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for energy consumers

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Direction to National Grid Gas plc to implement the Demand Side Response Methodology, pursuant to Special Condition 8I of the Gas Transporter Licence;

Notice of Reasons for our Decision under section 38A of the Gas Act 1986

In this letter, we set out our decision to approve National Grid Gas plc (NGG's) methodology for a gas demand-side response (DSR) mechanism. We have considered NGG's final methodology, and the results of the DSR trial. We are satisfied that the methodology has been developed in line with the principles set out in Special Condition 8I of NGG's gas transporter licence. We now direct NGG to proceed with the implementation of the proposed DSR mechanism, as set out in NGG's final DSR methodology.

Background to the development process

On 23 September 2014 we concluded our Gas Security of Supply Significant Code Review (Gas SCR). Our Gas SCR reforms will make changes to the market during a gas supply emergency. The reforms are summarised in our Gas SCR Conclusions document¹ and will take effect on and from 1 October 2015.

During the development of our Gas SCR reforms we found substantial evidence that the gas market could benefit from large consumers reducing demand voluntarily ahead of a possible gas supply emergency.

Our Gas SCR reforms incentivise shippers to better secure their supplies, and one way they can take to do this is entering into commercial negotiations for voluntary DSR with larger consumers. There appear to be clear situations where it would be mutually beneficial for both shippers and consumers to agree to commercial interruption (eg when higher gas prices make production of their goods or services uneconomic). However, some stakeholders expressed doubts that voluntary interruption would emerge of its own accord. As part of the Gas SCR, a number of stakeholders suggested the development of a centralised mechanism for DSR would be beneficial.

We saw merit in a DSR mechanism if it could overcome some of the barriers identified by stakeholders, whilst not distorting or foreclosing any market for commercial DSR. As

¹ <https://www.ofgem.gov.uk/publications-and-updates/gas-security-supply-significant-code-review-conclusions>

such, when we published our Gas SCR conclusions document we also placed an obligation on NGG to:

- Develop a DSR methodology in accordance with a set of principles and in consultation with interested parties, and submit it to us by 1 March 2015;
- Run a trial of the draft DSR methodology if directed by us to do so, and submit a report on the outcomes of the trial to us alongside a final DSR methodology; and
- Implement the DSR methodology if directed by us to do so.

NGG has developed the methodology in accordance with the requirements of Special Condition 8I. On 27 February 2015 NGG submitted their draft DSR methodology to us for consideration. On 20 May 2015 we set out our decision to direct NGG to proceed with trialling the gas DSR mechanism². On 26 August 2015 we received NGG's final DSR methodology and results of the trial³. In NGG's view, the trial found no need to make changes to the draft methodology, so the final methodology is the same as that submitted in February.

Our assessment of the methodology

Potential benefits and costs

Our previous publications on the Gas SCR outlined the potential benefits and costs of a DSR mechanism. We concluded that a DSR mechanism could help ensure large consumers calculate their Value of Lost Load (VoLL) ahead of any emergency or tight gas market. It could also improve the efficiency of disconnections by ensuring more interruptions happen in price order rather than size order (as would be the case with involuntary load shedding).

Our Gas SCR conclusions highlighted the key benefits of voluntary demand-side response. We concluded that revealing the cost of consumer interruptions through the provision of voluntary DSR is preferable because:

- it facilitates more efficient price signals by allowing market prices to reflect the value that individual consumers place on their supplies, rather than relying on a proxy estimate;
- it helps efficiently transfer risks from consumers to shippers by ensuring consumers are paid in line with their own individual VoLL;
- it promotes the efficient utilisation of DSR which is important for minimising the economic costs associated with a Gas Deficit Emergency (GDE); and,
- it ensures more DSR is available ahead of a GDE to be used by either NGG or shippers to avert a GDE in the first place

During the SCR process, stakeholders expressed doubt that voluntary DSR would emerge of its own accord. Large consumers expressed a preference for ensuring interruptions were for genuine system integrity reasons (as judged by the NGG as System Operator (SO)), rather than as a result of commercial interruption by shippers. Stakeholders also argued that, given the unlikely nature of a GDE, the upfront costs of arranging DSR (eg, negotiating terms such as response time) could outweigh the benefits of improved risk mitigation. We saw merit in a centralised mechanism that could overcome these barriers and unlock the benefits listed above.

In reaching our conclusions, we also considered potential costs of a DSR mechanism, such as the costs of establishing and running the mechanism, and the cost of exercising bids in the mechanism if necessary. We also identified a number of risks and potential

² <https://www.ofgem.gov.uk/publications-and-updates/decision-direct-national-grid-gas-ngg-proceed-trialling-gas-demand-side-response-dsr-mechanism>

³ Available at:

<http://www.gasgovernance.co.uk/sites/default/files/Gas%20Demand%20Side%20Response%20Methodology%20Final%20V1.pdf>

unintended consequences associated with the adoption of a centralised DSR mechanism. These included:

- the risk of distortions to the traded market (eg, by moving DSR currently available to all shippers over to the centralised DSR mechanism where it is only available to the SO);
- the risk of producing inefficient and/or uncompetitive bidding outcomes (eg, due to low participation or strategic bidding); and,
- the risk of unduly inhibiting any commercial market for interruption that may emerge in the future.

Our Impact Assessment⁴ showed that the benefits of a DSR mechanism could outweigh the costs if the mechanism was carefully designed.

Assessment of the methodology against the principles

In order to mitigate against these costs and risks, and to ensure the DSR mechanism delivers the net benefits we anticipate, we set out a range of principles that NGG must consider in developing the mechanism. We have assessed the DSR methodology against the principles. Below we highlight how we consider each of the principles is met.

8I.4 (a) ensure that any party making a Demand Side Response Offer is a party to the Uniform Network Code

We are satisfied that the methodology set out by NGG addresses this point in Section 6. This stipulates that shippers are the party eligible to participate on the On-the-day Commodity Market (OCM) platform on behalf of the relevant end users with an eligible DMC supply point component. Section 7 sets out the contractual relationship that governs the DSR mechanism.

8I.4 (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

The methodology states (in Sections 5 and 6) that end users with an eligible DMC supply point component may choose to enter into DSR arrangements with their registered shipper, and so specifies that all DMC supply point components are eligible to participate. As such, we are satisfied that NGG has addressed this principle within their methodology.

8I.4 (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

Section 2 of the Gas DSR methodology states that DSR offers may be accepted by NGG only after the declaration of a GDW up to the end of a GDE Stage 1. Section 3 notes that DSR offers will only become visible on the locational market if a GDW has been declared. Section 12 sets out the treatment of accepted offers when entering a GDE stage 2. We are content that this principle is effectively met within the methodology as a result, and that the DSR mechanism will only be able to be used by NGG during a GDW or GDE stage 1.

8I.4 (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

Section 8 of the Gas DSR methodology requires that accepted DSR offers be treated as balancing actions, and so will feed into the System Average Price (SAP) and Marginal

⁴ <https://www.ofgem.gov.uk/publications-and-updates/gas-security-supply-significant-code-review-impact-assessment-final-policy-decision>

System Buy Price (SMPb) calculation for the relevant gas day in accordance with existing arrangements. Additionally, Section 3 clearly states that “all accepted DSR offers will be included in the system clearing processes and cash-out for the relevant Gas Day”. These two sections of the methodology indicate that NGG has successfully ensured that DSR bids will be factored into, and can set, the cash out prices as appropriate.

8I.4 (e) promote, and further facilitate, parties making Demand Side Response Offers to the Licensee through open and transparent market-based arrangements

One of our key concerns with the implementation of a DSR mechanism was ensuring that it would appeal to consumers who would not otherwise have offered DSR, rather than those which are already willing to provide DSR through existing commercial arrangements. As such, this principle aimed to reduce barriers to providing voluntary DSR through the DSR mechanism. Section 4 of the methodology highlights the features of the DSR product. This allows for multiple profiles to be offered by participants, and should promote DSR for a broader range of customers. Section 9 sets out how DSR offers should be posted, and section 11 sets out how accepted DSR offers would be exercised. Sections 13, 14 and 15 set out payment, settlement and liability arrangements by aligning the product with the existing locational market on the OCM platform, the methodology ensures that mechanism is open, transparent and market-based.

8I.4 (f) not unduly preclude the emergence of commercial interruption arrangements

Another concern associated with the development of the mechanism was that it could foreclose the existing market for commercial DSR, or penalise consumers who take decisions to reduce their demand in response to direct price signals. Thus, this principle aims to ensure that any new mechanism would not reduce the attractiveness of alternative means of providing DSR, which may be more efficient than a centralised mechanism. Section 4 of the methodology outlines the DSR product, and highlights that offers are capped at a 7 day profile. This limits the potential of the mechanism to foreclose the market for commercial interruption as it is in line with the maximum duration of a multi-day offer on the OCM. Additionally, Section 10 of the methodology stipulates that NGG will accept the lowest priced offers first in the merit order, making an assessment across OCM title, physical and locational markets. This ensures that the mechanism will provide a cost effective complement to NGG’s existing tools.

8I.4 (g) minimise distortions and unintended consequences on existing market arrangements and the principle of parties balancing their own positions in the wholesale gas market

This principle is designed to ensure that the DSR mechanism does not harm the operation of other markets. This was to address our concern that the mechanism could shift liquidity from the OCM title market (where all market participants and make and take bids and offers) to the DSR mechanism (where only NGG can take offers). This reduction in liquidity could potentially harm the ability of shippers to balance efficiently on the OCM. We also wanted to ensure that the mechanism was designed to take into account interactions with the electricity market, given the potential participation of gas-fired generators. Section 3 notes that DSR offers will only become visible on the locational market if a GDW has been declared. This should minimise the impact to normal traded markets outside of stressed situations. Additionally, Section 4 of the methodology outlines the DSR product, which is designed to be no more beneficial than existing OCM products. This should ensure parties are not attracted to the DSR mechanism at the expense of placing offers on the OCM title market.

8I.4 (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

Given the low probability of an emergency, the DSR mechanism must be cost effective to ensure that upfront costs do not outweigh the benefits of the mechanism. The mechanism does not include 'option fees' or availability payments, meaning that payments are only made to participants if an offer is exercised, so reducing the ongoing costs of the mechanism if it is not used. In addition, section 10 of the methodology stipulates that NGG will accept the lowest priced offers first in the merit order, making an assessment across OCM title, physical and locational markets. This ensures that the mechanism will be cost effective alongside other system management tools.

DSR trial

When we reviewed the draft methodology in May 2015, we confirmed that we were happy to progress to trial the mechanism, in line with the process envisaged in Special Condition 8I. NGG carried out a web-based trial in July over two phases. The aim of this trial was to test the DSR process outlined in the draft methodology. Following the trial, NG have sent to us (and published) a report on the outcomes.⁵

The results of the DSR trial have not raised additional concerns surrounding the benefits, costs and risks previously discussed. While the results of the trial are only indicative and the sample size was relatively small, it did highlight a number of positive signs. There was a mix of different type of end users and demand units which participated in the trial, including utilities, chemical, ceramic and mining industries, in addition to manufacturers. This suggests that the product has been specified in a way that meets a variety of needs. This also provides a further indication that the methodology has been developed in a way that will bring forward additional DSR above that available under current arrangements, in line with principle (e). This also provides comfort on the risk surrounding inefficient or uncompetitive bidding outcomes, as it suggests potential participation is likely to be broad.

The nature of the trial makes it difficult to judge the extent to which participation rates and bidding behaviour would be replicated in a 'real' application of the DSR mechanism. However, in general we would expect participation rates to be higher with a live DSR mechanism, because incentives to participate are greater when there is potential to receive payment if a DSR offer is accepted.

The trial did not raise any issues with the methodology that NGG considered would require a change to the draft methodology.

Our decision and next steps

In our previous SCR documents, we identified that introducing a DSR mechanism would be in the interests of consumers if it met the principles we set out in Special Condition 8I. Our view on this remains unchanged. We are satisfied that the methodology was developed in accordance with the principles, and the trial did not provide any indication of issues with the methodology. As a result, we now direct NGG to proceed with the implementation of the proposed DSR mechanism, as set out in NGG's final DSR methodology.

NGG has raised a modification to incorporate DSR into the UNC, which will be developed through the usual industry process. We will make a decision on this modification in due

⁵ Available at:

<http://www.gasgovernance.co.uk/sites/default/files/Gas%20Demand%20Side%20Response%20Trial%20Report%20Final.pdf>

course. If we approve this modification, we currently anticipate that the DSR mechanism will be in place in time for winter 2016/17.

In our SCR conclusions, we highlighted that we did not necessarily view this mechanism as enduring. Commercially negotiated DSR may prove to be more efficient than a centralised mechanism, and so the mechanism may no longer be necessary if it is successful in kick-starting the market for this. We will monitor participation and any use of the mechanism, so that we can evaluate its effectiveness. NGG also has an obligation to review the methodology annually and suggest any changes they consider necessary (if any).

THE AUTHORITY HEREBY DIRECTS National Grid Gas plc to implement the Demand Side Response Methodology, pursuant to Special Condition 8I of the Gas Transporter Licence.

If you have any questions about this letter, please contact Amy O'Mahoney (Amy.OMahoney@ofgem.gov.uk)

Yours sincerely,

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