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Industry participants, consumers  
and other interested parties

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Dear Sir/Madam,

### **Gas Security of Supply Significant Code Review – Updated Proposed Final Decision**

We published the Authority's proposed final decision on the Gas Security of Supply Significant Code Review (Gas SCR) in July 2012. This letter updates stakeholders on revisions to the proposals contained in that document.

Since the publication of our proposed final decision, we have received a significant amount of feedback from stakeholders. We have spent much of the last year listening to industry's concerns and working with them to jointly develop revised proposals. Our updated position, as set out in this letter, builds on feedback we have received but still meets the original objectives of the Gas SCR and overcomes our initial concerns with the current cash-out arrangements.

We have published two documents in parallel to this letter:

- A consultation on the introduction of a System Operator (SO) run Demand Side Response (DSR) tender and the high level principles of how it would work in practice
- Our detailed consideration of the comments received on our July 2012 documents

For the avoidance of doubt, if we do not discuss an element of our proposed final decision in this letter, there is no change from our previous proposal.

### **Rationale for the Gas SCR**

The aim of the Gas SCR is to reduce the likelihood, severity and duration of a Gas Deficit Emergency (GDE). We are seeking to do this through reform of the market rules, "cash-out", that would apply if an emergency occurred. This is to ensure appropriate incentives are put in place for gas market participants to provide secure supplies, and mitigate the risks of an emergency occurring.

In Great Britain (GB) shippers pay imbalance (cash-out) charges if they do not take the same amount of gas off the system as they put in. Where a shipper puts more gas onto the system than they take off, they are classed as being "long". Where they take off more gas than they put onto the system they are classed as being "short". Cash-out charges reflect the costs to the SO of balancing the system and are generally worse than the charge the shipper would have faced had they balanced their position on the market.

Ofgem has had long standing concerns with the current cash-out arrangements. Project Discovery (2010) explained our concerns<sup>1</sup>. At present cash-out prices would be frozen during a GDE - a period when the supply of available gas is insufficient to meet GB demand. The consequence of freezing the cash-out price is that the incentive to bring gas to GB could be weakened at precisely the time when it should be sharpest. As GB becomes increasingly dependent on imported gas instructing domestic gas supplies to flow may not be sufficient on its own to meet demand during a GDE. We need to ensure that the prices within GB are dynamic enough to attract imports from other countries<sup>2</sup>.

We were also concerned that the value consumers put on avoiding interruptions (ie Value of Lost Load – VoLL) is not reflected in the cash-out price. This means shippers do not face the true costs of an emergency and do not factor this into their decisions. Therefore the security of supply risk associated with disconnection currently sits with consumers, despite their very limited ability to manage this risk.

In November 2011, Government asked Ofgem to review the remaining medium to long-term risks to security of supply assuming that reforms to cash-out charges are implemented. We identified a number of risks such as challenges around financing long term investments, and the mid decade period could see a tightening of the global LNG market. We also noted that the overall risk of interruptions to firm consumers arising from a security of supply emergency is very low. Government has shortlisted three options for further consideration. Government and Ofgem both agree that efficient price signals are necessary to ensure security of supply and any of the further measures under consideration would be in addition to cash-out. We are mindful of potential interactions between the measures Government is exploring and our consultation on a DSR tender. We are working closely together and will continue to do so.

## **July 2012 Proposed Final Decision**

We began the Gas SCR into the gas emergency arrangements in January 2011. In November 2011 we published a draft decision to reform cash-out. In July 2012 we published our 'Proposed Final Decision' reaffirming the Authority's draft decision. This set out that:

- Cash-out would be unfrozen in the event of an emergency.
- Cash-out would be set at the estimate of the cost of interrupting domestic consumers (VoLL), £20/therm, if firm consumers were curtailed.
- Cash-out payments from short shippers would be used to fund payments to firm consumers whose gas supply has been curtailed.
- Firm consumers would be paid domestic VoLL, £20/therm, for each day they were without gas due to their supply being involuntarily interrupted. If physical network isolation occurred (ie where parts of the network stop receiving gas), consumers would be paid domestic VoLL for the first day of the isolation only.
- The volume of gas associated with consumers subject to network isolation would only be factored into imbalance calculations on the first day of isolation. This recognised that the duration of an outage due to network isolation was not within the control of shippers.

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<sup>1</sup> <http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=73&refer=Markets/WhlMkts/monitoring-energy-security/Discovery>

<sup>2</sup> We are working with our Dutch and Belgian colleagues to ensure that our gas interconnectors, BBL and IUK, respond appropriately to prices signals.  
<http://www.ofgem.gov.uk/Europe/Documents1/Interconnector%20Flows%20Further%20Analysis%20Next%20Steps%20FINAL.pdf> In addition, Ofgem is reviewing the transmission charging regime to ensure that transmission charges do not create barriers to gas imports or exports  
<http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/Documents1/Gas%20Trans%20Charging%20Review%20Call%20for%20Evidence.pdf>

## **Stakeholder Engagement and Responses to July 2012 publication**

Since the July 2012 consultation we have discussed our proposals for gas cash-out extensively with stakeholders through various working groups. Our updated policy has been developed taking on board many of the suggestions that have been made. We would like to thank everyone for their positive efforts, especially all those who took part in the various policy workshops.

Stakeholders expressed concerns about:

- the use of a domestic VoLL to set the cash-out price in an emergency,
- how VoLL had been calculated,
- and that in the event of "shortfall" (ie insufficient funds recovered from short shippers to pay long shippers and consumers) a smear across all shippers of the remaining charges needed to ensure all firm consumers could be paid, could result in disincentives on shippers to flow gas at precisely the time it was needed.

Uniform Network Code Modification 435 (UNC435) 'Arrangements to better secure firm gas supplies for GB consumers' was raised by Centrica in October 2012 with the aim of looking into setting up a centralised tender for procuring demand side response from large industrial consumers. This was also one of the measures considered in Ofgem's 2012 report to Government on Gas Security of Supply.

### **Ofgem's updated proposed final decision**

#### *Summary of our updated proposed final decision*

In assessing the options we have sought to balance the interests of consumers in enhancing the security of gas supplies with the interests of shippers in not being exposed to an inappropriate level of financial risk. We believe our proposals are effective in striking this balance.

The Authority has updated its proposed final decision so that:

- Cash-out is unfrozen throughout an emergency subject to 'robustness criteria' (see annex). We no longer propose capping cash-out at VoLL.
- The cost of network isolation is priced at the estimate of a domestic consumer's VoLL which is revised to £14/therm.
- Consumers are paid from the money collected from short shippers. Where a shortfall exists we are committed to exploring the alternative options available. In doing so we will balance the interests of consumers with our commitment to avoid any disincentive for shippers to flow gas. The Authority will make a final decision on managing shortfall in early 2014.

We have carefully considered concerns from stakeholders that pricing demand interruptions into cash-out may provide a target price, both for the market as a whole and for consumers negotiating commercially interruptible contracts. We have asked stakeholders to support their argument with evidence but did not receive any regarding VoLL acting as a target price for the market. However, we recognise that market-derived prices are preferable where achievable. This is because where the consumer is able to participate in the market, ie those that have their consumption measured on a daily basis (DMs), the price that is identified better reflects the actual cost of interruption to that consumer.

The Authority is therefore committed to exploring the use of a System Operator run DSR tender to determine the VoLL of large consumers and payments to those consumers that participate. Voluntary DSR is where a consumer is paid an amount to voluntarily curtail their demand in pre-agreed circumstances; this is usually done through agreeing 'interruptible contracts'. This relieves stress on the system and helps to avoid further consumers being affected. Therefore DSR can play a role in preventing, or reducing the impact of, a GDE. We propose pricing voluntary and involuntary DSR as balancing actions and incorporating them into cash-out appropriately.

We are consulting on incorporating a DSR tender into the current arrangements and the high level design principles underpinning it. The Authority will make a final decision on whether and how to incorporate a DSR tender on the basis of the consultation responses, further analysis and will take into account Government's decision on further measures. We will put in place contingency arrangements if a DSR tender is unsuccessful or not implemented.

Ofgem and industry agree that Non Daily Metered (NDM) consumers cannot currently participate in the market to identify their VoLL. Ofgem therefore remains committed to pricing NDM consumers into cash-out at our estimate of NDM VoLL.

Revisions to our policy proposals are described in more detail in the annex to this letter.

### **Next steps**

Alongside this letter setting out our updated proposed final decision, we have published a summary of the responses received on our proposed final decision, and our detailed responses to them. We are also publishing at this time a consultation on the DSR tender. The consultation closes on 17 September.

With the exception of the DSR tender consultation, we are not consulting further on our revised policy proposal. We have consulted extensively with stakeholders since the start of the Gas SCR, including on the issues relating to our revised policy proposal. In addition to our policy consultations, we have maintained an ongoing dialogue with stakeholders, including through a series of collaborative workshops. The Authority is committed to the policy decisions set out in this letter and they will not change unless material new evidence comes to light.

Following responses to the consultation on the DSR tender, we intend to publish the high level tender principles in early 2014 and invite National Grid to develop the detailed methodology and rules for a DSR tender with support from the industry. This will include proposals for the governance and approval of the DSR methodology. A proposed timeline for the process can be found on page 11.

We also plan to consult on updated business rules, draft code and licence conditions for cash-out in early 2014. This is likely to include workshops for stakeholders to discuss the code and licence changes, and we welcome the continued input from industry in developing these proposals. Our aim is to implement cash-out reform, including a DSR tender, in time for winter 2015/16.

The Authority intends to implement the necessary code and licence changes by directing changes to the UNC pursuant to section 36C Gas Act 1986 and by making modifications to licence conditions pursuant to section 23 Gas Act 1986.

If you have any comments or questions on the content of this letter, please contact Anjali Mehta at [gb.markets@ofgem.gov.uk](mailto:gb.markets@ofgem.gov.uk) or [anjali.mehta@ofgem.gov.uk](mailto:anjali.mehta@ofgem.gov.uk).

Yours sincerely

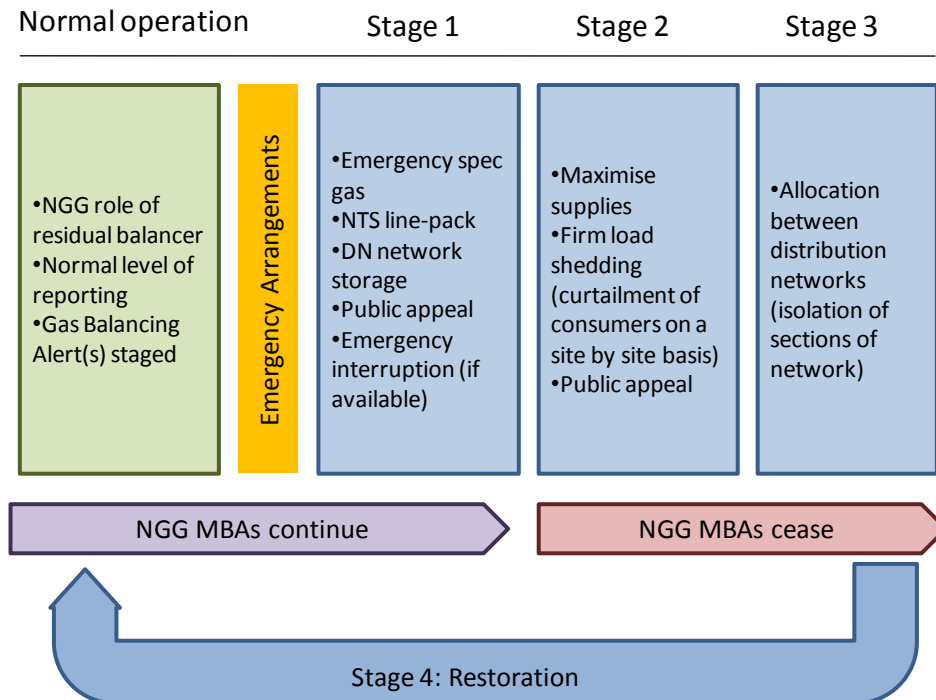


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Interim Senior Partner, Markets

## Technical annex: Proposed framework for cash-out reform

### Existing stages of a Gas Deficit Emergency (GDE)

There are currently four stages to a Gas Deficit Emergency. These are summarised below.



### Extending the definition of balancing actions for the purposes of cash-out

The present definition of balancing actions in the calculation of System Marginal Price (SMP) prices encompasses any actions taken by NGG on the On-the-day Commodity Market (OCM)<sup>3</sup>. We propose to effectively expand this definition to incorporate both voluntary and involuntary DSR. There are three kinds of DSR balancing action that may be priced into cash-out at varying stages of an emergency:

- Exercised bids from the SO run DSR tender
- Sites subject to firm load shedding
- Sites subject to network isolation

The exercise of DSR tender bids would be treated as a market balancing action and priced at the bids' exercise prices. These actions would be included in the calculation of cash-out, and a DSR tender bid could set the cash-out price if it is the marginally priced action taken on that day. Our consultation on the DSR tender assumes that only Daily Metered consumers would be able to participate in the auction at this time. We view a DSR bid as a daily product, with exercise of DSR treated as a balancing action and incorporated into cash-out on every day that the site in question is subject to interruption (including if the site is subject to continued interruption during firm load shedding).

In stage 2, firm load shedding of sites that did not have DSR bids available would also be treated as a balancing action and so factored into cash-out for short shippers. Firm load shedding would be priced at the volume weighted average of DSR exercise prices. However, presuming that all DSR bids are exercised ahead of a GDE then the DSR average price would not set the marginal cash-out as there would always be an action priced

<sup>3</sup> The On-the-day Commodity Market (OCM) provides a mechanism for NGG to buy and sell gas in order to balance the system. Shippers may also trade with each other on the OCM.

greater than this. Firm load shedding would be considered a balancing action on each day in which it occurs. It is important to note that to have reached stage 2, all DSR tender bids will almost certainly have been exercised, though this may depend on tender design. These exercised DSR bids will continue to feed into cash-out prices during stage 2, alongside any firm-load shedding. It is therefore likely that cash-out for short shippers in stage 2 of an emergency would be set at the marginal DSR tender bid.

On days when any new network isolation is initiated, the cash-out price would incorporate an estimate of NDM VoLL. On subsequent days of continuing isolation, the cash-out price would not incorporate NDM VoLL. As noted in the main body of the letter, we have revised this estimate to £14/therm.

### *Actions in the event of a DSR tender being unsuccessful*

Whilst our preferred approach for identifying large consumers' VoLL is through a DSR tender, we acknowledge that a tender could be unsuccessful for a number of reasons. These include an insufficient volume of bids or bidders, or if the prices submitted as part of bids do not reflect participants' true VoLL, or if a DSR methodology that meets Ofgem's objectives cannot be developed in time for implementation in 2015/16.

Should a DSR tender be unsuccessful or not implemented, the exercise of DSR bids and firm load shedding would not be incorporated into eligible balancing actions. Instead a contingency arrangement will be required. Our lead option is that the cash-out price ahead of a GDE would be calculated on the basis of SAP and OCM actions taken by NGG. The price during stage 2 would be calculated solely on the basis of SAP. The cash-out price during stage 3 would continue to incorporate NDM VoLL whenever any network isolation was initiated. We will work with National Grid and industry to develop criteria to evaluate the success of the DSR tender.

### *Cash-out for shippers through a GDE*

Cash-out for short shippers ( $SMP_{buy}$ ) will be set at the greater of:

- the highest balancing action taken on that day; or
- SAP plus the default system marginal price.

As described above the highest balancing action on any day may be an exercised DSR tender bid. Where a DSR tender is unsuccessful, cash-out will be calculated on the basis of SAP and OCM actions taken by NGG. There will be a test on the robustness of SAP in these cases and a fall-back price used if SAP is not robust.

Cash-out for long shippers ( $SMP_{sell}$ ) ahead of and during stage 1 of a GDE will be the lesser of:

- The lowest priced balancing action taken that day; or
- SAP less the default system marginal price.

From stage 2 onwards of a GDE cash-out for long shippers will be set at SAP. At this point it becomes important to not create disincentives against over-delivery, as the system overall would be out of balance. We believe that setting the cash-out in stage 2 at SAP is consistent with the principles underlying the current arrangements in this regard and continues to provide the right incentives to shippers. This will ensure that the right level of imports are attracted based on the state of the system on any given GDE day.

Following market restoration cash-out for long shippers will be returned to the lesser of the lowest priced balancing action taken that day, or SAP less the default system marginal price.

The following table summarises cash-out prices that would apply to shippers at different stages of a GDE. Note where stages overlapped within day, cash-out would incorporate all elements identified for each stage that occurred within that day.

<b>Stage</b>	<b>Interruption type</b>	<b>SMP<sub>buy</sub> includes</b>	<b>SMP<sub>sell</sub> includes</b>
MN/GDW; & GDE stage 1	None	SAP OCM actions by NGG	SAP OCM actions by NGG
	DSR exercised	SAP OCM actions by NGG DSR exercise	SAP OCM actions by NGG DSR exercise
2 (inc firm load shedding)	DSR exercise continuing	SAP DSR exercise	SAP
	Firm load shedding; DSR exercise continuing	SAP DSR exercise DSR average price	SAP
3 (inc network isolation)	Network isolation initiated; Firm load shedding continuing; DSR exercise continuing	SAP DSR exercise DSR average price NDM VoLL	SAP
	No new isolation initiated; Firm load shedding continuing; DSR exercise continuing	SAP DSR exercise DSR average price	SAP
	No new isolation initiated; No firm load shedding continuing; DSR exercise continuing	SAP DSR exercise	SAP
4 (restoration)	None	SAP	SAP
post-GDE (NGG resumes market actions)	None	SAP OCM actions by NGG	SAP OCM actions by NGG

### *SAP robustness criteria and fall-back options*

SAP is the volume weighted average of all within-day trades conducted by NGG and shippers on the OCM. We are however currently minded to exclude exercised DSR bids from the calculation of SAP. This is because SAP is required to be calculated on a real time basis with knowledge of the volumes being traded. Most daily metered sites do not have live telemetry and so there is no current means for NGG to accurately confirm the volume of DSR being provided in real time. NGG would therefore be forced to make an assumption that all promised DSR was being provided upon request. This means that SAP would be weighted on the basis of estimated volumes of DSR, which may not be accurate.

Excluding DSR bids may increase the likelihood that, as the gas market tightens during a GDE, the number of trades on the OCM decreases. This will mean that a decreasing number of trades representing a decreasing total volume will be setting SAP. In this situation a few low-volume, extreme-price trades could significantly alter SAP. If this is the case the price generated from OCM trades on that day may not sufficiently reflect actual market fundamentals and may be open to gaming.

We consider that it is therefore appropriate to have a number of checks in place to test the robustness of SAP. Where SAP is found to be not sufficiently robust, a fall-back price will be calculated to take its place.

We propose the following criteria for establishing SAP as being sufficiently robust to be factored into cash-out:

- a minimum total traded volume of 250,000 therms, and
- a minimum of 5 trades, and
- a minimum of 5 trading counter parties.

These numbers are based on the regulatory requirements set by the Federal Energy Regulatory Commission (FERC) for reporting prices in North American gas markets. The criteria specify a 'universal benchmark liquid market' and so should not be considered to be limited to any particular market. This is reflected in the fact that they have been applied across a vast range of regional markets in North America (ie they are treated as a minimum bar that any market should be able to reach). Despite being developed some time ago, the criteria remain in use today and the feedback has been that they continue to provide a decent guide to the general level of liquidity at a trading point. The actual numbers were arrived at by FERC through extensive consultations with a diverse range of market participants. Furthermore, FERC intended for the criteria to be applied to the use of indices (ie volume weighted average prices) in jurisdictional charges (ie cash-out charges). This is almost identical to the manner in which SAP is formed and used and so there is certainly scope for the criteria to be viewed as applicable here.

To put the above numbers in context, the OCM usually has around 200 trades for over 10 million therms each day. This may make the above criteria seem very low. However in setting minimum criteria such as this it is important to remember we are trying to determine the minimum amount of reliable data that we need to formulate a robust volume-weighted average price. To do this it is useful to begin with a situation where there is one small trade and work up from there until we are satisfied that the resulting price will be robust. The number of trades criterion is about ensuring there are sufficient data points to create an average. An average of one is obviously not appropriate. The total volume criterion is about ensuring that the trades on the day represent a sufficiently large commitment on the part of the traders. The number of counterparties criterion is about ensuring one or two parties don't have complete control over setting SAP.

Making the criteria more stringent would give greater certainty of a robust price. The drawback is that this increases the chance of the criteria not being met and the market reverting to the fall-back price – and so a price that is less reflective of the market conditions on the day. It increases the risk of blunting price signals that are due to scarcity of the commodity.

The reverse is the case for weaker criteria. Lowering the criteria that trading must meet to generate SAP would reduce the chance of SAP being suspended, but this comes at the expense of reducing confidence that the price is sufficiently robust.

If the above criteria are not met then an alternative method for calculating SAP is required (the "fall-back price"). Our current view is that the fall-back price could be an average of:

- The average mid order price (that is, the mean value of the average Best Bid and Best Ask),
- The median of on-the-day trades, and
- Previous day's SAP.

This approach to the fall-back price maintains a balance between reflecting conditions on the day in question as best as possible whilst remaining robust. The use of the previous day's SAP (instead of the 7-day average currently used) also minimises the extent to which the fall-back price is diluted by events well before the GDE occurred. This also means that



if there are no trades and no valid orders on the day in question, the price will simply revert to just being set by the previous day's SAP.

It is possible that parties could alter their trading behaviour if there was a perceived benefit in suspending the calculation of SAP and reverting to the fall-back price. Short shippers may seek to reduce trading on the OCM if it reduced their exposure to cash-out charges. Long shippers may also change their behaviour if the fall-back was known to be higher than SAP for a given day.

We believe that there are a sufficient number of measures in place to deter this behaviour. This behaviour would likely be prohibited under competition laws and REMIT, and if it prejudiced the safe operation of the system could place shippers in breach of their licence conditions. We also note that to achieve the desired outcome would require the tacit collusion of a large proportion of the shipper community. We further believe that long and short shippers would have conflicting incentives with respect to the criteria and any action from one group would be countered by the other.

We will continue to work with National Grid and the rest of the industry in developing the business rules. This will include how any fall-back price may be calculated. Ofgem has also issued a call for evidence on pricing benchmarks and we note that the responses to this may prove useful in informing any changes made to ensure that SAP remains robust throughout an emergency<sup>4</sup>.

### *Payments to consumers and managing shortfall*

We consider that consumers should be paid for the provision of voluntary and involuntary DSR services. The exact detail of these payments will be dependent upon the design of the DSR tender, whether that consumer is eligible to participate, or whether they submit a bid which is successful and/or exercised.

Our current thinking is now that payments to consumers should be reflective of the prevailing conditions on the day of a GDE, and typical consumption of different types of consumers. The intention of this approach is not to accurately calculate exactly what each individual NDM consumer would have consumed, but to provide an estimate of the appropriate level of involuntary DSR payment due to each consumer type. For instance, this would mean that domestic consumers would all be paid at the same rate, but that this rate would vary dependent on the overall level of demand on the GDE day. We will continue to work with National Grid and the rest of the industry in developing the business rules to refine the detail of this approach.

There may be instances where there are insufficient funds recovered from short shippers to pay long shippers and those consumers involuntarily interrupted from stage 2 of a GDE.

This could be for one of two reasons:

- There are insufficient short shippers to pay long shippers and involuntary DSR
- One or more shippers do not pay an invoice and default

In our proposed final decision in the case of a shortfall of funds to pay consumers, we proposed spreading these costs across short shippers based on the ratio of their imbalance volume to the volume of consumer interruptions. If a residual shortfall remained, this would then be targeted at shippers by smearing the costs across all shippers based on the amount of gas they have placed on and taken off the GB gas system for that day, known as a 'neutrality smear'. In the case of non payment (eg. where a short shipper defaults on their payments), all costs would be also recovered from a 'neutrality smear'. This is in line with existing arrangements for managing a shipper default whereby the costs are smeared across all shippers.

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<sup>4</sup><http://www.ofgem.gov.uk/Markets/WhIMkts/CompanEff/Documents1/Pricing%20benchmarks%20in%20gas%20and%20electricity%20markets.pdf>

Stakeholders' main concern was that this could act as a disincentive to increase flows into the system, as higher throughput means a shipper bears a greater share of neutrality charges. We have listened to stakeholders and are committed to addressing this. Any alternative options must balance the interests of consumers with the possible disincentive on shippers to flow gas during a GDE.

We will discuss these options in more detail with stakeholders as part of the development of the updated business rules. We will make a final decision on managing shortfall in early 2014.

## Implementation timeline

The diagram below sets out our preferred timescale for implementing cash-out reform and, if a decision is made to do so, a DSR tender. This process assumes a decision by the Authority to implement a DSR tender and approval of the methodology. Please note these dates may be subject to change.

