

**CODE MODIFICATION PROPOSAL No. 0098**  
"Modification to Codify Emergency Curtailment Quantity (ECQ) Methodology"  
Version 1.0

**Date:** 12/07/2006

**Proposed Implementation Date:** 01/09/2006

**Urgency:** Non-Urgent

**Proposer's preferred route through modification procedures and if applicable, justification for Urgency**

(see the criteria at [http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/2752\\_Urgency\\_Criteria.pdf](http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/2752_Urgency_Criteria.pdf))

We recommend that this proposal proceeds direct to the Consultation Phase.

**Nature and Purpose of Proposal (including consequence of non implementation)**

In Ofgem's decision letter to UNC Modification Proposal 044, it is stated that Ofgem see merit in the inclusion of a single ECQ methodology for all relevant transporters, within the Unified Network Code (UNC). This is what this proposal seeks to establish.

A common methodology, placed within the UNC and adopted by all transporters will guard against unnecessary fragmentation and make available a clear and consistent approach, providing greater certainty in the event of a Potential Gas Deficit Emergency or an actual Gas Deficit Emergency (GDE).

As a matter of principle, substantive commercial terms ought to be set out in a document that can be subject to the full jurisdiction of the code governance process.

We propose the following sequential steps for transporters to follow when calculating a User's ECQ, based on the revised ECQ Calculation Methodology, as agreed between National Grid Gas (NTS) and the Distribution Network Operators.

This proposal adds a further step to the methodology agreed by the transporters, in proposing that, where OPNs are unavailable, Nominations can also be used to calculate ECQs for day one of an emergency only. Through taking account of nominations on day one only of an emergency, the concern expressed by NGG NTS of zero nominations being submitted for day 2 of an 'interruption period' becomes obsolete. Including nominations within the sequential steps taken by transporters on day one of an emergency will ensure that transporters receive the most accurate information, which may be made available to them to calculate ECQs.

The process outlined within this proposal will give both Users and transporters sufficient confidence that the ECQ methodology will give an accurate as possible estimate of the associated quantities of gas, providing a better representation of individual portfolio positions and, consequently, representation of the system as a whole.

Methodology

The ECQ calculation methodology has defined steps that will be used to derive an ECQ estimate for the relevant Gas Day for which a site has been subject to Emergency Curtailment as defined in section Q.6.1.1 of the Uniform Network Code.

For the 1st Gas Day the estimate of the ECQ will be based on:

- i) For those relevant System Exit Points for which OPNs are provided to the Transporter the estimate will be based on the OPN prevailing at the time of the emergency curtailment;
- ii) Where no OPN is available and a Nomination has been submitted, the estimate will be based on the Nomination prevailing at the time of the emergency curtailment;
- iii) For those relevant System Exit Points that do not provide OPNs, or OPNs are not available; the estimate will be based on historical allocations;
- iv) Where OPNs, Nominations or historical allocations are unavailable, the estimate will be based on either scaled SOQs (where available) or, if unavailable, standard SOQs.

### OPN Calculation Method

The following table represents the process for calculating the System Exit Point component of the Emergency Curtailment Quantity from an Offtake Profile Notice (OPN).

<b>OPN Quantity Calculation Process</b>	<b>Curtailment on the first Gas Day of a GDE</b>
<b>Bi-directional System Points (European Interconnector and Storage sites)</b>	The quantity will be calculated as the User's operational nomination provided by the interconnector or storage agent.
<b>VLDMC System Exit Points</b>	At single User System Exit Points the quantity calculation would be based solely on the Offtake Profile Notice (OPN) for the relevant gas day. At multi-User System Exit Points the agent would provide a default division of the quantity implied by the OPN.

### Nomination Calculation Method

The following algorithm calculates an estimate of the ECQ Supply Point component from the prevailing nomination data at the time the ECQ estimate is made.

Repeat the following steps for each curtailed supply point:

- 1 Get the nominated quantity (kWh) for this site for the relevant Gas Day
- 2 Multiply the nominated quantity by the curtailment duration and divide by 24.

For the avoidance of doubt, the implied Nomination Flow Rate is the rate (in kWh/hour) determined as the nominated quantity applied for the curtailment duration, divided by 24.

For the 2nd and subsequent Gas Day(s) the ECQ for all System Exit Points will be based on:

- v) Historical allocations for all relevant System Exit Points; or;
- vi) Where historical allocations are not available for a relevant System Exit Point, the estimate will be based on either scaled SOQs (where available) or, standard SOQs.

### Curtailment Duration

Curtailment will be assumed to have been initiated at the relevant Supply Point at a time after the time of the Emergency Interruption Notice or Firm Load shedding direction; this will be the Curtailment start time for the purposes of calculating the Curtailment duration. The lead-time between the Curtailment notice and the Curtailment start time will be based on information provided from the site along with other information available to the Transporter including operational experience. If no restoration time is provided then the Curtailment duration will be calculated from the Curtailment time up until the end of the relevant Gas Day. This is the curtailment duration.

### **Further Curtailment**

Should further Emergency Curtailment be required within the relevant Gas Day then each relevant Transporter will calculate a revised (i.e. increased) ECQ element. National Grid NTS will initiate further ECQ trades to reflect any changes in the ECQs.

### **Restoration**

Should the offtake of gas be restored at System Exit Points where Emergency Curtailment had earlier been initiated within the relevant Gas Day then each relevant Transporter would calculate a revised (i.e. reduced) ECQ element based on the revised restoration time. National Grid NTS will initiate further ECQ trades to reflect any changes in the ECQs.

### Subsequent days of an Emergency

This methodology will be applied separately for each day of a GDE. The list of relevant System Exit Points for each day of the GDE may be the same or may be different due to restoration and further curtailment notices.

### **Historical allocation calculation method**

The following algorithm estimates the ECQ Supply Point component from historical allocation data.

#### **Step 1**

Identify whether Curtailment occurred during the last 28 days and note which days were curtailed.

#### ***Repeat the following steps for each curtailed Supply Point***

#### **Step 2**

Identify relevant Gas Day...

If Curtailment did not occur on D-7, use D-7 otherwise...

If Curtailment did not occur on D-14, use D-14 otherwise...

If Curtailment did not occur on D-21, use D-21 otherwise...

If Curtailment did not occur on D-28, use D-28 otherwise...

Start at D-8 and work backwards to D-28 until a gas day is found where Curtailment did not occur.

If all days are curtailed, do not set estimate of curtailment using this method.

#### **Step 3**

Having identified which day is to be used, get the allocated quantity (kWh) for this site for the relevant Gas Day.

#### **Step 4**

Multiply the allocated quantity by the curtailment duration and divide by 24.

#### **4. SOQ (scaled)**

The following algorithm calculates an estimate of the ECQ Supply Point component from the Flexi-SOQ.

***Repeat the following for each curtailed Supply Point***

##### **Step 1**

Obtain Flexi-SOQ for the relevant System Exit Points.

The Flexi-SOQ is calculated from a Scaling Ratio (SR) that allows for forecast demand to be less than the 1-in-20 peak forecast demand i.e. the Registered Supply Point Capacity. The Ratio is calculated from the aggregated forecast demand divided by the aggregated Registered Supply Point Capacity, i.e. the SOQ, for the relevant System Exit Points.

SOQi ~ Supply Point Offtake Quantity at Exit Point i (kWh)

Flexi-SOQ ~ Flexi Supply Point Offtake Quantity at Exit Point i (kWh)

SRj ~ Scaling Ratio for LDZ j (-)

SRj = (Aggregate Forecast Demand for all relevant System Exit Points) / (Sum of RSPC for all relevant System Exit Points)

Flexi- SOQi = SRi \* SOQi

##### **Step 2**

Calculate an estimate...

CDi ~ Curtailment Duration at Exit Point i (hours)

ECQij ~ Emergency Curtailment Quantity component for Exit Point i in LDZ j(kWh)

ECQij = Flexi- SOQi \* (CDi/24)

#### **Supply Point Offtake Quantity (Registered Capacity) ~ SOQ**

The following algorithm calculates an estimate of the ECQ Supply Point component from the SOQ.

***Repeat the following for each curtailed Supply Point***

##### **Step 1**

Obtain Registered Supply Point Capacity for the relevant System Exit Point.

RSPCi ~ Registered Supply Point Capacity at Exit Point i (kWh)

##### **Step 2**

Calculate estimate...

CDi ~ Curtailment Duration at Exit Point i (hours)

ECQ<sub>i</sub> ~ Emergency Curtailment Quantity component for Exit Point i (kWh)

$$ECQ_i = RSPC_i * (CD_i/24)$$

### **Shared Supply Meter Points**

For non VLDMC Shared Supply Meter Points, the Users (or agent on behalf of the Users) can provide a User allocation method, on notification of a relevant Emergency, which applies unless Users have called User "interruption". If no User allocation method is available a Transporter derived ECQ element would be used e.g. historical allocation.

For VLDMC Shared Supply Meter Points, the Users (or agent on behalf of the Users) can provide an allocation method, on notification of a relevant Emergency, which applies unless Users have called User "interruption". If no User allocation method is available, a Transporter derived ECQ element would be used e.g. historical allocation.

### **Information Flow**

The UNC places an obligation on all relevant Transporters to calculate the ECQ component for each relevant System Exit Point and pass the data, aggregated by User, on to National Grid NTS. Each Transporter will aim to provide its element of a User's ECQ to National Grid NTS in its role as residual system balancer, as soon as is reasonably practicable after Curtailment has been initiated. The residual system balancer would be responsible for collating and aggregating the ECQ elements from all Transporters, generating the trade price and initiating the trades, based on the aggregated Transporter ECQ components, and calculating the trade payments. Payments will be made via xoserve. National Grid NTS will endeavour to enter the ECQ trade as soon as reasonably practicable after Curtailment has been initiated and will update the quantity as each Transporters' component of the ECQ becomes available.

### **Impact and Notification of User "Interruption"**

A User should notify the Transporter of User "interruption" only if the Supply Point stops the offtake of gas under any commercial arrangement with that User. If a User offers demand reduction via a physical or locational action on the OCM then the initiated demand "interruption" should be covered by a P70.

If a User "interrupts" a Shared Supply Meter Point then it should not issue a P70 if it intends to act as the User for that System Exit Point under other contractual arrangements such as the purchase of gas by the end-consumer. If a Supply Point was subject to an operationally validated P70 notification, prior to the time of the Curtailment notice sent under the powers of the NEC, then the ECQ component will be set to zero.

### **Consequences of not implementing this Modification Proposal**

If this proposal is not implemented, then the ECQ methodology can only be changed by transporters. Through including the ECQ Methodology within the UNC, a level playing field is established, to allow those directly affected by the ECQ calculation to influence the methodology used, as appropriate.

Incorporating the uniform methodology for calculating ECQ within the Code ensures that any proposed changes to the methodology are progressed through an established governance process, promoting certainty and transparency. To do otherwise would run the risk that changes to the methodology might be made at times of system stress or all or a selection of transporters may chose not to follow the sequential steps, jeopardising certainty at times when it is of the utmost importance to the system to minimise the duration of an emergency.

The set process proposed should limit the number of potential claims, once the system is restored after an emergency, through ensuring a more accurate representation of a User's ECQ and consequently, the balance of the system as a whole.

**Basis upon which the Proposer considers that it will better facilitate the achievement of the Relevant Objectives, specified in Standard Special Condition A11.1 & 2 of the Gas Transporters Licence**

- (a) the efficient and economic operation of the pipeline system, through ensuring that transporters have the best estimate available to them in a GDE of the quantity gas, which may have been offtaken, had an ECQ not been taken, thus enabling transporters to better balance the system in an emergency.
- (b) the coordinated, efficient and economical operation of (i) the combined pipeline system and/or (ii) the pipeline system of one or more other relevant gas transporters, though ensuring a consistent and coordinated approach for all transporters to calculate a User's ECQ and ensuring the most accurate ECQ to better enable each transporter to balance their system in the event of an GDE.
- (d) the securing of effective competition between relevant shippers and between relevant suppliers, through ensuring each shipper/supplier is subject to the same calculation process when the transporter determines their ECQ. As stated in Ofgem's decision letter to Modification Proposal 044, 'where different methodologies co-exist, this could result in shipper uncertainty as to the treatment of particular loads (and potentially differential treatment of loads connected to different networks).' We accept that the transporters have agreed to a uniform revised ECQ calculation methodology, however, as the methodology remains outside the Code, Users are not provided with adequate assurance that different methodologies may not materialise or that the methodology itself may change, without the appropriate governance framework.
- (f) the promotion of efficiency in the implementation and administration of the network code and or the uniform network code through ensuring that key methodologies, which have significant commercial impacts on Users, are subject to code governance procedures.

**Any further information (Optional), likely impact on systems, processes or procedures, Proposer's view on implementation timescales and suggested text**

The Proposer accepts that transporters are currently unable to view User Nominations on Gemini. The most economic and efficient means to address this issue in time for this winter, might be for NG NTS to submit an automated report to transporters, detailing User Nominations, once a potential or actual GDE has been called.

**Code Concerned, sections and paragraphs**

Uniform Network Code - Transportation Principal Document

Section Q - Emergency Arrangements

**Proposer's Representative**

Christiane Sykes (E.ON Uk plc)

**Proposer**

Christiane Sykes (E.ON Uk plc)

**Signature**

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