offer is a party to the Uniform Network Code;

We believe that the DSR Methodology meets this licence principle because all DSR Offers will be posted on to the OCM Locational Market platform. Only Gas Act licenced gas shippers have the ability to post offers on the Locational Market Platform of the OCM, and all licensed Shippers must accede to the UNC prior to arranging to ship gas through the GB gas network. Therefore, any party submitting a DSR Offer has to be a signatory to the Uniform Network Code (UNC).

(b) Set out the criteria for determining that particular "DMC" Supply Point Components are "DMC" Supply Point Components in respect of which a party may not make Demand Side Response Offers;

An eligible *Supply Point* is a 'DMC' *Supply Point* as defined in Section A4.5 of the Uniform Network Code. That is a *Supply Point* whose *Annual Quantity* is greater than 2 million therms. An eligible site must be able to offer a minimum DSR Offer volume of not less than 100,000 kWhs in any one DSR Offer Notice. The workgroup agreed that the OCM was the most appropriate platform for the DSR Mechanism and therefore that the 100,000 kWh minimum DSR Offer notice was appropriate. This aligns with National Grid's System Management Principles Statement which states that 'the smallest bid/offer volume of gas capable of being posted by market participants is 100,000 kWhs'.

(c) Allow the Licensee to accept Demand Side Response Offers only where a Gas Deficit Warning is in place or within Stage 1 of a Gas Deficit Emergency;

National Grid will be the sole party able to accept DSR Offers within the DSR Mechanism. DSR Offers may be accepted by National Grid in its role as *Residual*



*Balancer* at any time following the declaration of a *GDW* for the relevant gas *Day* and before the revocation of the *GDW* or the end of *GDE Stage 1* (the DSR Period).

(d) Demonstrate compatibility with existing market arrangements by setting out the manner in which any Demand Side Response Offers accepted by the Licensee are to be treated as Eligible Balancing Actions and included in the System Clearing Contract, System Marginal Buy Price and System Marginal Sell Price;

The DSR Mechanism will utilise the existing OCM Locational Market platform. The OCM is a familiar platform for Shippers and National Grid and is currently used by both for trading purposes. By utilising an existing well established and understood platform the DSR Mechanism will use functionality which is familiar to Shippers and this familiarity could increase participation in this product. The OCM Locational Market will be revised from a market in which all Shipper User OCM market participants may both post and accept locational trades to a market where Shipper Users may only post trades and only National Grid is able to accept trades. All DSR Offers will be identified by a DSR Flag and will not become visible on the market platform prior to the declaration of a *GDW*, at which point they become available for acceptance by National Grid. All accepted DSR Offers will be treated as *Market Balancing Actions (MBA)* and all accepted DSR Offer prices and volumes will feed into *System Clearing processes* for the relevant gas *Day* in accordance with existing arrangements for other *Market Balancing Actions*.

e) Promote, and further facilitate, parties making Demand Side Response Offers to the Licensee through open and transparent market-based arrangements;

The DSR Mechanism seeks to provide an additional 'route to market' for end consumers (via their contracted Shipper) to signal their willingness to make available DSR Volume, which may not have otherwise been offered through existing commercial market arrangements. DSR Offers may only be accepted by National Grid where a *GDW* has been declared and is in effect for the relevant gas *Day*. To encourage participation in the DSR Mechanism, and reduce costs to end consumers, this product is a simple product that, where possible, utilises existing market arrangements and trading platforms e.g. adapting / supplementing the existing UNC defined products available on the existing OCM Locational Market platform.

This simplified approach aims to effectively and efficiently balance the conflicting priorities of:

- Facilitating the provision of additional DSR;

- Minimise the costs associated with the implementation of the DSR Mechanism;
- Minimise any adverse impacts on the development of competition and innovation from industry participants who may want to provide a commercial product to consumers outside of the central National Grid managed DSR Mechanism.
- Ensure that a high-level of industry familiarity of the functionality used to offer the DSR product is maintained during the period of normal system operation.

(f) Not unduly preclude the emergence of commercial interruption arrangements;

As outlined within Ofgem's Final Policy Decision – SoS SCR' document the intention of the DSR Mechanism is to familiarise consumers with calculating *VoLL* and arranging with their Shipper/supplier to bid into a DSR mechanism. It has been recognised that the DSR Mechanism should not unduly deter the development of a more competitive DSR market and, where such a competitive market is shown to be established then the centrally provided DSR mechanism should be withdrawn, as a competitive market for DSR is likely to be more efficient than a centralised mechanism.

To ensure that a DSR market does evolve on its own accord, the DSR development workgroup recognised that the centralised DSR Mechanism needs to be a simple “vanilla” product. This would then allow ‘space’ for further development and innovation of more complex / tailored commercial services by industry participants, who may want to provide a more bespoke commercial product to their customers. As a result, the DSR Mechanism has been designed to, utilise existing market arrangements and platforms, including;

- Utilise the existing OCM Locational Market and offer a *Daily* and *Multi-day* product to mirror the options already available on the OCM.
- The DSR Mechanism will offer an “exercise only” product with no regular payment being made for availability (option fee).

We believe that this simple DSR Mechanism balances the benefits of introducing a centralised DSR service against the risk of stifling the emergence of full market wide commercial DSR arrangements.

(g) Minimise distortions and unintended consequences on existing market arrangements and the principle of parties balancing their own positions in the wholesale gas market; and

Within Ofgem's 'Final Policy Decision – SoS SCR' document, Ofgem identified a number of potential unintended consequences, which could arise as a result of implementing a centralised DSR Mechanism. One area of interest was the potential unintended consequences that the DSR Mechanism could have on the day to day operation of the current National Balancing Point (NBP) Title gas market, in particular the risk of removing existing liquidity from the OCM Title market platform. In order to minimise this risk the DSR development workgroup looked in great detail at the issues that surround eligibility of participation in the DSR Mechanism and in particular at the inclusion of gas-fired power generation. Within their 'Final Policy Decision – SoS SCR' document Ofgem were 'concerned' about the inclusion of gas-fired power generators within the DSR Mechanism, stating that the quantitative analysis undertaken by PÖyry showed that their inclusion would not be cost effective due to the low likelihood of the mechanism being utilised.

In the interest of creating a DSR mechanism which 'promotes and further facilitates parties making DSR Offers' and also in 'consultation with industry parties', the DSR Methodology does not require UNC changes that directly propose the exclusion of gas-fired power generation from this mechanism. National Grid recognises that the participation of gas-fired power generation in the DSR Mechanism could have a number of adverse commercial and competition effects on the wider gas market. For this reason, we have strived to ensure the proposed DSR Mechanism is simplistic, and wherever possible utilises existing market arrangements thereby creating no new incentive for gas-fired power generation to participate in the DSR Mechanism, as outlined below:

- DSR Product to utilise the existing OCM Locational Platform which is already available to all DMCs including power generation;
- DSR Product offered to National Grid as a *Daily* Product and accepted for each gas *Day* exclusively in accordance with UNC Section D2.2.1 (d) or as a *Multi-day* product undertaken in accordance with UNC Section D4- *Multi-Day Balancing Actions* which again is already available to all DMCs;
- No "up-front" payments, DSR Payments are only made if a DSR Offer is accepted. There are no payments for availability (no option fees);
- The OCM already has the functionality to allow *Related Market Offers* (Linked bids) which would mean that any market participant, including those with gas fired power generation, assets could participate in both markets at the same time, maintaining liquidity within the OCM Title market.

In consequence, as outlined within the DSR Methodology, it is our opinion that, the proposed DSR Mechanism provides no additional benefits to Shippers or consumers that are already offering gas on the remaining OCM markets, such as the OCM Title Market. Any payments resulting from the acceptance of a DSR Offer would not be materially different to those being paid should the trade have been enacted on the OCM Title market. Therefore, we consider that active market participants such as market participants with gas fired generation assets would likely want to remain on the more active OCM Title 'many to many' market rather than participate in the less liquid DSR Market where they risk not being accepted. In addition we believe that the concern that the DSR Market may cause parties to vacate the Title market is mitigated by the current and continued availability of *Related Offers* (Linked bids), which enables parties to participate in both markets at the same time, therefore protecting the existing liquidity in the OCM Title market.

(h) Ensure that Demand Side Response is procured in a manner consistent with the Licensee's duties under the Act and, in particular, the Licensee's obligation to operate the pipe-line system to which this licence relates in an efficient, economic and co-ordinated manner.

In July 2012 Red Point Energy conducted some economic modelling and as a result of this wrote a report for Ofgem's proposed final decision on the gas SoS SCR. This report<sup>1</sup> outlined that under current arrangements the likelihood of a *GDE* affecting *Firm-Daily Metered* customers was a 1 in every 55 years occurrence, proving that even under current arrangements a *GDE* is very rare event. Whilst recognising this, Ofgem indicated that the gas market could further benefit from the establishment of DSR Mechanism, where large *DM End Users* could offer to voluntarily reduce their demand ahead of the system entering a Gas Deficit Emergency. However, for the DSR Mechanism to be effective, Ofgem noted that it should be cost effective. Ofgem advised against the inclusion of annual option fee payments to end consumers in return for DSR commitments.

The inclusion of option fees within the DSR Mechanism was discussed at a number of the DSR Workgroups, where a number of stakeholder groups expressed views that without option fees they would either not participate or would only be able to offer limited DSR volumes. These stakeholders highlighted that the inclusion of option fees may encourage additional amounts of DSR to be made available and could improve the efficiency of the operation of the pipeline system, by providing further system balancing options to National Grid. When looking at the viability of options fees

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<sup>1</sup> <https://www.ofgem.gov.uk/ofgem-publications/40922/120731gasscrp.pdf>

National Grid considered the relative efficiency of inclusion of such fees (as outlined in Pöyry's Cost - benefit analysis for a demand side response mechanism) against the likelihood of GDE occurrence as previously outlined in Red Point's analysis. Based on this assessment and the likelihood of this rare event, National Grid has concluded that the inclusion of options fees cannot be justified against our Relevant Objectives of an 'economic and efficient pipeline system' and as a result they have not been included within the design of the DSR Mechanism.

Throughout the development of the DSR Mechanism, both National Grid and the industry have expressed views to keep the design simple in order to attract further participation and also minimise costs. This is particularly true when considering the platform on which DSR Offers will be submitted and accepted. For this reason it is proposed that the DSR Mechanism will utilise the existing OCM Locational Platform. The intention is for this existing market platform to be revised from one in which all Shipper User OCM market participants may both post and accept locational trades to a market where Shipper Users may only post trades and only National Grid NTS is able to accept trades.

We also considered the development of the DSR Methodology and mechanism in the time frame proposed in special licence condition 8I which facilitates the efficient discharge of the Licensee's obligations by completing the development to enable implementation of any new arrangements before the proposed implementation timescale of winter 2016/2017.

**e) Provision of reasonable economic incentives for relevant suppliers to secure that the domestic customer supply security standards**

As outlined by principle (d) within Special Condition 8I, accepted DSR Offer prices and volumes will be required to feed into the *System Clearing* processes for the *Day*. We believe that the DSR Mechanism facilitates the discovery of appropriate Shipper incentives via price signals to the market for relevant Shippers and Suppliers to secure that the domestic customer supply security standards are met. This will be achieved as the cash-out prices will reflect the value that the consumer places on their provision of Demand Side Response.

## Section 6

### When might these changes come into effect?

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At present we are not proposing a change to the UNC, Special Condition 8I does not specify an implementation date for the DSR Methodology, although Ofgem have indicated that a winter 2016-17 delivery would be preferable.

We are working towards the timescales specified within the licence obligation for the development of the DSR Methodology, as outlined below:

- The Licence Obligation states that the DSR Methodology must be developed in consultation with the Industry; a report submitted for industry wide consultation, and the report and consultation responses sent to the Authority for approval no later than the **1 March 2015**; and
- No later than **90-days** following the receipt of the proposed DSR Methodology report, the Authority will make a decision on whether to approve the DSR Methodology. Where the authority approves the Proposed DSR Methodology Report, it may direct National Grid to run a paper based trial;
- Upon Completion of the Trial National Grid will be required to prepare and issue a report to the Authority within **28-days** of the final day of the trial
- **28 days** after receiving the Trial report, where the Authority, has not stated otherwise, National Grid is required to develop the appropriate modifications to the Uniform Network Code and other processes and systems to enable it to implement the DSR Methodology.

## Section 7

### What will this cost?

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It is not yet clear what the development, implementation and operational cost, associated with this proposal, will be. However, we anticipate that there may be potential costs associated with:

- National Grid's running, administering and reporting on the Trial,
- The amendments needed on the OCM Locational Platform; and
- Shipper/Supplier and end consumer administration costs associated with establishing contracts and inputting / monitoring DSR offers.

Having detailed the above, we can say that, throughout the development of this service, we and industry representatives have been mindful of not introducing unnecessary or inefficient costs into the current regime. An example of this is the proposal to adapt an existing part of the OCM market to enable it to fulfil the remit of this service and therefore avoid the costs of providing an additional market platform.



## Section 8

### Consultation Questions

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**Q1:** Do you agree that the DSR Methodology should set out provisions for the gas procurement arrangements between National Grid and Shippers, with only high level references to the Demand Side Response contractual arrangements between Shippers/suppliers and End User?

**Q2:** Do you agree that the current OCM Locational Market provides an appropriate platform to facilitate the provision of a DSR Product?

**Q3:** Does the proposed DSR Product meet your expectations in respect of providing sufficient market offer flexibility to match your operational requirements when determining and offering DSR? If not, which aspect(s) would you change, add or remove?

**Q4:** Do the criteria and arrangements set out within the Methodology for the posting and processing of DSR Offers meet your requirements? If not, could you describe the new issues you would like to be considered?

**Q5:** In respect of the development of the DSR Methodology, do you consider that you have been given sufficient opportunity to provide input into the development of the DSR Methodology? Have we listened and taken account of your views?

**Q6:** Do you consider that the Draft DSR Methodology, the proposed DSR Mechanism and the shipper/supplier to End User contract structure delivers an efficient and economic approach, through which customers may provide DSR, that may otherwise not be available during periods of acute gas market stress?

**Q7:** Do you consider that the proposed DSR Methodology appropriately meets the requirements set out in the Licence principles, i.e. that only signatories to Uniform Network Code may post a DSR Offer? If not, please detail how you feel this SC81.4 (a) licence obligation may be better achieved?

**Q8:** Do you consider that the proposed DSR Methodology satisfies the eligibility criteria set out in the SC81.4 (b)? If not, do you have any views on how to better satisfy this principle?

**Q9:** Are you satisfied that the introduction of the DSR Methodology through the proposed revisions to the Locational Market of the OCM Platform is the most appropriate approach to meet the principles set out in SC81.4 (c)? If not, would you like to share any other options which in your opinion would better satisfy this principle? Do we now also need question 2?

**Q10:** Do you consider that this proposed DSR Methodology satisfies the principle set out in SC8I.4 (d) which requires all DSR Offers to be treated as ‘Eligible Balancing Actions’ and included in System Clearing Contracts and the calculation of Cash-out prices? If not, could you provide details of any compatibility issues that you feel would conflict with this principle?

**Q11:** Would you agree that the proposed DSR Methodology provides you or other gas customers with an additional ‘route to market’?

**Q12:** Would you agree that the proposed DSR Methodology does not unduly preclude the emergence of further commercial interruption arrangements? If not, could you provide information regarding which element you feel could prevent the emergence of commercial interruption, and any view on how this could be mitigated?

**Q13:** Do you foresee any distortions or unintended consequences that the introduction of the DSR Methodology may have on the existing market or gas supply contract arrangements and the principle of parties balancing their own positions in the wholesale gas market?

**Q14:** Do you believe that the proposed DSR Methodology facilitates the procurement of DSR in a manner consistent with the licensee’s obligation to operate the pipeline system in an efficient and economic manner ?

**Q15:** Do you consider that the proposed DSR Methodology would provide an improvement to the incentives on the relevant suppliers to secure the domestic customer supply security standard?

**Q16:** Does the proposed DSR Methodology provide a route to market for a DSR product that you believe you would have an interest in participating within?

**Q17:** We would value any additional comments you would like to share with us regarding the development of the DSR methodology.

# Appendix 1

## Glossary

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**Demand Side Response (DSR)** - The reduction in an Eligible DMC's rate of gas offtake in the period following declaration of a GDW.

**DSR Offer** - Each individual trade offer that may be submitted on to the OCM Locational platform.

**DSR Period** - The period between the GDW being declared for the gas Day and the earlier of: (i) the revocation of the GDW; or (ii) the end of GDE Stage 1. This is the period where National Grid may accept DSR Offers.

**DSR Product** - The basis of the DSR Methodology that puts in place the framework and arrangements by which all DSR Offers will be placed and accepted. As set out in section [4] of the DSR Methodology.

**DSR Service** - The framework as set out in the DSR Service Contract in which the End User and Shipper/Supplier will determine, agree and offer DSR to National Grid. As set out in section [2] of the DSR Methodology

**Eligible DMC** – An Eligible DMC will be:

- A Supply Point with a demand >2million therms per Annum (2M tpa);
- Able to offer a minimum DSR Offer volume of 100,000 kWhs in any one DSR Offer Notice.

**Firm Load Shedding (FLS)** - During Stage 2 of a GDE; upon direction from the Network Emergency Coordinator (NEC), National Grid and relevant Transporters may instruct the End Users to curtail gas offtake at specified sites.

**GDE** - Gas Deficit Emergency ref: UNC Section Q.

**GDW** - Gas Deficit Warning ref: UNC Section V5.9.

**OCM Locational] platform** - The Trading platform that DSR Offers may be submitted upon, as set out in section [3] of the DSR Methodology.

**The GDE Stages** - GDE Stages are defined in UNC TPD section Q and in the Network Gas Supply Emergency Classifications as provided in the National Grid safety case for a Network Gas Supply Emergency

**Tick Down** - A DSR Offer may be offered with a reducing down feature that reduces the volume of DSR available on the gas Day as the unaccepted Offer progresses through the Day.

#### Schedule

#### Special Condition 8I: Development and implementation of a Demand Side Response methodology for use after a Gas Deficit Warning

##### Introduction

8I.1 The Licensee must:

- (a) develop a methodology (the “Demand Side Response Methodology”) for assessing and accepting Demand Side Response Offers;
- (b) submit a draft version of the Demand Side Response Methodology to the Authority for approval no later than 1st March 2015;
- (c) where Directed by the Authority to do so, run a trial of the approved draft Demand Side Response Methodology;
- (d) following such a trial, submit to the Authority a report on the outcome of the trial and a final version of the Demand Side Response Methodology amended to address issues identified by the Licensee during the trial; and
- (e) where Directed by the Authority to do so, implement the Demand Side Response Methodology.

##### Part A: Development of a Demand Side Response Methodology

8I.2 The Licensee must develop the Demand Side Response Methodology in consultation with interested parties.

8I.3 The Licensee must use reasonable endeavours to ensure that it develops the Demand Side Response Methodology in accordance with the principles set out in paragraph 8I.4 (the “Demand Side Response Methodology Principles”).

8I.4 The Demand Side Response Methodology Principles are that the Demand Side Methodology must:

- (a) ensure that any party making a Demand Side Response Offer is a party to the Uniform Network Code;
- (b) set out the criteria for determining that particular “DMC” Supply Point Components are “DMC” Supply Point Components in respect of which a party may not make Demand Side Response Offers;
- (c) allow the Licensee to accept Demand Side Response Offers only where a Gas Deficit Warning is in place or within Stage 1 of a Gas Deficit Emergency;
- (d) demonstrate compatibility with existing market arrangements by setting out the manner in which any Demand Side Response Offers accepted by the Licensee are to be treated as Eligible Balancing Actions and included in the System Clearing Contract, System Marginal Buy Price and System Marginal Sell Price;
- (e) promote, and further facilitate, parties making Demand Side Response Offers to the Licensee through open and transparent market-based arrangements;
- (f) not unduly preclude the emergence of commercial interruption arrangements;
- (g) minimise distortions and unintended consequences on existing market arrangements and the principle of parties balancing their own positions in the wholesale gas market; and
- (h) ensure that Demand Side Response is procured in a manner consistent with the Licensee’s duties under the Act and, in particular, the Licensee’s obligation to operate the pipe-line system to which this licence relates in an efficient, economic and co-ordinated manner.

##### Part B: Submission, approval and publication of the Demand Side Response Methodology

8I.5 The draft Demand Side Response Methodology submitted by the Licensee must be accompanied

by any written representations (including any proposals that have not been accepted by the Licensee) that were received from interested parties during the consultation process and have not been withdrawn.

8I.6 The Authority will make its decision on whether to approve the Demand Side Response Methodology within 90 days beginning on the date on which the Licensee submits the Demand Side Response Methodology. In considering whether to approve the draft Demand Side Response Methodology, the Authority may have regard to whether it is consistent with the Demand Side Response Methodology Principles.

8I.7 Where the Authority approves the draft Demand Side Response Methodology, it may direct the Licensee to:

- (a) conduct a trial of the draft Demand Side Response Methodology; and
- (b) publish the draft Demand Side Response Methodology, in accordance with Part C of this condition.

8I.8 If the Authority does not approve the draft Demand Side Response Methodology, it may Direct the Licensee to consult with interested parties and submit to the Authority for approval a revised draft Demand Side Response Methodology in accordance with any conditions and within such a timescale as may be set out in its Direction.

#### **Part C: Trial and implementation**

8I.9 Where the Authority directs the Licensee to conduct a trial pursuant to paragraph 8I.7 above, the Licensee must:

- (a) conduct a trial of the draft Demand Side Response Methodology in order to assess the effectiveness of the Demand Side Response Methodology proposed by the Licensee; and
- (b) within 28 days beginning on the last day of the trial, submit to the Authority a report on the outcome of the trial and any proposed changes to the draft Demand Side Response Methodology.

8I.10 Following completion of the trial and the making of submissions to the Authority pursuant to paragraph 8I.9 above, unless the Authority directs otherwise within 28 days, the Licensee must:

- (a) develop appropriate modifications to the Uniform Network Code and other processes and systems to enable it to implement the Demand Side Response Methodology;
- (b) once the modifications, processes and systems are complete, implement the Demand Side Response Methodology as soon as is reasonably practicable; and
- (c) publish the final Demand Side Response Methodology on its website and in such other manner as the Authority may direct.

#### **Part D: Exception to compliance with condition**

8I.11 The Licensee is not required to comply with this condition to such extent and subject to such conditions as the Authority may from time to time direct.

8I.12 The Authority may, following consultation with the Licensee and interested parties, direct that the Licensee must temporarily or permanently cease operation of the Demand Side Response Methodology.

#### **Part E: Revising the Demand Side Response Methodology**

8I.13 The Licensee must, if so directed by the Authority, and in any event at least once in each Formula Year, review and if appropriate revise the Demand Side Response Methodology implemented in accordance with paragraph 8I.10 in consultation with interested parties.

8I.14 The consultation must allow a period of not less than 28 days in which interested parties can make representations or objections to the Licensee.

8I.15 Within seven days after completing the consultation, the Licensee must send to the Authority:

- (a) a report on the outcome of the review;
- (b) a statement of any proposed revisions to the Demand Side Response Methodology that the Licensee (having regard to the outcome of the review) reasonably considers would better achieve the Demand Side Response Methodology Principles; and
- (c) any written representations or objections (including proposals for revising the statement that have not been accepted by the Licensee) that were received from interested parties during the consultation process and have not been withdrawn.

8I.16 The Licensee may revise the Demand Side Response Methodology only in accordance with any revisions set out in the statement required by paragraph 8I.15(b) and only if the Authority has not directed otherwise within 28 days of receiving the documents referred to in paragraph 8I.15 above.

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# Appendix 4

## Network Gas Supply Emergency Classification

Network Gas Supply Emergency Classification			
	Gas Deficit: Insufficient Gas Supplies Available to the NTS		Critical Transportation Constraint in the NTS
Emergency Stage	Gas Deficit Emergency	Safety Monitor Breach	Critical Transportation Constraint
1 (Potential)	<ul style="list-style-type: none"> <li>Emergency Spec Gas</li> <li>NTS Linepack</li> <li>Distribution Network Utilisation                             <ul style="list-style-type: none"> <li>Distribution Network Storage</li> <li>Emergency Interruption</li> </ul> </li> <li>Public Appeals</li> </ul>	<ul style="list-style-type: none"> <li>Instruct shippers &amp; storage operators to amend storage flows</li> <li>Distribution Network Utilisation                             <ul style="list-style-type: none"> <li>Emergency Interruption</li> </ul> </li> <li>Public Appeals</li> </ul>	<ul style="list-style-type: none"> <li>Emergency Spec Gas</li> <li>NTS Linepack</li> <li>Distribution Network Utilisation                             <ul style="list-style-type: none"> <li>Distribution Network Storage</li> <li>Emergency Interruption</li> </ul> </li> <li>Public Appeals</li> </ul>
2	<ul style="list-style-type: none"> <li>National Grid Gas plc's participation in the OCM will be suspended</li> <li>Maximise Supplies</li> <li>Firm Load Shedding</li> <li>Public Appeals</li> </ul>	<ul style="list-style-type: none"> <li>National Grid Gas plc's participation in the OCM will be suspended</li> <li>Maximise Supplies</li> <li>Firm Load Shedding</li> <li>Public Appeals</li> </ul>	<ul style="list-style-type: none"> <li>National Grid Gas plc will continue to participate in OCM</li> <li>Maximise Storage</li> <li>Firm Load Shedding                             <ul style="list-style-type: none"> <li>Public Appeals</li> </ul> </li> </ul>
3	<ul style="list-style-type: none"> <li>Public Appeals</li> <li>Allocation &amp; Isolation</li> </ul>	<ul style="list-style-type: none"> <li>Public Appeals</li> <li>Allocation &amp; Isolation</li> </ul>	<ul style="list-style-type: none"> <li>Public Appeals</li> <li>Allocation &amp; Isolation</li> </ul>
4	<ul style="list-style-type: none"> <li>Restoration</li> </ul>		

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