Workstream Report
Emergency Curtailment Quantity (ECQ) Methodology Statement
Modification Reference Number 0054
Modification to Codify Emergency Curtailment Quantity (ECQ) Methodology
Modification Reference Number 0054a

Version 1.0

This Workstream Report follows the format required for Modification Reports under Rule 9.6 of the Modification Rules.

1. The Modification Proposal

Proposal 0054 was as follows:

"Defined Terms. Where UNC defined terms are included within this Proposal the terms shall take the meaning as defined within the UNC. Key UNC defined terms are highlighted by an asterisk (*). This Proposal, as with all Proposals, should be read in conjunction with the prevailing UNC.

This Proposal seeks to:

Define the Emergency Curtailment Quantity* (ECQ) Methodology Statement, published via the Joint Office of Gas Transporters on 1st October 2005, as a UNC ancillary document. Define the "ECQ Calculation Methodology" as the methodology from time to time revised by the Transporters (subject to prior approval by Panel Majority of the Uniform Network Code Committee) and issued to Users setting out the processes for the calculation of the ECQ component to be carried out under UNC TPD Section Q 6. All subsequent revisions to the ECQ Methodology Statement will be covered by these revised arrangements.

Background

In accordance with UNC TPD Section Q 6, the quantities of gas, associated with Emergency Curtailment actions, undertaken by Transporters for each Gas Day of a Gas Deficit Emergency (GDE), will be assigned to an effective trade (NBP title transfer) between National Grid NTS (as residual System balancer) and the relevant User for the relevant Gas Day.

Emergency Curtailment* covers both Emergency Interruption* within a Potential Gas Deficit Emergency (Stage 1 ~ Potential GDE) and Firm load shedding in stage 3 of an actual GDE. The Emergency Curtailment Quantity (ECQ) title trade seeks to ensure that a User's Daily Imbalance is maintained after Emergency Curtailment has been actioned. Each Transporter would be responsible for the calculation of its element of the ECQ for the relevant connected System Exit Points. This document defines the uniform methodology for calculating the ECQ element for all Transporters.

The Emergency Curtailment Quantity is defined within UNC TPD Section Q 6 as "The quantity of gas (in kWh) which the Transporters, in aggregate, reasonably estimate that User would have offtaken from the Total System at System Exit Points in respect of which Emergency Curtailment has occurred but for the fact that Emergency Curtailment had occurred at those System Exit Points"

The ECQ Methodology will comprise the process that all Transporters will follow to calculate each Transporter's component of the Emergency Curtailment Quantity.

The Proposal

The existing 'ECQ Methodology' would become an ancillary to the UNC and subject to oversight by the UNC Committee, consistent with good governance principles outlined in Ofgem's approval of Network Code Modification 730 "Extending established Network Code governance arrangements to relevant Transco documents". This means that although any Transporter could propose changes to the ECQ Methodology from time to time it would be necessary for the UNC Committee to approve any changes to such a document by Panel Majority.

Consequences of not implementing the proposal

If the Proposal were not implemented there is a risk that Transporters may calculate the components of the ECQ using inconsistent calculation methods."

Alternative Proposal 0054a was as follows:

"In Ofgem's decision letter to 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.

This proposal aims to ensure that the following four steps are sequentially carried out by the relevant transporter, in their estimation of a User's ECQ. A common methodology, 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).

Whilst we welcome National Grid's efforts to bring forward a proposal to define the ECQ Methodology Statement as an ancillary document, we feel that it is of the greatest importance that the ECQ methodology is detailed in the UNC. Ancillary documents are, in nature procedural, which set out how the transporter will fulfill obligations under the Code. 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 do not consider the current version of the ECQ methodology, provided by NG NTS, will provide the most accurate representation of a User's ECQ. For example, using SOQ as a means to estimate a user's ECQ could give a substantially different estimate to what the user is actually offtaking on a particular day. We propose the following steps, as previously set out by NG NTS, for transporters to follow when calculating a user's ECQ. The following process 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 the system as a whole and individual of portfolio positions.

Step 1 **OPN:** The Transporter must use OPNs when available. OPNs represent the most accurate proxy for ECQs as they can be used if Emergency Curtailment occurs within day.

Step 2 **Nomination Calculation Method:** Where no OPN is available and a nomination has been submitted - 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.

Step 3 **Historical Consumption:** When OPNs and Nominations are unavailable; an algorithm will be used to assess the curtailed Quantity for non-OPN Supply Points based on historical consumption to quantify the Curtailment Quantity.

Step 4 **Scaled SOQ:** If no OPN, Nomination or appropriate historical data is available then the Registered Capacity (SOQ), scaled to match the forecast demand, can be used.

For clarification, on any day following the day of a potential or actual GDE has been declared, the ECQ can be zero.

Step 1 Calculation Algorithm for System Exit Points where a valid OPN or Nomination is available

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

OPN Quantity Calculation Process	**Curtailment on the first Gas Day of a GDE**	**Curtailment on subsequent Gas Days**
Bi-directional System Points (European Interconnector and Storage sites)	The quantity will be calculated as the Users operational nomination provided by the interconnector or storage agent.	If no OPN/SFN is provided then the calculation methodology for non-OPN System Exit Points will be used.
VLDMC System Exit Points	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.	If no OPN is provided then the calculation methodology for non-OPN System Exit Points will be used.

Step 2 Nomination Calculation Method

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.

Step 3 Calculation Algorithm for System Exit Points where no valid OPN or Nomination is available

The following algorithm applies for all System Exit Points where no valid OPN or

Nomination is available.

1. Obtain list of relevant curtailed sites for relevant Gas Day. If there is no Emergency Curtailment, the process stops here. Otherwise obtain a list of curtailed site supply point ID's and curtailment start and end times for the relevant Gas Day.

Repeat the following steps (2-6) for each of these curtailed System Exit Points

2. Identify whether this site was curtailed during the last 21 days and note which days were curtailed.

3. Identify relevant Gas day…

   If site was not curtailed on D-1, use D-1 otherwise…

   If site was not curtailed on D-7, use D-7 otherwise…

   If site was not curtailed on D-14, use D-14 otherwise…

   If site was not curtailed on D-21, use D-21 otherwise…

   Start at D-2 and work backwards to D-21 until a gas day is found where the site was not curtailed.

   If all 21 days are curtailed, set estimate of curtailment to zero.

4. Having identified which day is to be used, get the measured quantity for this site for the relevant Gas Day.

5. Using the start time and restore time, only extract data from the within day period that the site was curtailed and obtain the relevant hourly measured quantities needed.

6. Each System Exit Point that was curtailed is noted along with its associated reason code (Transporter, Emergency, User), Load type (for forecasting purposes), whether it is a Network Sensitive Load (NSL) or not, which day was used for the replacement measured quantity (for validation/investigation) and 24 hourly measured quantity values.

Step 4 Calculation Algorithm for System Exit Points where no valid OPN, Nomination or historical data is available (Stage 3)

1. Obtain list of curtailed sites for relevant Gas Day. If there is no curtailment, the process stops here. Otherwise obtain a list of curtailed System Exit Points, supply point ID's, curtailment start and end times for the relevant Gas Day and Registered Supply Point Capacities.

2. Calculate the ratio of aggregated forecast demand divided by the aggregated Registered Supply Point Capacity for the relevant System Exit Points (i.e. all System Exit Points except NDM and Priority Supply Points). This is the correction ratio (CR) that allows for forecast demand to be less than the 1-in-20 peak forecast demand i.e. the Registered Supply Point Capacity.

   $RSPC_i$ ~ Registered Supply Point Capacity at Exit Point i (kWh)

   CR ~ Correction Ratio (-)

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

RSPC for all relevant System Exit Points)

Repeat the following for each of these curtailed System Exit Points

3. Calculate estimate…

CDi ~ Curtailment Duration at Exit Point i (hours)

ECQi ~ Emergency Curtailment Quantity component for Exit Point i (kWh)

ECQi = RSPCi * (CDi/24) * CR

Shared Supply Meter Points (Step 4)

For non VLDMC Shared Supply Meter Points, the Users (or agent on behalf of the Users) will provide a default User allocation method, on notification of a relevant Emergency, that applies unless Users have called User "interruption". If no default User allocation method is available a transporter estimated allocation will be used.

For VLDMC Shared Supply Meter Points, the Users (or agent on behalf of the Users) will provide, on notification of a relevant Emergency, an allocation method that applies to the OPN. If no User allocation method is available, a transporter default allocation will be used.

Consequences of not implementing this Modification Proposal

If this proposal is not implemented, then the ECQ methodology can only 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 methodologies used, as appropriate.

If the ECQ methodology is not detailed in the UNC then fragmentation may occur, resulting in a lack of clarity and increased cost as users may have to familiarise themselves with and understand up to four different methodologies, depending on the networks their sites are connected to.

This proposal hard codes a set process for transporters to use when calculating the ECQ methodology. The set process proposed should minimise the number of potential claims, once the system is restored after an emergency, through ensuring a more accurate representation of a User's ECQ.

This proposal should ensure against inaccurate and misleading representation of the balance of the system and individual portfolios, though ensuring ECQs are as near as possible to the actual amount of gas offtaken at System Exit Points, within a given timeframe.

In the event that this proposal is not implemented, the probability of the duration of a gas emergency may be prolonged as inaccurate and poorly understood (due to the flexibility in how the transporter would otherwise select different methods of estimating) ECQs may be calculated, thereby leading to limited information of the balance of the system."

2. Extent to which implementation of the proposed modification would better facilitate the relevant objectives

The **proposer of Modification Proposal 0054** suggested that implementation of this Proposal would further the "relevant objectives set out in Standard Special Condition A11 and specifically 1(a) the efficient and economic operation of the pipe-line system by ensuring that all Transporters meet their UNC obligations in regard to the calculation of their components of the ECQ in a consistent manner" and would "improve the efficient operation of the ECQ Process by increasing clarity."

The **proposer of Alternative Modification Proposal 0054a** suggested that implementation of this alternative proposal would better facilitate the following relevant objectives, over and above Proposal 0054:

(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).'

(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.

3. The implications of implementing the Modification Proposal on security of supply, operation of the Total System and industry fragmentation

The **proposer of Modification Proposal 0054** suggested that implementation would lead "to the establishment of the existing Uniform ECQ Calculation Methodology Statement, covering all Transporters, as an ancillary document under the UNC" and further suggested that implementation would be beneficial in serving to avoid industry fragmentation.

Alternative **Modification Proposal 0054a** differs from the Modification Proposal 0054 in that it sought to implement the same sequence of determining ECQ for both the NTS and the DNs. The proposer believed that accuracy would be best served by applying this principle. The current Uniform ECQ methodology, however, includes optionality that would allow different bases to be used in different DNs and between DNs and the NTS and this would adversely affect the accuracy of ECQ determination. Whilst this methodology could be changed by Transporters, provided the change secured a Panel

Majority, this would imply promotion and support from at least one Transporter even if all shipper members were supportive of a change in the ECQ procedure.

4. The implications for Transporters and each Transporter of implementing the Modification Proposal, including

a) implications for operation of the System:

Modification Proposal 0054:

As implementation would have the effect of reflecting current, though recently agreed, operational practice, implementation would have no such implications

Alternative Modification Proposal 0054a:

Those Transporters that do not operate in accordance with the proposed procedure would need to amend their operations where applicable.

b) development and capital cost and operating cost implications:

Modification Proposal 0054:

No such implications have been identified.

Alternative Modification Proposal 0054a:

The cost implications of amending current operational processes are not believed to by the proposer to be major.

c) extent to which it is appropriate to recover the costs, and proposal for the most appropriate way to recover the costs:

Both Proposals:

No proposal in this respect has been made.

d) analysis of the consequences (if any) this proposal would have on price regulation:

Both Proposals:

No such consequences have been identified.

5. The consequence of implementing the Modification Proposal on the level of contractual risk of each Transporter under the Code as modified by the Modification Proposal

Both Proposals:

No such consequences have been identified.

6. The high level indication of the areas of the UK Link System likely to be affected, together with the development implications and other implications for the UK Link Systems and related computer systems of each Transporter and Users

Both Proposals:

No such implications have been identified.

7. The implications of implementing the Modification Proposal for Users, including administrative and operational costs and level of contractual risk

Modification Proposal 0054:

The proposer has not identified any such implications.

Alternative Modification Proposal 0054a:

Implementation would provide a higher level of assurance in respect of the ECQ process and consequently might reduce Users' levels of contractual risk. In addition, the proposer considered that whilst Proposal 0054 may offer these benefits, implementation of the Alternative Proposal would provide a higher level of assurance.

8. The implications of implementing the Modification Proposal for Terminal Operators, Consumers, Connected System Operators, Suppliers, producers and, any Non Code Party

Both Proposals:

Implementation would provide a higher level of assurance and consequently might reduce the level of contractual risk for consumers at Supply Points impacted by the ECQ process.

Alternative Modification Proposal 0054a:

The proposer considered that whilst Proposal 0054 may provide these benefits, implementation of the Alternative Proposal would provide a higher level of assurance.

9. Consequences on the legislative and regulatory obligations and contractual relationships of each Transporter and each User and Non Code Party of implementing the Modification Proposal

Both Proposals:

No such consequences have been identified.

10. Analysis of any advantages or disadvantages of implementation of the Modification Proposal

Both Proposals:

The following **advantages** of implementation have been identified:

- Greater level of assurance for shippers, suppliers and consumers on the Uniform

ECQ procedure, including changes to the procedure

Modification Proposal 0054:

The following **advantages** of implementation have been identified:

- Through the UNC Committee, greater control of changes to the Uniform ECQ procedure.

The following **disadvantage** of implementation has been identified:

- Potential for delay in making required changes to the Uniform ECQ procedure due to the requirement of obtaining a Panel Majority at the UNC Committee.

Alternative Modification Proposal 0054a:

The following **advantages** of implementation have been identified:

- Even greater level of assurance for transporters shippers, suppliers and consumers on the Uniform ECQ procedure, including changes to the procedure as these would only be through a further Modification Proposal.
- Greater consistency in the application of the Uniform ECQ procedure within the NTS and in DNs.

No **disadvantages** of implementation has been identified have been identified by the proposer.

11. The extent to which the implementation is required to enable each Transporter to facilitate compliance with safety or other legislation

Both Proposals:

No such requirement has been identified.

12. The extent to which the implementation is required having regard to any proposed change in the methodology established under paragraph 5 of Condition A4 or the statement furnished by each Transporter under paragraph 1 of Condition 4 of the Transporter's Licence

Both Proposals:

No such requirement has been identified.

13. Programme for works required as a consequence of implementing the Modification Proposal

Modification Proposal 0054:

No program for works has been identified.

Alternative Modification Proposal 0054a:

Transporters who do not currently follow the proposed procedure would need to revise their existing processes. The proposer did not believe, however, that this programme for

works would be major.

14. Proposed implementation timetable (including timetable for any necessary information systems changes)

Both Proposals:

The proposers have suggested immediate implementation.

15. Implications of implementing this Modification Proposal upon existing Code Standards of Service

Both Proposals:

No such implications have been identified.

16. Text

Both Proposals:

No legal text has been provided by either proposer.