

0504:

Demand Side Response (DSR) Methodology Implementation

- 01 Modification
- 02 Workgroup Report
- 03 Draft Modification Report
- 04 Final Modification Report

This proposal seeks to implement the DSR methodology as required by Special Condition (SC) 8I, introducing an additional 'route to market' through which Large Industrial Consumers can receive a payment for voluntarily reducing demand when a Gas Deficit Warning (GDW) is issued.



The Proposer recommends that this modification should be:

- assessed by a Workgroup



High Impact:
Shippers, Suppliers, Large Industrial Consumers, National Grid NTS and the Market Operator



Medium Impact:
DNOs



Low Impact:
N/A

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About this document:		 telephone 01926 653233
This modification was presented to the panel on 19 June 2014.		Systems Provider: TBC
The panel considered the proposer's recommendation and agreed that the modification should be:		 TBC
<ul style="list-style-type: none"> referred to a workgroup for assessment. 		 TBC
The Proposer recommends the following timetable:		Additional contacts: Gareth Davies
Amended Modification considered by Workgroup	07 October 2015	 email address Gareth.davies5@nationalgrid.com
Workgroup Report presented to Panel	17 December 2015	 telephone 01926 654850
Draft Modification Report issued for consultation	17 December 2015	
Consultation Close-out for representations	29 January 2016	
Final Modification Report published for Panel	01 February 2016	
UNC Modification Panel decision	18 February 2016	

1 Summary

Is this a Self-Governance Modification?

This is not a self-governance Modification Proposal because if it is implemented:

- There may be a material impact on Transporters, Shippers, Suppliers and Large Industrial End Consumers in respect of any settlement costs associated with any DSR volume offered; and
- The Modification is seeking to implement the DSR methodology, as directed by Ofgem on 21 September 2015, which may help to reduce the likelihood of entering a Gas Deficit Emergency. It will have a material effect on matters relating to sustainable development, safety, security of supply, and the management of market or network emergencies.

Is this a Fast Track Self-Governance Modification?

The Proposal does not meet the Fast Track Self-Governance criteria due to the material impacts for a number of parties.

Why Change?

In February 2014 Ofgem published its Final Policy Decision Consultation on the Security of Supply (SoS) Significant Code Review (SCR). As part of this, Ofgem introduced a new Special Condition (SC) 8I — 'Development and Implementation of a Demand Side Response Methodology for use after a Gas Deficit Warning' to National Grid's NTS Transporter Licence. This required National Grid NTS to develop a methodology in consultation with industry, for assessing and accepting Demand Side Response Offers, which in turn was approved by Ofgem in May 2015.

As directed, National Grid NTS subsequently conducted a web-based DSR trial during July 2015 and a DSR trial report was issued to Ofgem highlighting that no changes were needed to the draft methodology. On 21 September 2015 the Authority directed National Grid NTS to implement the DSR Methodology.

This Modification proposes to implement the DSR methodology by introducing relevant changes to UNC.

Solution

This Modification implements the approved DSR Methodology introducing new text into UNC TPD Sections D, Q and V to reflect the process to be undertaken when a Gas Deficit Warning (GDW) occurs.

In summary the DSR Methodology provides Users with the ability to post DSR Offers on the Trading System on behalf of eligible end consumers. DSR Offers will be accepted solely by National Grid NTS in the run up to a Gas Deficit Emergency, providing National Grid NTS with an additional tool to reduce gas demand during an emergency. Accepted DSR Offers will result in a DSR payment, remitted via Users, to eligible end consumers for their voluntary reduction in gas demand.

It will be necessary to introduce a DSR flag to the Trading System (Trading System Operator) and for the annual provision of data to the Authority.

Relevant Objectives

The Proposer considers that implementation of this Modification would better facilitate achievement of Relevant Objectives a), b), c) and e).

Implementation

A specific implementation date for this Modification is not proposed as the licence obligation does not specify an implementation date for DSR. However, Ofgem has indicated in the [DSR Methodology decision letter](#) that it anticipates that DSR will be in place for winter 2016/2017. Project Nexus is due to be implemented on 1st October 2016 therefore to avoid an undue burden on Users from implementing DSR at the same time, UNC and system implementation on [1st September 2016] would be preferred. This will be followed by National Grid NTS introducing operational capability effective for winter 2016/17 on 1 October 2016.

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

There is no impact on any other industry change, although it is recognised that the new arrangements should not clash with the Project Nexus implementation.

2 Why Change?

In February 2014 Ofgem published its Final Policy Decision Consultation on the Security of Supply (SoS) SCR. It identified that the gas market could benefit from large consumers reducing demand voluntarily ahead of a possible gas supply emergency. It was noted that although shippers have the ability to enter into commercial negotiations for voluntary DSR with larger consumers, market participants expressed doubts that voluntary interruption would emerge on its own accord. As a result a new licence obligation SC 8I – ‘Development and Implementation of a Demand Side Response Methodology for use after a Gas Deficit Warning’ was placed on National Grid Transmission to create a DSR methodology in conjunction with industry consultation, which included a submission of a consultation report to Ofgem, and the completion of an industry trial. All of these tasks have been successfully achieved over the past 18 months.

On 21 September 2015 the Authority directed National Grid NTS to implement the DSR Methodology. This Modification breaks down the Methodology into specific requirements for Code parties in order for DSR to be introduced into UNC.

DSR is supported by a number of documents, including the Consultation, the DSR Framework and Methodology, Frequently Asked Questions and DSR Trial Report which are available on the [Joint Office website](#).

For the avoidance of doubt, DSR service agreements (between consumers and shippers) are not provided for within this Modification. As it was determined during the development of the Methodology such commercial arrangements were out of scope.

Diagram 1 provides an overview of the various stages in a Gas Supply Emergency. As you can see Users will be able to offer Demand Side Response (DSR) from a Gas Deficit Warning (GDW) through to the end of Stage 1 of a Gas Deficit Emergency (GDE). Further information has been included within the Solution section to describe the process more fully.

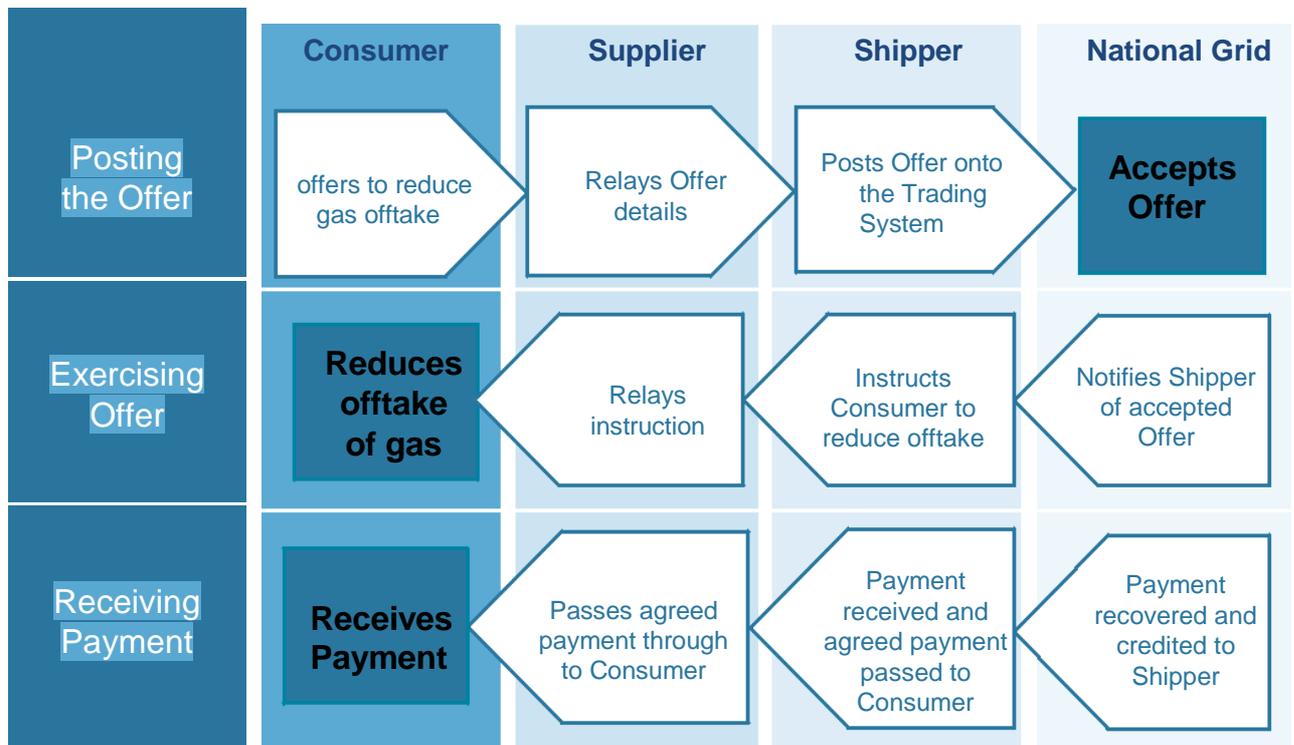
Diagram 1 – Gas Deficit Emergency Stages



3 Solution

This modification implements the DSR Methodology¹ which at a high level involves introducing new text into UNC TPD Sections D, Q and V to reflect the process to be undertaken when a Gas Deficit Warning (GDW) is called.

How will DSR work? *Diagram 2 – High level process handoffs*



¹ In accordance with National Grid NTS licence Special Condition 8I [DSR Methodology](#)

Explanation of terms:

The terms below aid in the explanation of the Modification and may not appear in the legal text.

- 'Demand Side Response', 'DSR' means the reduction in an eligible **Daily Metered Consumer's (DMC's)** rate of gas offtake in the period following declaration of a **GDW**.
- 'DSR Methodology' as approved by Ofgem on 21 September 2015
- 'DSR Offer' means each individual daily or multi day trade DSR Offer submitted on to the **Trading System**.
- 'DSR Period' is the period between the **GDW** being declared for the **Gas Flow Day** and the earlier of the revocation of the GDW or the end of GDE Stage 1. This is the period where National Grid NTS may accept DSR Offers.
- 'Eligible DMC' is a Supply Point whose **Annual Quantity** is greater than 58,600,600 kWh and able to offer a minimum DSR Offer energy quantity of 100,000 kWh in any one DSR Offer.
- 'Eligible Supply Point' is a '**DMC**' customer as defined in UNC TPD Section A4.5.
- 'Tick Down' is where a DSR Offer may be offered with a reducing-down feature that reduces over time the volume of DSR available on the **Gas Flow Day** prior to it being accepted.

DSR Offer – Posting and Accepting

A User will place a DSR Offer, effectively offering to sell title to National Grid NTS in its role as Residual Balancer, which reflects the DSR energy quantity and price agreed with their customer for a reduction in offtake from the NTS. The User will post the DSR Offer for an Eligible Supply Point onto the **Trading System** locational market for a relevant **Gas Flow Day**. DSR Offers may be placed, updated or withdrawn, at any time up to the declaration of a **GDE Stage 2**. The **Trading System's** locational market will be updated to include an identifying flag which will be used to identify DSR Offers to National Grid NTS.

DSR Offer can be presented as either;

- Daily for each Gas Flow Day in accordance with UNC TPD Section D2.2.1 (d) a 'Locational Market Transaction' ; or
- Multiday undertaken in accordance with the UNC TPD Section D4 – Multi-Day Balancing Actions

A DSR Offer will be for a specified offtake reduction energy quantity (kWhs) at an Eligible DMC (a tranche). DSR can be offered in separate tranches of energy, which may be priced individually, although any DSR Offer must be greater than 100,000 kWh. The daily DSR Offer may be offered in the form of:

- A DSR Offer that is input on a daily basis; or
- a 7 Day profile of daily offers which Users can submit differing values for each day of the week if required. The 7 day profile of daily offers will be replicated automatically until revised or withdrawn.

Diagram 3 provides a visual representation of the different types of DSR Offers available to Users.

The Trading System Locational market will be revised from a market in which Users may post and accept bids and offers, to a market where National Grid NTS is solely permitted to accept bids and offers and Users are only able to post bids and offers (DSR Methodology 3.1). Following the declaration of a **GDE**

Stage 2 National Grid NTS will not accept any further DSR Offers and where declaration of a **GDE** Stage 2 occurs within a **Gas Flow Day** all DSR Offers previously accepted will apply.

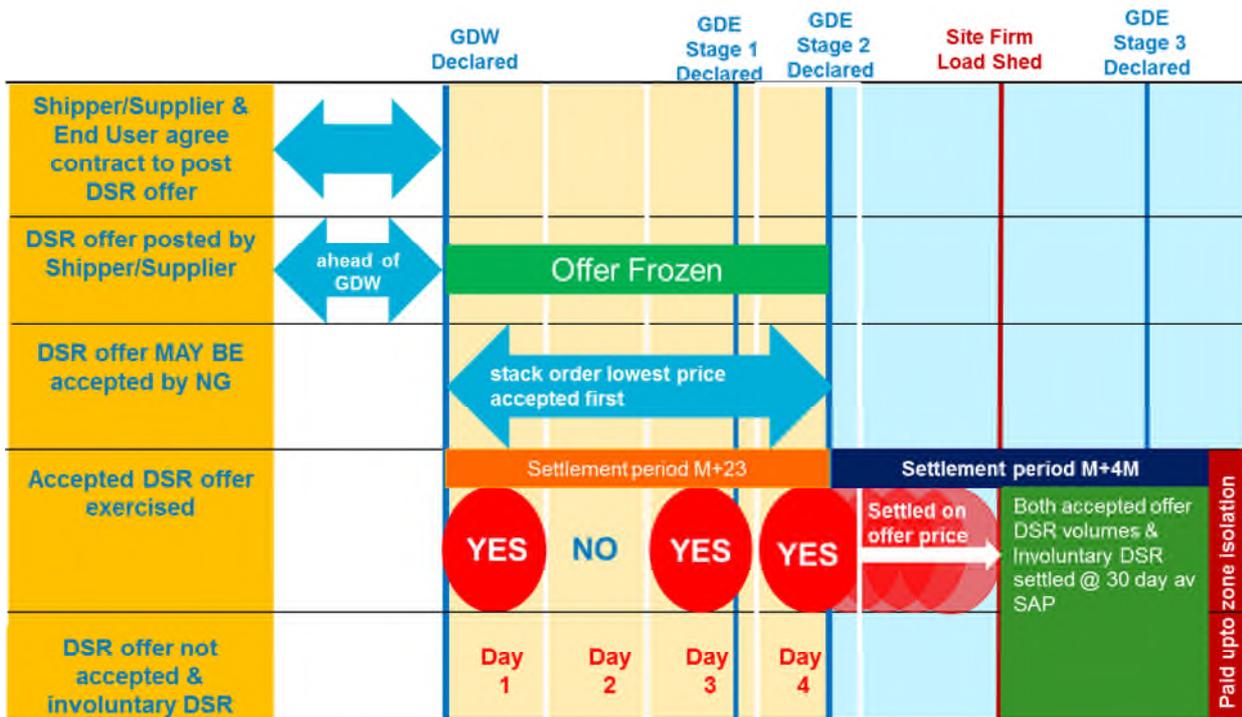
DSR Offers will not be visible on the **Trading System** until a **GDW** for a **Gas Flow Day** has been declared. When a DSR Offer is accepted it will be regarded as a 'Locational Market Transaction' that will be undertaken in accordance with UNC TPD section D2.2.1 (d). National Grid NTS will notify the **Trading System Operator** when a **GDW** has been declared and when it has been revoked.

All available DSR Offers will be displayed in a price order consistent with all other OCM markets. National Grid NTS will accept lowest priced DSR Offers first in stack order, making an assessment across the **Trading System** Title, Physical and Locational Markets. When National Grid NTS accepts a DSR Offer the User will be notified through existing OCM notification processes. The **Gas Balance** position will require adjusting by the relevant User to reflect the completed gas trade on the **Trading System**.

As with all Locational Market Offers accepted on the **Trading System**, the **User** will notify National Grid NTS of the intent to reduce offtake at the Eligible DMC by submitting a re-nomination at the Eligible DMC Supply Meter Point, as prescribed in UNC TPD Section D2.3 – Contract Re-nominations. For a DSR Offer on a Tick Down option, once the DSR Offer reduces below the allowed minimum quantity the DSR Offer will be withdrawn from the market for the relevant **Gas Flow Day**.

For clarity only, and as highlighted in the DSR Methodology, the acceptance of a DSR Offer by National Grid NTS does not affect, or set aside, the **Network Emergency Coordinator's (NEC)**, National Grid NTS's or other relevant Transporters' rights or obligations when undertaking their duties under the provisions set out in 'The Gas Safety (Management) Regulations 1996 - NEC Safety Case'.

Diagram 3 - The following diagram is for illustrative purposes only. It demonstrates daily and multi day DSR offers in operation alongside payment and settlement arrangements post a **GDW**.



Payment Arrangements

In respect of the **Gas Flow Day**, or **Gas Flow Days**, that the DSR Offer was accepted for, payment will be made in accordance with the accepted DSR Offer price. For subsequent **Gas Flow Days** during **GDE Stage 2**, payment at 30 day average **SAP** for the accepted DSR energy quantity will be made up to the point that the relevant site has been instructed to **Firm Load Shedding (FLS)**, by National Grid NTS.

In the event that an accepted DSR Offer contract duration runs beyond **FLS** e.g. multi day, the payment will continue to be paid in accordance with the agreed DSR Offer price until the contract duration is extinguished. Where the Eligible DMC is subject to **FLS** the prevailing DSR payment arrangements will apply in accordance with UNC provisions, in which UNC section Q 6.4 - 'DSR Payments', for each **Gas Flow Day** or part thereof of curtailment, of 30 Day Average SAP (price set from the **Gas Flow Day** prior to entering Stage 2) multiplied by the energy quantity that was subject to **FLS**.

A visual representation of these arrangements is contained within Diagram 3 which has been included for clarity and do not form part of the solution.

Settlement Arrangements

For the purposes of payment and settlement arrangements all accepted DSR Offers will be regarded as **Market Balancing Actions (MBA)** taken by National Grid NTS. These payments will be settled with the relevant User.

Where National Grid NTS accepts a DSR Offer on a **Gas Flow Day** for which it later declares a **GDE Stage 2**, the DSR Offer acceptance shall continue to be exercised throughout **GDE Stage 2** and later emergency stages. Payments associated with accepted DSR Offer energy quantities will be settled as follows:

- For each relevant **Gas Flow Day** after the declaration of **GDE Stage 2**, all settlement of DSR Offer energy quantities accepted prior to the declaration of entry into **GDE Stage 2**, will NOT be executed within the settlement timescales prescribed for **MBA** settlement arrangements. These DSR Offer payments will be settled in accordance with UNC TPD Section Q 6.4.7 - '**DSR Payments**', and will be settled within the same timescales and under the funding arrangements provided for DSR Payments relating to Involuntary DSR through **FLS**.
- Accepted DSR Offers will receive a **DSR Payment**, at the DSR Offer price multiplied by the energy quantity accepted, for each **Gas Flow Day** the site is curtailed, up to the day on which the site is subject to **FLS**. A **FLS** site will receive **DSR Payments**, for the total energy quantity of the accepted DSR Offer (including both voluntary and involuntary DSR) in accordance with UNC Section TPD Q 6.4.7.

DSR Suspension and Termination

There may be instances whereby the Authority (post consultation with interested parties) directs National Grid NTS to suspend or terminate operations of the DSR Methodology. When either situation occurs National Grid NTS will communicate to Users and the **Trading System Operator** the cessation and recommencement of the availability of DSR functionality.

Annual Reporting

To be developed

User Pays	
Classification of the modification as User Pays, or not, and the justification for such classification.	[No User Pays service would be created or amended by implementation of this modification and it is not, therefore, classified as a User Pays Modification] TBC
Identification of Users of the service, the proposed split of the recovery between Gas Transporters and Users for User Pays costs and the justification for such view.	N/A
Proposed charge(s) for application of User Pays charges to Shippers.	N/A
Proposed charge for inclusion in the Agency Charging Statement (ACS) – to be completed upon receipt of a cost estimate from Xoserve.	N/A

4 Relevant Objectives

Impact of the modification on the Relevant Objectives:	
Relevant Objective	Identified impact
a) Efficient and economic operation of the pipe-line system.	Positive
b) Coordinated, efficient and economic operation of (i) the combined pipe-line system, and/ or (ii) the pipe-line system of one or more other relevant gas transporters.	Positive
c) Efficient discharge of the licensee's obligations.	Positive
d) Securing of effective competition: (i) between relevant shippers; (ii) between relevant suppliers; and/or (iii) between DN operators (who have entered into transportation arrangements with other relevant gas transporters) and relevant shippers.	None
e) Provision of reasonable economic incentives for relevant suppliers to secure that the domestic customer supply security standards... are satisfied as respects the availability of gas to their domestic customers.	Positive
f) Promotion of efficiency in the implementation and administration of the Code.	None
g) Compliance with the Regulation and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.	None

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

DSR will facilitate large industrial end consumers who may otherwise not respond to a Gas Deficit Warning, reducing demand when the system is in a significant Supply deficit. This may provide additional volumes that in some instances would be sufficient to prevent escalation into a Gas Deficit Emergency. The additional response may therefore demonstrate an improvement to the efficient and economic operation of the pipe-line system during specified times where the system is stressed. It may provide an improvement in the coordinated efficient and economic operation of the combined pipe-line system as it could enable DSR from System Points within the LDZs as well as System Points directly connected to the NTS. This Modification facilitates the accepting of voluntary gas demand reductions which are economic during Gas Supply Emergencies.

- c) Efficient discharge of the licensee's obligations.

This Modification has been raised as a result of Ofgem's direction 21 September 2015. Special Condition; Special Condition 8I —'Development and Implementation of a Demand Side Response Methodology for use after a Gas Deficit Warning' of National Grid Transmission Gas Transporter Licence . Therefore, the Modification seeks to facilitate the efficient discharge of the Licensee's obligations by completing the implementation of the new DSR arrangements as per the licence conditions.

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

Special Condition 8I will require that accepted DSR Offer prices feed into cashout on the Day, which will introduce a reasonable economic incentive for relevant suppliers to secure domestic customer supply security standards. The subsequent reduction in gas demand will assist in the protection of domestic gas supplies.

5 Implementation

A specific implementation date for this Modification is not proposed as the licence obligation does not specify an implementation date for DSR. However, Ofgem has indicated in the [DSR Methodology decision letter](#) that it anticipates that DSR will be in place for winter 2016/2017. Project Nexus is due to be implemented on 1st October 2016 therefore to avoid an undue burden on Users from implementing DSR at the same time, UNC and system implementation on [1st September 2016] would be preferred. This will be followed by National Grid NTS introducing operational capability effective for winter 2016/17 on 1 October 2016.

6 Impacts

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

There is no impact on any other industry change, although it is recognised that the new arrangements should not clash with the Project Nexus implementation.

7 Legal Text

Text Commentary

Insert text here

Text

Insert text here

8 Recommendation

The Proposer invites the Panel to:

- Progress to Workgroup assessment.