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Gas Security of Supply Significant Code Review - Draft Policy Decision Consultation - National Grid Gas Transmission Consultation Response

Dear Anna

Thank you for the opportunity to respond to Ofgem's Draft Policy Decision Consultation on Gas Security of Supply Significant Code Review (SCR). This response is made on behalf of the National Grid Gas's Transmission business (NGG). The Network Emergency Coordinator (NEC) is replying separately.

NGG owns and operates the gas transmission system throughout Great Britain and through our low pressure gas distribution business we distribute gas to approximately 11 million businesses, schools and homes across the heart of England.

Our role as the owner and operator of the gas transmission network is to ensure the safe, economic and efficient development, operation and maintenance of the system.

There is a significant amount of change being experienced in the supply of gas to Great Britain that results in much greater variability in current and future sources of gas. This, coupled with the introduction of European security of supply standards (and the requirement to show how each Member State is meeting such standards), means we believe it is timely to undertake a review of the current arrangements for gas security of supply to see if they will continue to be fit for purpose within this changing environment.

NGG is supportive of the main aim of the SCR process to implement measures that reduce the potential for a National Gas Supply deficit Emergency (NGSE) to occur. An important step in minimising the risk of such an emergency occurring, and minimising the duration once such an emergency does occur, is to have clear objectives, roles and responsibilities for all Users of the System.

Once in a NGSE, the focus of NGG is to develop a strategy for approval by the NEC to physically manage supplies and demand to achieve a safe system balance as quickly as possible. It is imperative that any changes to arrangements do not dilute our ability to develop, agree and communicate such a strategy in a timely fashion or the ability of the NEC to direct a physical response from supplies and / or demand.

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The proposed option within the consultation states that NGG would continue to take market balancing actions until the first firm load disconnections occurred. We believe that NGG should cease taking market balancing actions when the NEC starts to direct flows on the System. In the potentially revised emergency stages post exit reform, this will be in Stage 2 of an emergency.

We believe that to ensure that there are clear objectives, roles and responsibilities, consideration should be given to a more meaningful definition of gas security of supply together with more overt obligations required on shippers to put arrangements in place to ensure sufficient gas is available for extended periods of high demand. Such an obligation could be met through a range of tools, such as increasing supplies, storage or demand side reduction. We believe that shippers, with their risk management expertise, are best placed to make such decisions and to put in place such arrangements. In addition, the effectiveness of such an obligation is in some part dependent on effective monitoring; therefore, we believe that an external party, such as Ofgem, should be tasked with ensuring compliance with any such obligation.

In respect of any changes to cash out and neutrality arrangements, a careful evaluation should be undertaken to ensure that they provide tangible benefits over the existing arrangements. Overall, we agree with the high level principles within the Draft Policy where the ‘price’ of firm demand interruption should be included in the emergency cash-out calculation. However, we have concerns with regards to the implementation of administered VoLL, and whether the introduction of such measures will lead to additional physical gas being available to alleviate a supply / demand imbalance.

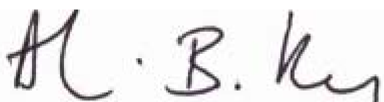
The consultation highlights a number of additional ‘further interventions’ that may be developed depending on the perceived gap remaining after the implementation of the proposed cash out reforms. The potential impact of these proposals has not yet been fully assessed; however, due to the proposed scope of potential interventions, there may be a considerable impact on market participants and the market in general. Therefore, we do not believe that we can comment on the potential effectiveness of Ofgem’s favoured option without further understanding of the proposed changes envisaged under the further interventions work. Indeed, we counsel caution in formalising a decision on the Cash Out aspect alone ahead of completion of the further intervention assessment, as the latter may impact / negate the need for the former. NGG looks forward to working with Ofgem and the wider industry in the development of potential further interventions.

Although considered out of scope of the SCR, we believe that the interaction with the electricity market may need further consideration. In light of the potential increase in gas fired generation over the next 5 – 10 years to replace coal and oil fired generation, and to act as back up to intermittent renewable generation, the interaction of the gas and electricity markets will increase and the security of supply interactions need to be fully considered.

One important element of the proposed reforms is to measure the effectiveness of the proposals. We believe that, post implementation, some assessment of the effectiveness of the arrangements is required to ensure that the proposals have had the desired impact and to inform any further work necessary in this area.

Our specific answers to the consultation questions are outlined below. If you would like to discuss any of the points raised in this response, please contact Malcolm Arthur on malcolm.arthur@uk.ngrid.com (01926 654909).

Yours sincerely



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Gas Security of Supply Significant code Review - Draft Policy Decision Consultation Response on behalf of National Grid Gas Transmission

CHAPTER 3: Level of security of supply

Question 1: Are there any options for determining the level of gas supply security to be delivered by the market that we have not considered?

To determine the effectiveness of any security of supply arrangements, there needs to be a clear security of supply standard, along with clear obligations on the parties that are best able to meet the relevant part of the standard. The current arrangements fall short of defining a level of security that the industry / wider Government is aiming to meet.

We believe that an agreed level of security needs to be outlined within the appropriate licenses and reflected in the relevant commercial regime such as the UNC, with clear definitions on each of the parties' responsibilities for meeting this standard. This links into the technology non-specific further interventions work on further information from shippers / suppliers on how they intend to meet any such defined standard.

We believe that Ofgem have considered a range of possible options that should be considered when delivering a level of security of supply, noting some of which are now part of the further interventions work.

Question 2: Do you agree with our approach to setting the level of security of supply?

The premise of Ofgem's approach is that by setting emergency imbalance system marginal buy price to a level equivalent to the domestic value of lost load (VoLL) that corresponds to the EU Gas Security of Supply Regulation of seven days of exceptional demand occurring once every 20 years, creates the incentive for the industry to invest in gas balancing tools that mitigate the associated imbalance risk.

NGG agrees with the premise that where firm load has been interrupted in an emergency, imbalance prices should reflect the value of lost load. Generally, imbalance prices provide an incentive on market participants to manage the imbalance risk. However, as Ofgem outline in their Draft Proposals, with emergency imbalance prices reflecting such a high impact, low probability event, market participants may not respond pre-emergency to these signals. Therefore, as outlined in Ofgem's Draft Proposals, imbalance prices providing a level of system security '*relies on some faith that the market arrangements are sufficient to provide appropriate incentives'* and hence physical volume and timely delivery of gas pursuant to this implicit level of security. Therefore, the incorporation of VoLL into emergency cash out relies on all parties adequately assessing and responding to the potential impact and investing accordingly.

We believe that the reliance on 'some faith' that parties will respond to the imbalance price signal may not deliver additional physical gas, but may manifest itself with some parties backing off this risk via non-physical means (such as financial insurance). Therefore, we agree that additional further interventions may be required to provide the level of system security desired.

Ofgem's preferred option of imbalance prices plus further interventions should include a clearly defined level of security that market participants need to meet, including defined roles and responsibilities in meeting this standard. To ensure that such a standard is being met by market participants, additional monitoring of market participants to ensure that sufficient steps are being taken to meet the security standard is needed.

NGG agrees with basing the level of GB security on the EU Gas Security of Supply Regulation. We do not believe that the UK should have a security of supply standard that is higher than the EU as this would create inter market distortion issues during or approaching an emergency.

CHAPTER 4: Cash-out reform

Question 1: Do you agree that it is appropriate to retain the Post Emergency Claims (PEC) arrangements? If not please explain why.

During an emergency, currently, additional gas delivered onto the system is paid for in three potential ways:

1. For gas delivered that puts shippers into a long position, the additional gas is paid at the System Average Price (SAP);
2. Shippers can post the additional gas as a trade quantity on the OCM. Any party can accept this trade at the posted price. Therefore, any shipper that is short should be willing to take the additional trade if this is below the prevailing marginal market price;
3. For trades that have not been taken at the end of the Gas Day but have been physically delivered onto the system i.e. the market participant is long, the UNC Post Emergency Claims (PEC) process automatically settles 80% of the lowest priced trades, with the top 20% priced trades being assessed by Ofgem to ensure that they are reflective of costs prior to being paid out.

On the assumption that the proposed cashout reforms and subsequent changes to the balancing neutrality mechanism lead to a scenario where the potential surplus of funds resulting from the initial clearing process are not smeared back to parties based on throughput, the incentive on shippers to increase their throughput is reduced. Therefore, a replacement mechanism needs to be in place to incentivise additional throughput while in an emergency. The current PEC process aims to provide some incentive, by ensuring, to some extent, that parties will get adequately recompensed for their efforts in providing additional gas.

There may be improvements that can be made to the current PEC process e.g. speeding up the process timescale and hence payment and provide greater certainty of payment by reviewing the assessment criteria of the top 20% of bids.

One method to potentially replace the PEC arrangements may be to set the System Marginal (Sell) Price at VoLL during an emergency, hence recompensing long market participants at VoLL. This may remove the need for the PEC process (as long as all additional gas supplied onto the system was valued below VoLL – for gas valued at or above VoLL, the party would make a loss) and speed up the settlement timescales. However, this would have the impact of reducing the incentive for shipper to shipper trading during an emergency and may act as a target price for long shippers as we move towards an emergency. The implementation of a single cash out price will also increase the system clearing costs, increasing the potential for insufficient balancing

neutrality funds remaining post the initial system clearing process to fund customer interruption payments and may cause system issues prior to full restoration of the market with the market strongly incentivised to be long.

Taking the above issues into consideration, NGG believes that the current PEC process should be retained, with a review to determine what improvements can be made, focusing on settlement timescales and certainty of payment.

Question 2: Do you agree with how we have estimated Value of Lost Load (VoLL) and the level of VoLL that we have used? Is there a case for using a higher VoLL to incentivise more discovery of the demand side?

We have some fundamental concerns with the introduction of administered VoLL;

- a true reflection of VoLL should be represented in individual shipper / user supply contract negotiations. An administered VoLL reduces the incentive on end users and shippers to determine a meaningful VoLL price. We do believe that shippers and end users should be incentivised or potentially obliged to develop contracts that inherently include an agreement on the applicable VoLL for that consumer. This could be enacted through the further interventions on demand side; and
- use of a pre-determined VoLL holds the risk that it distorts the operation of the market by setting a "target price" for both supply and demand side, reducing the incentive for consumers to 'sign up' for interruptible contracts.

The ability of the market parties to develop, agree and contract to an individual VoLL and subsequently submit these prices into the market as and when needed currently exists through commercial interruption contracts and the OCM market structures. However, considering the feedback from demand side parties and shippers on the issues with the current contract regime, there may be some benefit in developing the market and contractual framework to enhance the ability or oblige demand side parties that can be unwillingly interrupted to participate in the market.

Therefore, an alternative to providing an administered VoLL may be to oblige all shippers with DM consumers to enter into contracts that explicitly provide for an agreed VoLL and trigger point for interruption pre-emergency. As there would be no explicit domestic VoLL, for NDM demand interruption post network isolation, the highest level (p/therm) of DM VoLL taken in Stage 2 could be used to determine interruption payments.

The introduction of a higher level of VoLL depends on how parties react to the imbalance signal and it is unlikely that the reaction to this market signal will be known until some time after the proposals have been implemented. In addition, we are not convinced that the introduction of VoLL in isolation at any level will lead to a material increase in the volume of demand side interruption contracts. Therefore, NGG does not believe that there is a case for increasing the level of VoLL until a post implementation assessment of the impact of the proposed level of VoLL is undertaken.

Question 3: Is one day domestic VoLL an appropriate administrative price for any firm load interruptions?

From the Draft Proposals, the introduction of VoLL is generally aimed at providing an incentive to develop measures that mitigate the risk of being exposed to such imbalance price. Therefore, the level of VoLL at which parties are willing to invest to mitigate the risk needs to be understood.

Question 4: Do you agree that it is appropriate to retain the Emergency Curtailment Quantity (ECQ) arrangements? If not please explain why.

The original aim of the ECQ process was to provide incentives on shippers to develop arrangements with the demand side parties to reduce their demand prior to being curtailed in an emergency. This, therefore, seeks to align shipper incentives and actions to that of the transporters at this key time. Under the proposed arrangements, this incentive is increased. Therefore, NGG believes that the arrangements should be maintained. However, dependent on the detail of the implementation proposals, and further interventions, there may be the need for a review of these arrangements to ensure that the overall process continues to provide the correct and consistent incentives.

Question 5: To what extent do our proposals alleviate shippers' concerns about credit implications of targeting the full cost of multiple days of interruption on shippers that were short on day one of a stage 3 (network isolation) interruption?

The introduction of VoLL into imbalance prices will have an impact on the level of indebtedness of shippers. The Draft Proposal reduces the potential risks due to the full costs to consumers of an interruption not being fully reflected on short shippers i.e. interruption payments for consumers interrupted due to network isolation are for one day, and not the full duration that they are interrupted. However, due to the probable increase in credit requirements leading up to, and during an emergency, NGG would support a review of the current energy balancing credit arrangements to ensure that they remain fit for purpose.

Question 6: Should extended payment terms be applied to emergency cash-out (possibly to align with payments through the PEC payment process)?

As the implementation details of the proposed arrangements have yet to be determined, the payment terms and timescales are as yet unknown and so, NGG is not able to comment on the possible implications of extending the payment timescales.

If the emergency cash-out process can be progressed quicker than the current PEC timescales, consideration should be given to the implications of extending the payment timescales on the current energy balancing credit arrangements. To extend the payment timescales, there will need to be a clear benefit for industry parties.

Question 7: Will enhanced incentives to avoid an interruption occurring increase the number of interruptible contracts entered into by industrial consumers? Please explain why.

The current market arrangements provide incentives on shippers to develop and agree interruptible contracts. However, as has been stated at the workshops, there are a limited number of contracts in place. The main reason stated by demand side parties for the small take up in such contracts is that demand side parties are uncomfortable striking these forms of arrangement directly with shippers.

Increasing incentives to strike such contracts may not address the underlying issues of why contracts are not currently being entered into. To ensure that the enhanced incentives provided under the proposals enable additional demand side interruptible contracts, the issue of 'confidence' within the current arrangements will need to be addressed.

NGG is doubtful that the introduction of VoLL into emergency cash-out will, in isolation, lead to a material increase in the volume of commercial demand side interruption contracts. The provision of an administered VoLL, paid to firm consumers when interrupted, will not incentivise consumers to agree interruption contracts with shippers. This is because consumers generally want firm gas supplies and are unlikely to favourably consider an arrangement where they are compensated for interuption prior to an emergency as:

- they may be interupted more frequently; and
- compensation arrangements would be expected to be lower than administered VoLL.

To incentivise pre-emergency contracts, you would need to either pay compensation at a higher rate than the administered VoLL and / or have an annual option fee..

Option fees would potentially allow customers to invest in alternative energy sources which could then be used when they are called upon to interrupt. However, assessing the economic level of an option fee for such a low probability event would be complex and could lead to inefficencies or incorrect decisions being made.

One other method would be to develop and introduce further interventions to ensure sufficient pre-emergency demand side interruption volumes are delivered that may reduce the likelihood of an emergency.

Question 8: Do you agree with our broad proposal for collecting monies from shippers and passing this through to customers? If not so you have an alternative proposal?

NGG agrees with the broad proposal outlined by Ofgem for collecting monies from shippers and passing this through to customers. However, there are a wide variety of options when considering the detailed implementation.

The cost of implementation, implementation timescales, ability to audit the process, impact on industry, time value of money and the financing (insurance) costs of any debt needs to be considered. Therefore, NGG welcomes the opportunity to work with Ofgem and the industry in helping to develop the detailed implementation arrangements.

CHAPTER 5: Possible further interventions

Question 1: Do you agree with our assessment that a gap in the emergency arrangements would remain following the introduction of capped cash-out? If so, to what extent do you believe that this gap can be overcome through further interventions?

NGG agrees that even though the proposed cash-out reform should increase shippers' exposure to the consequences of failing to have sufficient gas available to meet their contractual obligations, the proposed measures alone may be insufficient in providing strong enough incentives to invest in solutions to ensure that they can meet these obligations. NGG believes that introduction of further interventions is worthy of consideration and assessment; indeed we recommend any such work is undertaken on an holistic basis and ahead of any final decision on the cash-out element proposed thus far. A key aspect of any such solution(s) is the need to be able to monitor and assure quality and compliance. Hence, suitable mechanisms need to be developed in parallel pursuant to this.

For example, we do not believe that the introduction of VoLL into emergency cash-out will lead to a material increase in the volume of commercially contracted demand side interruption. An increase may require further interventions to ensure sufficient volumes are delivered that may reduce the likelihood of an emergency.

Question 2: Have we captured the full set of potential further interventions? If not what other further interventions should be considered?

We think the range of most practical interventions has been identified. There is one other potential option that could be considered:

- Obligations on provision and maintenance of alternative supplies for certain DM consumers e.g. CCGTs (this could be linked into demand side management).

CHAPTER 6: Assessment of options

Question 1: Do you believe we have captured all the appropriate options?

The options proposed do not include specific detail on what further interventions will be adopted and therefore it is not possible to comment on how appropriate the options provided are.

Question 2: Do you agree with our assessment of the costs and benefits of the various options?

In assessing the costs and benefits of an event that has not occurred there are a number of assumptions that have to be made. The outcome of the assessment is dependent on these assumptions and from the information provided within Ofgem's draft impact assessment, the general cost and benefits seem to be reasonable. However, there are a number of assumptions underlying the impact on reliability that are not included in the impact assessment making it difficult to make material and constructive comment as to their appropriateness. By way of example, without further information on the assumptions used, the current level of DM interruption as determined within the Draft Impact Assessment as being 1 in 16 years seems to be higher than expected.

The main driver behind the reduction in the likelihood of firm DM customer interruptions is the assumption that there will be an increased use of interruptible contracts. NGG has some concerns with the assumption that a rise in cash-out will increase the use of interruptible contracts. This may require further interventions to ensure a rise in volume of interruptible contracts.

For the purpose of the draft impact assessment, Redpoint modelled a storage obligation as a proxy for further interventions. It would be useful to better understand the costs and benefits of the other types of further interventions when considering the overall preferred option.

The modelling shows that such an option leads to the most significant improvements in security of supply, albeit at a higher cost.

Question 3: Do you agree with our assessment on a preferred option?

The preferred option (Option 4) does not state the preferred further intervention but instead uses storage as an example. It is difficult to assess the preferred option without the complete understanding of the specific further intervention that will be proposed.

We agree that the cash out solution on its own may not deliver additional security. Therefore, cash out with the addition of specified further interventions may provide additional system security. This, to some extent, depends on the further intervention adopted.

APPENDIX 3: Further interventions

Question 1: Do you have a preference for a specific intervention/s that you think might be most effective for ensuring security of supply while minimising the risks and unintended consequences?

NGG believes that a combination of further interventions would best meet the aims of the SCR. The proposed combination of measures could be:

- Obligations on shippers / suppliers ensuring that NDM demand is met for an agreed level of security, with appropriate monitoring of how shippers / suppliers are meeting this obligation. A common format for information provision should be developed (that does not hinder innovation) for shippers / suppliers to provide appropriate information to enable a central independent body to assess the information provided;
- Improved commercial demand side management, potentially delivered via an obligation to develop appropriate arrangements.

For example, we believe that shippers should put arrangements in place to ensure sufficient gas is available for an extended period of high demand, and that consideration should be given to an explicit obligation that can be effectively monitored. Such an obligation could be met through a range of commercial tools, such as supplies, storage or demand side contracting based on an agreement of the value of lost load. We continue to believe that shippers, with their risk management expertise, are best placed to make such decisions.

Question 2: Do you think that standard contracts combined with cash-out reform provide the necessary incentives for suppliers to increase penetration of contracts for interruption?

The development and introduction of standard contracts in combination with the proposed cash-out reform may provide incentives on shippers and suppliers to offer demand side interruption contracts, but the proposals do not provide incentives for demand side parties to agree to these contracts. To ensure an increase in demand side market participation, there may need to be an obligation on shippers / suppliers to only offer contracts that have a clear and unambiguous interruption clause, therefore, requiring customers to negotiate acceptable terms.

The concern that standard contracts might curb product diversity and innovation depends on the extent to which the standard contracts are defined. Any standard contract should have sufficient flexibility to accommodate a level of diversity, innovation and negotiation.

To ensure the full benefit of the introduction of such standard contracts and enable an audit of compliance, information on the volume of contracted demand and how such contracts are enacted needs to communicated to Ofgem.

Question 3: A number of stakeholders have suggested an auction for interruption. We outline several challenges with such an approach and are keen to hear proposals on how to overcome these challenges.

The concerns about customer 'confidence' in shipper / supplier nominated interruption contracts may be removed by NGG administering a demand side auction. However, the demand side customer would still require an interruption contract with their shipper / supplier as NGG is unable to directly contract with demand side customers under the current rules. Therefore, there would be no direct contractual relationship with the demand side party and any enacting of the contract would need to be done via the relevant shipper / supplier.

NGG agrees that if an auction were to be held, an annual pre-winter auction would be preferable. However, the quantity of gas bid into the auction for the winter may not represent the actual quantity that is being consumed immediately prior to emergency interruption. Therefore, some method of determining actual quantities may be required to more accurately assess the actual quantities that need to be interrupted. This may also be true of the time required for the demand side party to turn down in a controlled manner.

There would need to be clearly defined rules on the criteria NGG would use to assess the eligibility of a demand side party. In addition, demand side parties may try to exclude themselves from the assessment by providing parameters outside of the eligibility criteria. This would be especially true if parties do not get any compensation (when they are interrupted) if they are not successful in the auction and would be a major issue for demand side parties that have a VoLL above £20/therm.

For an exercise only auction, NGG does not agree that there needs to be a volume cap. Demand parties could submit their exercise price at the start of winter with their corresponding parameters for orderly run down; this could then form a bid stack that NGG could use if required to take demand side prior to entering into an emergency.

The development of a volume cap would require a range of assumptions on demand and supplies, including levels of storage and storage stocks and the level of system security the industry was aiming to achieve. These assumptions would be key in determining the volume that the auction was trying to achieve but may not accurately reflect the actual outturn and so may over or under estimate the volume required.

One of issues with such an auction is how the costs of running the auction, and the costs of interruption, are recovered. In addition, an auction run by the Residual Balancer may have the impact of reducing the incentive on market participants to make arrangement to manage the agreed level of security of supply.

Therefore, NGG believes that if an auction were to be developed, an auction without a volume cap would be preferred. This option would remove the issue of unsuccessful parties who have bid into the auction.

We are however concerned that the above arrangements would effectively duplicate, and therefore potentially undermine, the existing market arrangements. They also exclude other market participants from taking advantage of the demand side offers. Such an auction could also remove the majority of demand side offers from the competitive market thus increasing the Residual Balancer's role in supply / demand management.

Question 4: If some kind of storage obligation was to be implemented, do you favour an obligation on suppliers or shippers? Alternatively, do you think the system operator or government should invest in strategic storage or build storage facilities for the industry to use?

Who is best placed to have the obligation depends on how the obligation is enacted. If the level of storage is linked to the supply of demand then the obligation should be on those agreeing the supply contract with the end consumer i.e. the suppliers. If the level of storage is linked to maintaining the level of supply, then it should be on shippers.

Appropriate levels of monitoring would be required to ensure adherence to the obligation.

NGG does not believe that we are best placed to develop and build storage facilities. NGG believes that markets are best placed to determine how to meet the defined market incentives and obligations. Therefore, we believe that the appropriate market mechanisms supplemented with well defined roles and obligations should provide sufficient market structure for industry parties to deliver the appropriate level of security of supply.

The development of a storage only obligation needs careful consideration. For example, building "over capacity" in the market will distort the market and risk deterring future "merchant" storage projects from being developed unless there is a corresponding obligation on shippers to make use of the additional storage. However, given that storage is likely to be added in lumps then there will be considerable difficulty in ensuring that there is an appropriate balance between the incremental capacity being delivered and the incremental obligations being imposed on shippers such that some distortion of the market is likely.

Therefore we believe that it is preferable to have the correct market structure with the appropriate level of obligations and incentives to allow the market to determine the best method of providing the defined level of security of supply.