BRITISH ceramic CONFEDERATION

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Response to Ofgem Consultation on Gas Security of Supply Significant Code Review: Demand-Side Response Tender Consultation (Ref 130/13)

Introduction

The British Ceramic Confederation (BCC) is the trade association for the UK ceramic manufacturing industry, representing the common and collective interests of all sectors of the industry. Our 100 member companies comprise over 90% of the industry's manufacturing capacity and include manufacturers from the following industry sub-sectors:

- Bricks
- Clay Roof Tiles
- Clay Drainage Pipes
- Gift and Tableware
- Floor and Wall Tiles
- Sanitaryware
- Refractories
- Industrial Ceramics
- Material Suppliers

The sector (including its suppliers) employs approx. 20,000 people and generates £2 billion sales. The sector is an active exporter, particularly for industrial ceramics, refractories, clay drainage pipes, tableware and giftware.

The ceramic sector is energy-intensive (but not energy inefficient). Energy bills can be up to 30 - 35 % of total production costs. The majority of the energy consumed by the sector (≈ 85%) is derived from natural gas, with lesser use of electricity (and some limited use of LPG and coal only where mains gas is unavailable). In the sector, gas is used in a range of processes over a diverse range of temperatures, including: drying (up to 200 °C), spray drying (up to 650 °C) and natural gas firing (up to 1700 °C).

BCC is a member of the Energy Intensive Users Group (EIUG) and we support their response to this consultation. Further comment (provided below) supplements this with information relevant to our sector. BCC supports cost-effective action to ensure gas supply security is maintained.

BCC Response to the Ofgem Consultation

Chapter Two
Question 1: What are your views on a SO-run DSR tender? Do you think it is an appropriate addition to the Gas SCR?

BCC shares Ofgem's concerns that there is a growing risk to gas security of supply. Furthermore, we believe that this risk will intensify over the coming years as indigenous GB gas production continues to decline, resulting in gas supply becoming increasingly dependent on imports which are inherently less secure (e.g. pipeline gas and LNG).

In addition to supply security, gas-intensive industries such as ceramics are heavily affected by the gas wholesale price. Price volatility, extended gas price spikes and the associated inability to have a predictable business model have a severe and deleterious impact both on our sector and the wider economy. Highly volatile prices (such as experienced in March 2013) cause immediate threats to business survival. GB gas wholesale prices are already among some of the most volatile in Europe. We believe gas price volatility is

likely to increase over the next few years due to the increased reliance on imports (and hence exposure to international spot prices based on LNG) coupled with the growing share of intermittent renewable generation (which require flexible gas-fired generation to provide back-up). Consequently, it is important that regulators consider the impacts of both supply interruption and price volatility on large industrial consumers. Leaving gas prices to the market is not working well for our members.

To enhance supply security and reduce volatility, our preference is for additional GB gas storage together with the introduction of a Public Service Obligation (one of the three DECC further consideration options referred to in the consultation). We are extremely disappointed by the recent Government decision not to subsidise investment in gas storage facilities. We would rather see investment in the measures that promote the physical availability of gas, rather than a complex market-based instrument that offers limited potential for our sector.

Given the growing risk to gas security of supply, BCC believes it is essential, that the Government, Ofgem and National Grid Gas (as the System Operator – SO) consider all options for ensuring that the risk of any involuntary interruption is kept to a minimum. Although reform of the cash-out market rules together with a demand side response (DSR) tender represents an improvement over the existing arrangements in that it may partially reduce the likelihood, severity and duration of a gas deficit emergency, whilst offering some firm customers a degree of compensation if they are interrupted, it does not completely fulfil these objectives. Like many other gas intensive users, we do not believe that cash-out reform in isolation will be sufficient to prevent a gas emergency from occurring since although the price incentive would be sharpened, this does not necessarily mean that gas would flow into GB since this response is also dependant on the concurrent situation in mainland Europe / globally. Nor do we believe cash-out will provide a sufficiently compelling incentive for shippers and suppliers to promote significant investment in gas security of supply infrastructure. In addition, we do not believe this measure provides adequate compensation to large industrial users. We believe that many ceramic manufacturers will be unable to participate in the proposed DSR tender.

In addition, cash-out reform will inevitably feed through to higher gas prices. Most ceramic manufacturing companies operate in highly competitive international markets, meaning there are limits on how much of the additional costs can be passed through to customers. A number of ceramic factories have already relocated from the UK into USA because of lower gas bills. The introduction of additional measures increasing GB gas costs can only accelerate this trend. As noted above, businesses depend on secure and internationally competitively priced gas (and electricity) to remain in business. There is little appetite for such a DSR tender from our members.

Question 2: What do you think the purpose of the tender should be?

The primary reason, as set out by Ofgem, would be to obtain a realistic compensation price that reflects the value those individual daily metered (DM) industrial consumers who are capable of offering a DSR service place on maintaining tranches of their gas supplies. In doing so, the tender would identify those consumers incurring relatively low costs associated with the loss of their gas supplies and thereby move them towards the front of the disconnection order. This would provide additional protection to those consumers who value their gas supplies most or are unable to offer a DSR. In addition, the tender should establish the size of DSR contingency available to service a potential gas supply emergency.

It is essential that DSR contracts are only ever exercised as a last-resort / in extremis measure immediately before or during a gas emergency situation. DSR contracts must never be used as a day-to-day commercial balancing action within a shipper's portfolio. In our opinion the SO (i.e. National Grid Gas - NGG) is best placed to run the tender and exercise bids. Successful bids from a SO-run DSR tender would sit alongside other powers that the SO has to balance the network both before and during an emergency, e.g. instructing domestic gas supplies to maximise flows. We think it would be inappropriate for other gas market participants to be responsible for the process.

Question 3: What benefits do you see a DSR tender providing?

Drawbacks of the DSR tender scheme include:

- **Limited opportunity for participation**. Although a demand side response may be possible in some manufacturing sectors, we believe that only a small proportion of ceramic manufacturing companies (typically those who operate batch or roller-hearth kilns) may be able to offer a DSR service due to the constraints listed over:

- **Continuous manufacturing**. Many ceramic manufacturing processes are designed to operate continuously (24 hours per day, 7 days per week, 52 weeks per year and with operations spanning several years between planned shutdowns). Such processes are unable to offer (or can only offer limited) reduction in gas consumption at short notice. In ceramic manufacturing, the kiln typically accounts for approx. 85% of total gas consumption.

- **Costs / plant integrity**. If an unscheduled interruption was to occur, significant costs (which stretch beyond the outage period) would be incurred, for example: product loss / scrap, equipment damage, lost sales, lost labour etc. Many ceramic companies do not have the ability to shed significant demand without sustaining significant financial losses. The impact would be particularly acute for operators of large continuous kilns (which may be up to 200 metres long) as these cannot be safely switched off at short notice, since a progressive reduction in temperature (over a period of several days) is required to avoid damage to the delicate refractory lining and the structural integrity of the kiln. Rapid, uncontrolled cooling could cause serious, multi-million pound damage to the kiln, thereby threatening business survival.

- **Lack of back-up facilities**. BCC are not aware of any UK ceramic manufacturers that have back-up fuel facilities (e.g. LPG) in order to sustain manufacturing operations during a period of supply interruption. The existence of backup facilities for ceramic plants across Europe is also extremely rare. Difficulties associated with implementing back-up fuels include: i) COMAH regulations / approval for bulk storage tanks, ii) changes to equipment settings associated with each fuel switching operation (e.g. modification of air ratios at each burner so that they are suitable for lower calorific value propane / butane), iii) the number of conversions required and the associated time required to complete the switchover (e.g. on some sites there are a large number of small gas units each requiring adjustment).

- **Just in time operation**. A number of manufacturers flex production at short notice in response to 'just in time' orders. This is a key benefit that domestic manufacturers can offer over imported products with longer supply chains.

- **Short notice period**. For many firing processes, sufficient warning prior to any demand reduction would be required to allow completion of the kiln firing cycle. Some products can take up to seven days to fire. We believe that DSR tender uptake will be severely limited by the short notice that participants are likely to receive informing them of the need to exercise DSR.

Consequently, we see limited scope for companies in our sector to participate in the DSR tender. It is important that Ofgem, National Grid Gas and DECC are aware of the constraints limiting participation and that they do not over-estimate uptake rates across industrial sectors.

- **No compensation for non-participation**. The proposal clearly states that those companies choosing not to participate will receive no compensation payments. This approach is taken in order to incentivise participation in the DSR tender. Many of our members will not be able to participate in DSR because of the restrictions outlined above. This is not a choice; rather a reflection of their process requirements. We are extremely concerned that these companies will not receive compensation in the event of firm load shedding.

- **Sharpened gas price signal do not equate to increased flows into GB**. Although the gas SCR proposals would undoubtedly sharpen the price incentive, this does not necessarily mean that gas would flow into GB. According to Ofgem's own analysis[1], there are frequent occasions where gas does not flow across the two interconnectors (IUK and BBL) to the market where price signals highest demand. This leads to markets exporting when in fact they should be importing and vice versa. The analysis states, that for both interconnectors 'even where price differentials are significant, economically efficient flow is rarely achieved'. Consequently increased price signals cannot be relied upon to increase gas availability. With liquefied natural gas (LNG), the responsiveness of supplies will always be limited by how quickly it can be shipped to the UK. There will inevitably be delays between when the gas is needed and when LNG cargoes can arrive. This was vividly demonstrated by the recent supply crunch in March

[1] Open letter: Call for evidence on the use of the gas interconnectors on Great Britain's (GB's) borders and on possible barriers to trade https://www.ofgem.gov.uk/ofgem-publications/59290/120928interconnectoropen-letter-final.pdf

2013 when notable LNG imports arrived after the event. Stronger price signals are no substitute for an increase in the physical availability of gas.

- **Limited incentive for investment in gas security of supply infrastructure**. We do not believe that cash-out reform will provide a sufficiently compelling incentive for shippers and suppliers to promote significant investment in gas security of supply infrastructure. Investment in physical gas security assets has been further weakened by the recent Government decision not to subsidise investment in gas storage facilities. A number of projects have subsequently ceased.

- **Scheme Complexity / Lack of participants**. The DSR tender proposal is extremely complex which will act as a disincentive to participation. This will be particularly apparent in the ceramic sector which is composed of a large number of SMEs.

- **Limited compensation for network isolation**. According to the proposal, compensation associated with network isolation would only be received for the first day of isolation. This is clearly inadequate since reconnecting consumers that have been isolated can take a number of weeks. This uncompensated period will result in significant financial losses for the consumer.

Benefits of the scheme that we welcome include:

- **Compensation for some in the event of a GDE**. Those industrial consumers that are able to offer a DSR service would receive compensation at an agreed rate in the event that they are interrupted. At present, they receive no payment. However as noted above, we believe only a minority of businesses in our sector may be able to offer this service.

- **Improved disconnection order**. The current 'largest first' approach to firm-load shedding places unnecessary risks on the largest industrial consumers (including manufacturers of clay construction materials, e.g. bricks, clay roof tiles and clay drainage pipes). A DSR tender would allow consumers with relatively low incurred costs to move towards the front of the disconnection order. Altering disconnections in this manner will provide additional protection to those consumers who face higher costs associated with curtailment or consumers who cannot offer a DSR response.

- **Shippers to face increased costs for demand interruptions**. Under the current arrangements, the costs associated with demand interruptions sit solely with consumers, despite their limited ability to manage the risk. The proposal would increase the costs for short shippers, thereby incentivising them to take measures to mitigate such risks and avoid an emergency occurring in the first place.

- **Facilitates tranched bidding / phased shutdowns**. Tranche bidding would allow a consumer to enter multiple bids for different parts of their gas load. This reflects the fact that many consumers have a proportion of their consumption that is more readily dispensable and a proportion that is essential for critical assets / processes. In the ceramic sector, a mechanism that allows a phased response is essential to prevent damage to large tunnel kilns. We are keen to ensure tranche bidding is incorporated into the DSR tender.

Question 4: What costs do you see arising from a DSR tender?

In order to participate in the DSR tender, companies will need to will need to understand the options within the tender process, decide upon a strategy (taking into account order forecasts, potential impacts and the costs associated with load-shedding over the entire contract period) and construct an appropriate tender bid (or bids in the case of a tranche response). For multiple site operators, this would need to be repeated across each individual site (which for several companies within our membership equates to ten or more production sites). Consequently the process of submitting bids is likely to be administratively time-consuming for industrial consumers.

In the event of the DSR contract being exercised, direct costs incurred will include: i) scrap product, ii) lost production time / lost product, iii) equipment damage associated with a rapid shutdown, iv) costs associated with shutdown and start-up operations, v) lost sales, vi) penalty charges associated with late or incomplete orders, vii) labour costs and viii) site overheads. In the case that back-up is used to fulfil the DSR obligation, there would also be the associated costs for maintaining the backup facility and the fuel costs for operation. In

addition there are less quantifiable costs such as: i) reputational loss and ii) the promotion of competitor goods.

In any event, compensation associated with a severe gas emergency resulting in network isolation would only be received for the first day of isolation. This is clearly inadequate because ceramic manufacturing companies would suffer the cost of lost load for each day of isolation and reconnecting consumers that have been isolated could take a number of weeks. This uncompensated period is likely to result in significant financial losses for the consumer, threatening business survival.

At the SCR workshops, it was suggested that industrial consumers may try and 'game' the DSR tender in order to benefit from inflated compensation costs. The primary concern of manufacturers is to maintain production and meet customer orders. The costs associated with load shedding are significant and stretch beyond the outage period. It is essential that adequate compensation must be provided for any reduction in demand that is provided. It is possible that loss of supply would actually incur costs in excess of the compensation received.

There will also be costs incurred irrespective of a gas emergency occurring. In addition to the administrative cost to DSR participants in formulating their bids, there would also be the administrative costs of the SO running and exercising the DSR tender.

Ultimately, the costs of any compensation payouts, the costs for short shippers and the administrative costs for the SO will be passed onto all consumers in the form of bill increases. Cash-out reform will inevitably feed through to higher gas prices. Most ceramic manufacturing companies operate in highly competitive international markets, meaning there are limits on how much of the additional costs can be passed through to customers. As noted above, we would rather see investment in physical gas storage, rather than a complex financial instrument that results in compensation for some businesses in the aftermath of a gas supply emergency.

Question 5: Do you think a DSR tender should have a role subsidising investment in back-up facilities? If so, why?

Where feasible, having a proportion of industry switching onto backup fuel would help alleviate the severity of a gas supply shortage. Therefore, we believe that the DSR tender should have a role in subsidising investment in back-up facilities. As stated above, we are not aware of any ceramic manufacturers that currently have backup fuel facilities. Historically, a minority of members did have backup capability but the increasingly stringent regulatory requirements coupled with the ongoing upkeep costs have progressively eroded this capability. Investing in back-up facilities is an essential step for manufacturers to mitigate the risks associated with gas interruption. Unless manufacturers are able to invest in back-up facilities, we are of the opinion that most are unlikely or unwilling to forgo a meaningful volume of gas and bring themselves forwards in the disconnection order.

Chapter Three

Question 1: What do you see as the key design issues for the high level design of a DSR tender? Are there any we have not included here?

The key high level design issues are covered.

Question 2: What are your views on having variable option fees in the tender? Do you have any concerns about the costs that these could impose irrespective of a GDE actually occurring? How should these be funded?

Option fees are upfront payments made on a regular basis (and which are not contingent on a gas emergency) to the DSR bidder for the right to call on them to provide the DSR service. These are generally intended to reflect the cost of continually being available to provide the demand reduction (e.g. the cost of maintaining a backup facility). The ceramic sector considers that option fees also have a role in funding longer-term investment in back-up facilities. Investing in back-up facilities is an essential step for manufacturers to mitigate the risks associated with gas interruption and hence participate in the DSR tender. Without investment in back-up facilities, the volume of DSR available is unlikely to grow and will remain largely limited to those sites with

existing backup infrastructure. We believe that increasing volumes of DSR will become important as supply dependency on imported gas grows. Incentives for investment in additional back-up facilities are required.

If option fees are to be included in the tender, we share Ofgem's concerns that this would inevitably impose additional costs onto to all consumers in the form of bill increases. In order to control costs associated with variable option fees, a predetermined budget or a prescribed option fee could be set.

Question 3: What are your views on the eligibility of gas-fired power stations? How should the interactions with the electricity market be managed?

Question 4: Could participation of gas-fired power stations have a negative impact on the tender, or on the gas market as whole? If so, can you suggest any steps that could be taken, or an alternative mechanism that could be created, that would help mitigate these concerns?

The inclusion of gas-fired power stations in the tender significantly complicates the proposal. Potential conflicts with electricity security of supply objectives are apparent, in particular via the Capacity Mechanism (CM) and the cash-out reforms being considered by the Electricity Balancing Significant Code Review (EBSCR). We have concerns that there appears to be the potential to distort the gas DSR tender.

Question 5: Do you have any views on what consumers whose bids were unsuccessful should be paid if they are firm-load shed?

It is appropriate that unsuccessful bidders (i.e. those who submitted compliant bids that were rejected perhaps because they were too expensive) should still receive some payment to incentivise DSR participation. We support the proposal that the volume-weighted average of accepted DSR bids is an appropriate price.

We are extremely concerned that many ceramic companies will not receive any compensation in the event of firm load shedding due to their limited ability to participate in the DSR tender.

Question 6: What are your views on the response type the tender should contract for?

The proposal outlines two methods for defining the consumption reduction: a) drop by a given amount with respect to a baseline level or b) drop to a specific consumption level. For some manufacturers (typically those operating numerous batch kilns), consumption is variable and hence it would be difficult to establish a baseline. From a practical perspective, the second option seems attractive since it would allow consumption for essential processes to be more readily defined.

Question 7: What are your views on a minimum volume threshold? Do you have any ideas on how this could be set? Should there be a limit on the number or size of tranches that consumers can bid?

BCC strongly support tranche bidding, which allows companies to enter multiple bids and different prices for different parts of their load. This reflects the fact that many consumers have a proportion of their gas consumption that is more readily dispensable, but a proportion of gas essential for critical assets / processes. A phased reduction in gas demand on a site is preferable to full interruption since it allows critical processes to be maintained. In the ceramic sector, a mechanism that allows phased response is essential to prevent damage to large tunnel kilns.

We are keen to ensure tranche bidding is incorporated into the DSR tender as it allows companies to reflect their load profile. Ideally, we would like to see no minimum volume threshold since this would maximise flexibility and likely participation. We are concerned that an artificial limit may prevent some companies from participating. By analogy to the eligibility criteria for 'partial interruptible customers', we believe that a maximum number of nine tranches should allow the DSR tender process to remain practicable.

Question 8: What is your preferred length of time and/or frequency with which NGG may exercise a DSR contract? Do you have a preferred minimum response time if a DSR contract were to include one?

The proposal outlines that the instruction to exercise a DSR contract will be valid for each day until the consumer is instructed to resume consumption as normal. It is appropriate that participants bidding in the tender may wish to place limits on the length of time any given DSR bid can be exercised and the number of

times that it can be exercised in any given period. This measure again provides flexibility and increases potential participation. Given the heterogeneity of the processes undertaken in the ceramic sector, it is not possible to provide any general cross sectoral guidance. It is anticipated that some manufacturers would want to limit the duration that any given DSR bid can be exercised to one day.

Question 9: Do you have any views on any other tender design issues?

The proposal also makes reference to a minimum response time that a consumer would have between the SO calling them to exercise their bid and them providing the DSR response. Naturally, the longer the proposed notice period, the more DSR response is likely to be forthcoming. For many firing processes, sufficient warning prior to any demand reduction would be required to allow completion of the kiln firing cycle.

Chapter Four

Question 1: What are your views on the three straw men?

Given the restriction to consider the straw men 'in the round as complete packages, due to the interactions between many of the different design aspects of a tender', our preference is for straw man three, solely as it is the only proposal incorporating an option fee.

Question 2: Do you think a price cap is necessary to limit shipper liabilities?

Yes. If there is no price cap then we may see unlimited price rises.

Question 3: Do you have any suggestions for how the volume cap in straw man 2 or 3 should be set?

Question 4: Do you think the volume cap in straw man 2 or 3 is sufficient to prevent inefficiently high DSR bids from being accepted?

Question 5: Do you have any views on whether or not straw man 2 should be paid-as-bid?

Question 6: Do you have any ideas for how a fixed budget for straw man 3 could be set?

Question 7: Should any volume cap or fixed budget be known to the market ex ante?

Question 8: What do you think of the rationale for having fixed option fees in straw man 3? Why might they be necessary to ensure sufficient participation and competitive bidding?

Question 9: How could the fixed option fees could be determined? Question 10: Do you have an alternative design package that you think better meets the aims of the DSR tender than the three set out here?

BCC are keen to engage with the authorities to maximise the contribution of demand response from the minority of businesses that may be able to offer this service and hence play our part in minimising the risk of involuntary gas disruption to industrial consumers.

Please feel free to contact me if you require clarification on any of the above information. As a gas-intensive industry we are keen to continue engaging with DECC, Ofgem and National Grid to ensure cost-effective action is taken to maintain supply security. We would also be happy to organise a site visit to one of our member's plants, so that you can see the issues at first hand.

Yours sincerely,

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