

August 2015

nationalgrid

**Gas Demand Side
Response Methodology
Version 1.0**

UK Gas Transmission



Background

In February 2014 Ofgem published its Final Policy Decision Consultation on the Gas Security of Supply (SoS) Significant Code Review (SCR). As part of the Consultation, Ofgem proposed a revision of National Grid's NTS Transporters Licence to introduce a new Special Condition 8I (SC8I) – 'Development and Implementation of a Demand Side Response (DSR) Methodology for use after a Gas Deficit Warning'. The Licence revisions were approved by the Authority in September 2014. SC8I requires National Grid NTS to:

1. Develop a framework and methodology (the "Demand Side Response Methodology"), in consultation with the industry, for assessing and accepting Demand Side Response Offers, with a draft to be submitted to the Authority no later than 1st March 2015;
2. Where 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 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
4. Where Directed by the Authority to do so, implement the Demand Side Response Methodology.

The DSR Framework and Methodology arrangements described within this document seek to ensure that all relevant SC8I Licence condition principles are met.

The DSR Framework and Methodology

Ofgem's SCR process identified that the gas market would benefit from large End Users (i.e. the Gas Consumer) reducing demand voluntarily ahead of an emergency. However, during the same process stakeholders expressed doubts that a market for commercially contracted reduction in demand would emerge of its own accord. During this process a number of stakeholders also suggested the development of a centralised mechanism for DSR. Ofgem has since directed National Grid NTS to develop a centralised mechanism for specific types of End Users to Offer their DSR directly to National Grid NTS. It is envisaged that establishing this mechanism will ultimately serve to 'kick-start' the market for commercially contracted reduction in demand between End Users and Shippers/Suppliers in the medium to long term and thereby increase competition in the provision of DSR.

Over the last year we have held several industry engagement sessions, meeting with approximately 60 Large Industrial End Users, Shippers and Suppliers, and initiated a suite of

Industry Workgroups for Modification Proposal 0504 – ‘Development of a Demand Side Response Methodology’. Based on what we have learnt through Industry engagement and DSR workgroup sessions, National Grid NTS has drafted a DSR Framework and Methodology that seeks to reflect the views expressed by Industry and represent the broad workgroup consensus of DSR discussions to date.

The DSR Framework and Methodology seeks to provide an additional ‘route to market’ through which End Users (via their Shipper/Supplier) can signal their willingness to make available additional DSR energy quantity, i.e. DSR energy quantities which would not otherwise be offered through existing market mechanisms. Encouraging DSR energy quantity to come forward, post a Gas Deficit Warning (GDW), but prior to the end of Gas Deficit Emergency (GDE) Stage 1 may, in some circumstances, provide sufficient additional system balancing volumes to avoid the system entering a GDE Stage 2. This may enhance the security of supply to more critical load and help all affected parties avoid the high costs and risks associated with an escalation into the later stages of a GDE.

DSR Framework and Methodology

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DSR Methodology

Section 1. Definitions

1.1. Definitions:

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| a | DSR | Demand Side Response. The reduction in an Eligible DMC's rate of gas offtake in the period following declaration of a GDW. |
| b | DSR Service | The framework within which the end to end DSR processes are operated. As set out in section 2 of this document. |
| c | DSR Offer | Each individual trade offer that may be submitted on to the OCM Platform– Locational market. |
| d | DSR Product | The arrangements by which all DSR Offers will be placed and accepted. As set out in section 4 of this document. |
| e | 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 NTS may accept DSR Offers. |
| f | OCM Platform – Locational market | The market that DSR Offers may be submitted upon. As set out in section 3 of this DSR Methodology. |
| g | GDW | Gas Deficit Warning ref: UNC Section V5.9. |
| h | GDE | Gas Deficit Emergency ref: UNC Section Q3.2 |
| i | Firm Load Shedding (FLS) | During Stage 2 of a GDE; upon direction from the Network Emergency Coordinator (NEC), National Grid NTS and relevant Transporters |

may instruct the End Users to curtail gas offtake at specified sites. Ref: UNC Section Q3.5.

j 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.

k The GDE Stages

GDE Stages are defined in UNC TPD section Q3.2 and in the Network Gas Supply Emergency Classifications as provided in the National Grid NTS safety case for a Network Gas Supply Emergency

l Eligible DMC

As set out in section 5.2 of this DSR Framework and Methodology

Where capitalised words and phrases are used within this document, those words and phrases shall usually have the meaning provided within the Uniform Network Code (unless they are otherwise defined within the terms detailed above).

Section 2. DSR Service

- 2.1. The DSR service features two principle contractual arrangements:
- **For reduction in gas quantity oftaken, at relevant Site** – Shipper/Supplier to End User contractual arrangement. On behalf of the End User (in some cases through instruction by the Supplier) the Shipper will agree to place an offer onto the DSR mechanism, which reflects the agreed DSR energy quantity and price for End User's reduction in offtake from the NTS. In return the End User commits to honouring and delivering on the agreed energy quantity reduction if called to do so by the relevant Shipper following acceptance of the offer by National Grid. (Note: Requirements for this aspect of the DSR mechanism shall be defined by the Shipper, Supplier End User through their DSR Service agreement)s; and
 - **For the procurement of the gas associated the DSR Offer** – Shipper to National Grid NTS contractual arrangements. Under prescribed parameters and criteria set out in this DSR Framework and Methodology, the Shipper will offer to sell title to gas (associated to the DSR Offer), to National Grid, in its Role as Residual Balancer.
- 2.2. The End User (in some cases through the Supplier) will work together with their registered Shipper to set-out and agree details, criteria and arrangements associated with posting the DSR Offer(s) for an Eligible site onto the OCM Platform – Locational market. DSR Offers may be placed, updated or withdrawn, at any time up to the declaration of a GDE Stage 2.
- 2.3. DSR Offers associated to the DSR Service may only be accepted by National Grid NTS and only for a gas Day in which a GDW has been declared and is in effect. DSR Offers posted onto the Locational market will be available for National Grid NTS to accept throughout the DSR Period.
- 2.4. National Grid NTS will promptly notify the OCM Market Operator that a GDW has been declared and is in effect and also when a GDW has been revoked.
- 2.5. Where a DSR Offer is accepted by National Grid NTS on the OCM Platform – Locational market;

- 2.5.1. The Shipper will notify the End User of the requirement to reduce their notified End Of Day (EOD) offtake by an energy quantity at least equal to the DSR Offer (including any allowances for 'Tick down').
- 2.5.2. The Gas Balance position, for both the Shipper and National Grid NTS, in its Residual Balancing role, registered on the UK Link system, will be adjusted to reflect the completed gas trade on the OCM Platform – Locational market.
- 2.5.3. DSR Offers may be accepted:
 - a Solely by National Grid NTS for National Balancing purposes; and
 - b Post the declaration of a GDW up to the end of Gas Deficit Emergency Stage 1; and
 - c Where the DSR Offer meets the criteria set out in this DSR Framework and Methodology.

Section 3. The OCM Locational Market

The OCM's Locational market will be revised from a market in which Shipper OCM Market participants may both post and accept Locational bids and offers to a market where National Grid NTS is permitted to accept Locational bids and offers; and Shipper Market participants are only able to post Locational bids and offers.

- 3.1. National Grid NTS will be the only Market participant on the OCM Locational market able to accept Locational bids and Offers;
- 3.2. As Network Code signatories able to post Physical Offers, Shippers will be the only Market participants able to post Locational bids and offers ;
- 3.3. DSR Offers will be posted on to the OCM Locational Market;
- 3.4. DSR Offers will be identified by a DSR Flag;
- 3.5. DSR Offers will not be visible on the Locational market until a GDW for a gas Day has been declared;

- 3.6. Where a DSR Offer is accepted it will be regarded as a 'Locational Market Transaction' that will be undertaken in accordance with UNC section D2.2.1 (d) a 'Locational Market Transaction'; and
- 3.7. For the avoidance of doubt, all accepted DSR Offers will be included in the system clearing processes and cash-out for the relevant gas Day.

Section 4. The DSR Product

- 4.1. The DSR Product provides 2 items:
 - a A specified energy quantity of DSR to be provided by the End User; and
 - b A Gas Trade for the equivalent DSR energy quantity provided by the Shipper.
- 4.2. Features of the DSR Product:
 - 4.2.1. The DSR Product must be associated with a specific Daily Metered Supply Point that has a registered Annual Quantity (AQ) greater than 2 million therms (DMC).
 - 4.2.2. The Product must be submitted onto the OCM Platform– Locational market by a Registered User at the relevant DMC.
 - 4.2.3. The Product may be offered as;
 - a a Daily product and accepted for each gas day exclusively in accordance with UNC Section D2.2.1 (d) a 'Locational Market Transaction' ; or
 - b a Multiday product undertaken in accordance with the UNC Section D4 – Multi-Day Balancing Actions ;
 - 4.2.4. The DSR Product must be submitted onto the OCM Platform - Locational market as a DSR Offer, prior to the declaration of a Gas Deficit Emergency (GDE) Stage 2;
 - 4.2.5. The DSR Product may be offered in separate tranches of energy quantity, which may be priced individually;
 - 4.2.6. Each tranche will be submitted as a single DSR Offer;
 - 4.2.7. There may be more than one DSR Offer at a specific DMC;
 - 4.2.8. Each DSR Offer must be greater than 100,000 kWhs (4k therms on OCM);
 - 4.2.9. Where the DSR Offer has been submitted onto the OCM Platform - Locational market for a relevant gas Day, and remain a valid offer, National Grid NTS may accept the Offer, during the DSR Period;
 - 4.2.10. Features of the daily DSR Offer product. The daily DSR Offer may be offered in the form of:
 - a an offer that is input on a daily basis; or

- b a 7 Day profile of daily offers (submit differing values for each day of the week if so required) the 7 day profile of daily offers will be replicate automatically until revised or withdrawn.

Section 5. Eligibility

- 5.1. Only a Registered User at the Supply Points that comply with the eligibility rules specified in this DSR Framework and Methodology may enter offers into the DSR mechanism. In turn the DSR Framework and Methodology must satisfy the criteria and obligations set out in the GT Licence obligation SC8l.
- 5.2. An Eligible Supply Point is a 'DMC' customer as defined in the UNC Section A4.5. An Eligible DMC will be:
 - a A Supply Point with a registered demand >2million therms per Annum (2M tpa);
 - b Able to offer a minimum DSR Offer energy quantity of 100,000 kWhs in any one DSR Offer Notice.
- 5.3. A Shipper may only submit a DSR Offer onto the OCM Platform – Locational market for an Eligible DMC where:
 - a it is a Registered User at the Eligible DMC; and
 - b it has entered into a DSR Service Contract, with the relevant End User, prior to the relevant GDW being declared.

Section 6. DSR Participants

- 6.1. There are four/five counter parties participating in the DSR arrangement.
 - 6.1.1. End User at the Eligible DMC;
 - 6.1.2. Shipper & Supplier;
 - 6.1.3. OCM Market Operator; and
 - 6.1.4. National Grid NTS
- 6.2. **End Users**
 - 6.2.1. The End User, with an Eligible DMC, may choose to enter into a DSR arrangement with its registered Shipper.
- 6.3. **The Shipper/Supplier**

6.3.1. The Shipper/Supplier, who must be a Registered User at the Eligible DMC, is the party eligible to participate on the OCM Platform - Locational market on behalf of the relevant End User with the Eligible DMC.

6.4. OCM Market Operator

6.4.1. The OCM Market Operator will provide the Locational market within the OCM.

6.4.2. The OCM Market Operator will facilitate offer and acceptance of DSR trades in accordance with the OCM Market Rules contract, and UNC Section Annex D1, which will reflect the DSR Framework and Methodology provisions.

6.5. National Grid NTS

6.5.1. National Grid NTS will be the sole party that may accept DSR Offers within the DSR mechanism.

6.5.2. National Grid NTS will only accept DSR Offers for national balancing purposes.

6.5.3. DSR Offers for the relevant gas Day may be accepted by National Grid NTS at any time following the declaration of a GDW for the relevant gas Day and for the duration of the DSR Period.

6.5.4. 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'.

Section 7. DSR Contractual Relationship

7.1. Prior to posting a DSR Offer the registered Shipper must seek agreement with the relevant End User that the registered Shipper may post DSR Offers onto the OCM Platform - Locational Market, on behalf of the End User;

7.2. Where a DSR Offer is accepted by National Grid NTS:

7.2.1. The DSR Offer acceptance will be a contractual arrangement between the Shipper and National Grid NTS through the existing OCM Market Rules and UNC contractual arrangements.

Section 8. The DSR Offer Price

- 8.1. The DSR Offer price will be a p/kWh per gas Day conforming to OCM Market Rules.
- 8.2. The derivation of the DSR Offer price will be agreed between the relevant End User and its registered Shipper/Supplier.
- 8.3. Accepted DSR Offers will be treated in a similar manner to a Market Balancing Actions (MBA) and as such all accepted DSR Offer prices will feed into the System Average Price (SAP) and System Marginal buy Price (SMPb) calculation for the relevant gas Day in accordance with existing arrangements for other MBAs.
- 8.4. Payment for the accepted DSR Offer will be paid within the same timescales prescribed for all other MBAs, and in accordance with the UNC TPD Section S;
- 8.5. The Shipper will pay the End User the agreed DSR payment for an accepted DSR Offer in the timescale agreed by the two parties

Section 9. Posting DSR Offers

- 9.1. A DSR Offer energy quantity placed on the OCM Platform – Locational Market, in respect of any DSR Offer, must be greater than 100,000 kWhs.
- 9.2. In respect of a DSR Offer submitted through the gas Day 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 Day, this is due to the DSR Offer falling below the minimum bid criteria and will therefore not be a valid offer.
- 9.3. DSR Offer(s) will be for a specified offtake reduction energy quantity (kWhs) at an Eligible DMC and in the form specified by the DSR Framework and Methodology. Each DSR Offer(s) will relate to one individual energy quantity of reduced offtake (a tranche); for each Eligible DMC the total energy quantity of offtake reduction of all DSR Offers shall not exceed the prevailing Supply Point nominated daily offtake quantity, as set out in the prevailing Gas Flow Nomination, submitted by the relevant Shipper, for the Eligible DMC, for the relevant gas Day.
- 9.4. A DSR Offer may be posted on to the Locational market of the OCM at any point in time up to the declaration of GDE stage 2 for the gas Day, but will only be able to be accepted during the DSR Period.

Section 10. DSR Offer Acceptance Arrangements Process

- 10.1. Where a GDW has been declared National Grid NTS may accept DSR Offers on the Locational market for each Day up to the Day that the GDW is revoked, or the gas Day within which GDE Stage 1 has ended and Stage 2 is declared.
- 10.2. Following the declaration of a GDE Stage 2 National Grid NTS will not be required to accept any further DSR Offers.
- 10.3. Where Declaration of a GDE Stage 2 occurs within a gas Day all DSR Offers accepted whilst in GDE stage 1 will apply.
- 10.4. All available DSR Offers will be displayed in a price order consistent with all other OCM markets.
- 10.5. National Grid NTS will accept lowest priced offers first in stack order, making an assessment across the OCM Title, Physical, Locational Markets.
- 10.6. Where National Grid NTS accepts a DSR Offer the Shipper will be notified through existing OCM notification processes.

Section 11. Exercising The Accepted DSR Offers Process

11.1. Daily Product

Where National Grid NTS accepts the DSR Offer;

- 11.1.1. The relevant Shipper will notify the relevant End User of the requirement to reduce their gas offtake for the gas Day by the energy quantity specified; at the specified site, within the timescales, and arrangements prescribed in the relevant DSR Offer Notice.
- 11.1.2. As with all Locational Market Offers accepted on the OCM, the Shipper 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 prescribe in UNC Section D2.3 – Contract Re-nominations.

Section 12. Treatment of Accepted Offers When Entering into a GDE Stage 2

- 12.1. Where National Grid NTS has already accepted a DSR Offer for a gas Day on which National Grid NTS subsequently declares a GDE Stage 2 the accepted DSR Offer will

be exercised for each Day following the Day the offer was accepted until countermanding instructions are issued by National Grid NTS i.e. instruction from National Grid NTS during the restoration stage of the GDE.

Section 13. Payment Arrangements

- 13.1. In respect of the Day, or Multiday, that the DSR Offer contract duration was accepted for, payment will be made in accordance with the accepted DSR Offer price,
- 13.2. For subsequent Days during GDE stage 2; payment at 30 day average SAP for the accepted DSR energy quantity will made up to the point that the relevant site has been instructed to Firm Load Shedding (FLS), by National Grid NTS or such other relevant Transporter.
- 13.3. In the event that the accepted Multiday Offer contract duration runs beyond FLS; the payment will continue to be paid in accordance with the agreed DSR Offer price until the contract duration is extinguished.
- 13.4. Where the Eligible DMC is FLS the prevailing DSR payment arrangements will apply in accordance with the Ofgem Gas Significant Code Review (SCR) on Security of Supply (SoS) UNC provisions¹, in which UNC section Q 6.4 - 'DSR Payments' prescribes a DSR payment, for each Day of curtailment, of 30 Day Average SAP (price set from the Day prior to entering Stage 2) multiplied by the energy quantity that was FLS.
- 13.5. As the DSR is exercised through an OCM trade, once the DSR service has been exercised, the relevant End User will be entitled to receive the relevant DSR payment until the end of the contracted duration on which the DSR Offer was accepted, irrespective of any countermand instruction from National Grid NTS that the GDW for the relevant gas Day has been repealed.

Section 14. DSR Settlement Arrangements

- 14.1. 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 Shipper.

¹ UNC text to be implemented September 2015 In accordance with the Authority's direction on Gas SCR <http://www.gasgovernance.co.uk/sites/default/files/gasscrs36cdirectiondraft.pdf>

- 14.2. The Shipper will be required to pass agreed payments associated with the DSR Offer to the relevant End User within their agreed settlement timescales.
- 14.3. Where National Grid NTS accepts a DSR Offer on a Day for which it later declares a GDE Stage 2; the offer acceptance shall continue to be exercised throughout GDE Stage 2 and higher emergency stages. Payments associated with accepted DSR offer energy quantities will be settled as follows:
- a For each relevant 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 Market Balancing Action settlement arrangements. These DSR Offer payments will be settled in accordance with the Gas SCR SoS UNC provisions², UNC 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.
 - b Accepted DSR Offers will receive DSR Payment, at the offer price multiplied by the energy quantity accepted in the DSR Mechanism, for each 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 Offer (including both voluntary and involuntary DSR) in accordance with the DSR settlement arrangements prescribed in UNC section Q 6.4.7 – 'DSR Payments' (SCR SoS provisions to be introduced in September 2015).
- 14.4. Supplier Licence Condition 19D of the Gas Supply Licence and Shipper Licence Condition 15A of the Gas Shipper Licence set out the obligation for passing on Involuntary DSR payments to End Users as soon as reasonably practicable.

Section 15. Liability Arrangements

- 15.1. When submitting the DSR Offer onto the OCM Platform – Locational market the Shipper warrants that the DSR Offer accurately reflects the details agreed in the relevant DSR Offer Notice. The Shipper will be solely responsible and liable for any error or omission in the DSR Offer, when registering onto the Locational market; these liabilities will manifest themselves as clearing (cash-out) costs, Physical Re-nomination Incentive (PRI) charges and Scheduling charges.

² UNC text to be implemented September 2015 In accordance with the Authority's direction on Gas SCR <http://www.gasgovernance.co.uk/sites/default/files/gasscrs36cdirectiondraft.pdf>

- 15.2. Where the amount of gas offtaken for a relevant gas Day at the relevant Eligible DMC is not less than or equal to the re-nomination submitted by the Shipper, in response to the acceptance of a DSR Offer, then the Shipper is potentially exposed to clearing costs, and the End User has therefore not met its trade requirements. The End User and the registered Shipper should consider liability arrangements associated with the Shipper's exposure to such clearing costs.

Section 16. The UNC Provisions

In respect of the DSR Framework and Methodology the UNC will include the following provisions:

- 16.1. Prior to posting a DSR Offer onto the OCM the registered Shipper will have a record of the agreement, with the relevant End User of the relevant site, that the Shipper may post the DSR Offer(s) on behalf of the relevant End User.
- 16.2. An accepted DSR Offer will be processed and settled in accordance with Locational Market Transaction arrangements.