Gas
Transmission

Option Payments for Gas Demand Side Response (DSR)

Transmission Workgroup
14th July 2022

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Introduction

As part of our winter preparedness activities, we continually review the mix of tools and notifications available to us to manage the network in the event of a tightening of the supply/demand balance

Gas Demand Side Response (DSR) is an area of the regime that could be beneficial in this context

For DSR offers to be available on the OCM, contractual terms between the consumers offering the physical response and its supplier / shipper posting the offer are a prerequisite

We've heard from our initial bilateral engagement that:

- Incentives for such contracting are currently insufficient
- Availability / option payments could help to stimulate this market

Introduction

We therefore wish to discuss with the industry:

- Whether the introduction of DSR option payments would be **desirable** to help mitigate the risk of a gas supply emergency
- **Principles** against which such payments should be judged
- **Issues** that would be associated with their introduction and potential solutions

If we conclude from this engagement that DSR option payments would be a beneficial reform, the relevant UNC Modification would likely need to be progressed according to an Ofgem agreed timescale to allow implementation this winter

Immediate Timetable

Thursday 14th July 2022, 10:00 – 13:00: Extra Transmission Workgroup 1

Monday 18th July 2022, 13:00 – 16:00 – Extra Transmission Workgroup 2

Thursday 4th August 2022: Transmission Workgroup: Conclusions and proposed way forward

We are also engaging in parallel with large industrial consumers and their associations who may be able to provide DSR to better understand current barriers to participation and assess the practical feasibility of voluntary curtailment

- First meeting scheduled for Friday 15th July 2022

Indicative Longer-term Timetable

The schematic below sets out an indicative view of milestones IF we conclude, following discussions, that introduction of option payments for DSR would be beneficial

July	August	September	October	November	December
UNC parties engagement					
Engagement with large industry					
				Publish DSR invitation to offer	
	Engagement conclusions & decision point				
				Receive/assess responses to invitation	
					Publish invitation outcomes
	Raise UNC Modification	UNC Modification consultation	Ofgem decision on UNC Modification and DSR methodology changes		
					Implement option payments
	DSR methodology consultation				
					DSR offers posted onto OCM
			Shippers, suppliers, consumers prepare DSR contracts		

← What will happen → | ← What may happen →

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Gas DSR Recap

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Gas DSR - Recap

Gas DSR enables consumers to offer to reduce their demand via their shipper/supplier during the build up to a gas emergency, in return for a payment which they define

- During times of insufficient gas supply, the use of gas DSR could reduce the likelihood, severity and duration of a gas deficit emergency
- Intended to provide a ‘route to market’ for large consumers to receive greater financial compensation by voluntarily curtailing demand ahead of an emergency than if they were involuntarily curtailed in an emergency.
- Envisaged to be more suitable for large industrial and commercial sites rather than power generation
- Shippers may place offers to sell quantities of gas on the OCM DSR locational market which NGG may accept after a Gas Balancing Notification has been issued prior to declaration of a Stage 2 emergency
- ‘Exercise’ payments only apply currently

Historical Timeline

2014

- SCR conclusions
- Ofgem consult on SC8I – Introduction of a DSR product
- NG and industry develop a DSR methodology and product

2015

- Ofgem approved draft methodology
- NGG run a DSR trial during Summer
- NGG raise modification 0504 to implement

2016

- Modification 0504 approved by Ofgem
- System design and build activities
- Implementation in October 2016

Annually/ biannually since

- Consultation and report to Ofgem on the DSR methodology under SC8I

Key Principles of DSR

- **Triggered by a Gas Balancing Notification (GBN) and open until end of Stage 1 of a Gas Deficit Emergency**
- **DSR Market is hosted on the OCM – min offer size of 100,000 kWh/d**
  - Allows tranches of load to be offered
- **Market aimed at those parties defined as a 'DMC' in UNC. (>2m therms /annum)**
- **Available for shippers to post offers at any time but only becomes visible / available to NGG at the point of a Gas Balancing Notification.**
  - Single day or multi day trade (up to 7 days)
- **NGG are the only counterparty**
- **Allows the consumer to define their VoLL (Value of Lost Load)**
  - In Firm Load Shedding prior to the SCR, such sites received no compensation, however the SCR introduced a 30 day average SAP payment in Stage 2

Gas DSR – Current Process Flow

	Consumer	Supplier	Shipper	National Grid
Posting the Offer	Offers to reduce gas offtake	Relays offer details	Posts offer onto the trading system	Accepts Offer
Exercising the Offer	Reduces Offtake of Gas	Relays instruction	Instructs supplier to reduce offtake	Notifies shipper of accepted offer
Receiving Payment	Receives Payment	Passes agreed payment through to consumer	Payment received and agreed payment passed to shipper	Payment recovered and credited to shipper

DSR Offer Acceptance

Acceptance of offers based on materiality of impact in resolving the supply shortfall

Offers accepted feed through into cash-out, therefore could set SMP buy price

If National Grid accepts the OCM DSR offer:

- the shipper is obliged to renominate down by the quantity accepted
- the associated consumer would be obliged to reduce its end-of-day offtake by an energy quantity at least equal to the DSR offer

Contract period could be either just for that day or multi-day

- If a single day offer is accepted on the day a GBN is declared, the consumer could resume its offtake on Day 2, unless the shipper posts / NGG accepts another offer

DSR Offer Acceptance

If a stage 2 GDE is declared on the same day as a DSR offer is accepted/applicable, the relevant consumer shall maintain the flow reduction for subsequent days

- Shipper paid for voluntary DSR quantity x 30 day SAP for this period

If the consumer is then instructed to firm load shed, shipper is paid the Emergency Curtailment Quantity* x 30 day SAP for the remaining duration of the emergency

* The quantity that would have been offtaken if firm load shedding had not occurred, (determined in accordance with the ECQ methodology)

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Option Payments:

Problem Statement
Principles
Issues

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Draft ‘Problem Statement’

If DSR offers are to be available on the OCM for National Grid to accept post declaration of a GBN, contractual arrangements between shippers, suppliers and consumers that govern the associated process and commercial terms are a pre-requisite.

Such contractual arrangements are not in place at present because their development requires a level of effort and preparedness that is disproportionate to the perceived risk of involuntary supply curtailment and most eligible consumers do not have a back-up fuel source.

In the event that National Grid issues a GBN, it is therefore expected that little or no DSR offers would be available for acceptance on the OCM DSR locational market.

The current DSR rules are therefore unlikely to be effective as a means of mitigating the risk of progressing to Stage 2 gas supply emergency at times of system stress.

To what extent do you agree with this problem statement?

Option Payments - Definition

A payment made by National Grid to a shipper (which the shipper would be obliged to pass onto its consumer) in return for that shipper agreeing to post an offer to sell an agreed quantity of gas to National Grid on the OCM DSR Locational Market during the winter period

Option Prices: Original Rationale

Modification 0504 originally introduced the DSR rules into UNC

At that time, use of option prices were judged not to be consistent with the DSR principles or the relevant objectives due to

- The additional costs being passed to consumers to cover a low likelihood event
- Possibility that the establishment of a competitive DSR market would be prevented
- National Grid extending its role beyond that which is required to provide a route to market for DM customers

To what extent do you feel that this rationale still applies?

What commercial framework changes would be needed to introduce option payments?

UNC TPD

- Section D5: covers DSR offers, acceptance and reporting
- Section Q3: sets out that the operation of DSR methodology is only triggered from issue of a GBN
- Section F4: if option payments were to be funded from Balancing Neutrality

DSR Methodology

- Includes arrangements for the DSR offer price, the OCM acceptance, exercising of accepted offers and settlement
- Changes would be required to the DSR Methodology to incorporate an option price. These would need to supplement the existing provisions setting out exercise price.

NTS Licence

- Our initial view is that no Licence change would be needed

DSR Option Prices: Our Current View of the Issues

Principles	Economic justification	Risk perception	Structure and determination	Licence principles	
Commercial	What is the payment for?	Who sets the option price?	Funding	Obligations and liabilities	Eligibility
Process	Consumer turndown capability	NGG invitation to offer	Transparency and reporting		

Are there other issues that also need to be considered?

Current DSR Principles (extract from NTS Licence)

The licensee must ensure that the Demand Side Response Methodology:

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

b) sets 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) allows the licensee to accept Demand Side Response Offers only where a Gas Balancing Notification is in place or within stage 1 of a Gas Deficit Emergency;

d) demonstrates 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) promotes, and further facilitates, parties making Demand Side Response Offers to the licensee through open and transparent market-based arrangements;

f) does not unduly preclude the emergence of commercial interruption arrangements;

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

h) ensures 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 pipeline system to which this licence relates in an efficient, economic and co-ordinated manner.

Who should set the Option Price?

National Grid?

- Provides greater certainty of the potential aggregate cost of option payments
- Equitable across shippers/consumers
- Makes NGG's assessment process easier

BUT

- How to establish it?
- Fails to take account of site specific impacts and costs
- Risks of insufficient offers if priced too low; risk of over-compensating if priced too high

The shipper / consumer?

- Delivers flexibility to offer a price which reflects the consumer's costs of becoming eligible for DSR
- Potentially greater level of interest from consumers

BUT

- Makes NGG assessment process of which offers to accept more challenging; how does it link to the exercise price to understand total potential costs
- Potentially uncapped liability for other shippers/consumers

Optimal answer is dependent on what costs the option payment is designed to cover

Funding Arrangements

Two options have been considered to enable funding of option payments:

1. Fund from the Balancing Neutrality account

2. Fund via NTS transportation charges

DSR money flows are currently treated in UNC as balancing costs/revenues

- NGG acceptance of any DSR offer contributes to setting cashout prices
- NGG recovers costs associated with acceptance of DSR offers via neutrality

Our initial view is that such payments should therefore be funded via Balancing Neutrality but be excluded from cashout price determination because they would not reflect value of gas on the day

Eligibility

Current DSR eligibility is any industrial / commercial / power generation site with an AQ > 2 million therms pa with a minimum daily bid quantity of 100,000 kWh

In the period post a GBN and prior to a Stage 2 emergency, there may be a need for power generation sites to continue taking gas to maintain electricity supply security

Whilst the current scheme permits power generation participation, in practice we expected that industrial and commercial consumers would be those that would take part

How should power generation sites be treated in an option payments scheme?

- Included with an expectation that they would not participate?
- Prioritised lower in the assessment process vs industrial consumers?
- Excluded?