

NETWORK GAS SUPPLY EMERGENCY

EXERCISE 2009

Exercise Quartz

BRIEFING NOTES

Final v1.0

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1. OVERVIEW

The Network Emergency Coordinator (NEC) is regularly required to carry out a full-scale simulation of a Network Gas Supply Emergency (NGSE). Following the exercise, a report is produced for the Health and Safety Executive (HSE) detailing the effectiveness of the emergency arrangements and highlighting key findings.

Exercise Quartz is this year's exercise and it will take place over 14th and 15th October 2009 during normal working hours. This briefing pack outlines the actions required by each exercise participant.

In Quartz the NEC will test the effectiveness of an industry response to an NGSE and the Emergency procedures specifically:

- The NEC Safety Case – Issue 6.1 (July 2008)
- T/PM/E/1 - Issue 7.3 (January 2007)
- T/PM/E/3/GNCC – Issue 12 (September 2009)

Participation in the exercise will also test communications and the wider industry emergency procedures of

- Gas National Control Centre (GNCC)
 - Network Emergency Management Team (NEMT)
- Electricity National Control Centre (ENCC) for loss of CCGT power generation
- Distribution Network Control Centres (DNCCs)
 - National Grid Distribution Networks (NGDN)
 - Scotia Gas Networks (SGN)
 - Northern Gas Networks (NGN)
 - Wales & West Utilities (WWU)
- Distribution Networks
- Shippers
- Supplementary Transporters
- Supply Terminals – Beach and LNG (with DECC involvement for Upstream)
- Storage Sites
- Interconnector Operators

Exercise Quartz should be used to test the effectiveness of each party's internal procedures and ensure that no conflict exists between these procedures and those detailed above.

During the Exercise all communications between participants will commence with "**Exercise Quartz**".

Please also note that during the exercise the actual physical gas supply system and flows **will not be altered** in any way and the commercial regime **will not** be affected

Each party involved in Exercise Quartz should appoint an observer to oversee all parts of the exercise in which they are involved or alternatively a log keeper to keep records of

Exercise Quartz Briefing Notes

each stage of the process. A report from each participant should be produced and sent to the GNCC Emergency Planning Team within a week of the exercise's conclusion.

Should you have any questions relating to Exercise Quartz, the contact details for the National Grid, GNCC Emergency Planning Team can be found in Appendix 8.

NOTE: Where appropriate, the four Network Operator's control rooms are collectively named Distribution Network Control Centres (DNCCs) through out this document.

Communications to and from Distribution Networks during the exercise will be made via the relevant Distribution Network Control Centre.

2. CLASSIFICATIONS OF AN NGSE

There are three types of Network Gas Supply Emergency:-

- a. Critical Transportation Constraint
- b. Gas Deficit Emergency (Insufficient Supplies)
- c. Gas Deficit Emergency (Breach of GS(M)R Safety Monitor Emergency)

3. STAGES OF NETWORK GAS SUPPLY EMERGENCY

The five stages of the Network Gas Supply Emergency and the measures available are as follows: -

Stage 1 – Potential

- Maximisation of Primary System Linepack
- Maximisation of Secondary System Linepack
- Interruption of Exporting Systems
- VLDMC Emergency Interruption
- NTS Non-VLDMC Interruption
- Network Emergency interruption
- Public Appeal 1
- Review Storage Delivery - Breach of GS(M)R Safety Monitor Emergency only
- Admittance of Emergency Specification Gas

Stage 2 – Declaration

- National Grid's residual balancer actions are suspended on the OCM at the declaration of stage 2 if a Gas Deficit or Breach of GS(M)R Safety Monitor Emergency is declared.
- Maximisation of beach and LNG terminal gas
- Maximisation of NTS Storage
- Public Appeal 1

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Stage 3 – Firm Load Shedding

- Reduction from exporting systems
- VLDMC Firm Load Shedding
 - Category of consumers = > 50 mtpa
- Protected by isolation consumers request to turn off
 - Breach of GS(M)R Safety Monitor Emergency only
 - Category of consumers = >2mtpa <50 mtpa
- Firm load shedding of end-users > 25,000 tpa
- Storage withdrawal for sites protected by Monitor
 - Breach of GS(M)R Safety Monitor Emergency only
 - Category of consumers = <25,000 tpa
- Public Appeal 1 & 2

Stage 4 – Allocation & Isolation

- Allocation of available gas across Distribution Networks
- Networks to utilise isolation plans to achieve requested reduction in demand, if necessary

Stage 5 – Restoration

- NEC requests start of restoration process
- Restoration plans implemented by Distribution Networks

4. THE EXERCISE

This year's exercise will be held over two days during normal working hours.

The following processes will be tested: -

4.1 Day One

A scenario will be provided to the Gas National Control Centre (GNCC), giving information regarding an incident(s) on the National Transmission System (NTS).

The scenario will require the following actions to be implemented.

Pre-Stage 1 Actions

Liaison with the Department of Energy and Climate Change (DECC) to instigate:

- ⇒ GNCC to request Gas Availability Status (GAS) Reports from terminals
- ⇒ DECC to request Oil & Gas Situation Reporting for Upstream Supplies

Implementation of DECC's Crisis Management Briefing Pack procedure will subsequently involve an Upstream Teleconference, with Terminal Group Leaders, that is chaired by DECC. This activity will run in parallel with the NEC exercise.

Stage 1 Actions

Declaration of a Network Gas Supply Emergency – Gas Deficit (Insufficient Supplies)

Emergency interruption of consumers will be required as follows:

- ⇒ Primary Transporter will contact systems exporting gas from Great Britain
- ⇒ GNCC and the relevant DNCCs will contact interruptible VLDMCs
- ⇒ GNCC will notify ENCC of CCGTs directed off gas
- ⇒ Shippers will be required to contact their non-VLDMC interruptible consumers and provide to the relevant DNCCs ½ hourly updates on progress.

Stage 2 Actions

If required, APX will be notified of changes in status of the On the Day Commodity Market (OCM).

- ⇒ Shippers may be directed to maximise supplies from terminals and storage facilities
- ⇒ Storage Operators may be directed to maximise storage delivery
- ⇒ Upstream JRT teleconference may identify additional gas supplies**

** For the purposes of exercise Quartz, additional gas identified through the DECC teleconference will be disregarded at stage 2 and the exercise will continue with pre-determined exercise data.

Stage 3 Actions

Firm Load Shedding

Firm load shedding will be required within affected Networks

- ⇒ The Primary Transporter will contact systems exporting gas from Great Britain
- ⇒ GNCC and the relevant DNCCs will contact VLDMCs
- ⇒ GNCC will notify ENCC of further CCGTs directed off gas

4.2 Day Two

If necessary, the NEC will declare a Network Gas Supply Emergency – Gas Deficit Breach of GS(M)R Monitor Emergency.

Stage 3 Actions

Distribution Networks will be required to contact consumers using between 25,000tpa and 50mtpa to initiate firm load shedding.

The Public Appeal process is not being tested as part of this exercise.

Stage 4 Actions

Not being tested in exercise Quartz

Stage 5 Actions

Restoration

Distribution Networks will be required to provide details to the NEC through their DNCC on restoration strategy and timescales / resources involved for the affected end users.

GNCC – NTS Consumer Questionnaire

During day two of the exercise, the Shipper Liaison Team at GNCC will undertake a NTS Consumer Survey. This survey will involve contacting all the interruptible and firm NTS consumers to request information relating to what the implications and impact on them may be, if they are directed to cease taking gas urgently in the event a gas emergency.

GNCC also require National Transmission System consumers to complete the demand reduction and demand restoration profile as detailed below:

Exercise Quartz Briefing Notes

NTS Site Name:		Max Daily Throughput:	kWh
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REDUCTION	15 Minutes	30 Minutes	45 Minutes	1 hour	1hour 15 minutes	1hour 30 Minutes	1hour 45 minutes
Percentage Demand Reduction From Notification Time							

RESTORATION	15 Minutes	30 Minutes	45 Minutes	1 hour	1hour 15 minutes	1hour 30 Minutes	1hour 45 minutes
Percentage Restoration From Notification Time							

Comments:

In case of query, consumers should contact a member of the GNCC Emergency Planning Team (see Appendix 8 for details). The table above should be completed and returned to the GNCC Emergency Planning Team at:

gasops.emergencyplanning@uk.ngrid.com

5. NEC INVOLVEMENT – NGSE

The NEC will request the primary transporter (National Grid, Gas National Control Centre (GNCC)) to take measures to balance the primary system under a gas deficit emergency. This will involve the formation of a Network Emergency Management Team (NEMT).

The measures taken should reflect the NEC Safety Case and T/PM/E/1.

During the exercise the actual physical gas supply system and flows will not be altered in any way and the commercial regime will not be affected.

During the exercise, all NEC declaration notices will be issued to all exercise participants, including Supplementary Transporters. (Details of Supplementary Transporters as previously notified to GNCC by the Distribution Network Control Centres)

At the end of day one the NEC will issue an NEC 'Update on Network Gas Supply Emergency' declaration to indicate that the exercise will be suspended until the following day.

At the end of day two the NEC will issue an NEC 'Declaration of the end of a Network Gas Supply Emergency' to indicate the Exercise is complete.

The NEC will make an assessment of how well the exercise is carried out by the primary transporter and all other parties involved.

6. DISTRIBUTION NETWORK CONTROL CENTRES.

System Operators of the secondary transporter networks will be notified of actions at each stage by GNCC.

During the exercise information should be disseminated to Distribution Networks, and their Supplementary Transporters and Shippers as required in line with E3 procedures.

Distribution Network Control Centres should action and collate updates on the progress of:

- Emergency Interruption
- Firm Load Shedding

Reporting

Following the exercise, produce a report detailing any problems or observations associated with each process that you were involved in and return it to the GNCC Emergency Planning Team. Contact details are provided in Appendix 8.

VLDMCs

The following information should be collated by each DNCC, by LDZ, relating to the emergency interruption and firm load shedding of Distribution Network VLDMCs at Stage 1 and Stage 3 respectively :

Interruptible VLDMC

LDZ	Site Name	Shipper	Contact Details Correct (Y/N)	Cannot Turn Off	Can Turn Off	Time Successfully Contacted (hh:mm)	Total Site SOQ (kWh)

Firm VLDMC

LDZ	Site Name	Shipper	Contact Details Correct (Y/N)	Cannot Turn Off	Can Turn Off	Time Successfully Contacted (hh:mm)	Total Site SOQ (kWh)

NOTE - Please also see section 8.5 Reporting for Distribution Networks and appendix 7 for further guidelines on the reporting process and the additional information required.

7. SHIPPER RESPONSIBILITIES

7.1 Reporting

Responsibility

To produce a report for the NEC detailing any problems associated with each process that they are involved in.

7.2 Stage 1 - Emergency Interruption

Aim

The aim of this exercise is to establish:

- a) If an interruptible end-user can be contacted successfully
- b) If an interruptible end-user can stop using gas once contacted
- c) Timeliness and reporting accuracy

Responsibility

Once the NEC calls for Network interruption, Shippers will be required to contact their interruptible end-users to ask them whether or not they would be able to interrupt.

The number of required contacts will be specified during the exercise but could either be full Network interruption or partial Network interruption.

- If full interruption is called, Shippers should commence contact with end-users immediately and not wait for their portfolio to be issued.
- If partial Network interruption is called Shippers will be issued with details of which end-users in their portfolio to contact.

NOTE - Emergency Interruption also includes cessation of any storage injection.

The T/PM/E/1 states that Shippers should be able to contact their entire interruptible portfolio within 1 hour of receipt of the notice to interrupt.

Shippers should make ½ hourly updates to each relevant Distribution Network Control Centre (NGDN, SGN, NGN & WWU) advising them of the number of customers contacted so far and the reduction in demand that this represents.

Please see appendix 1 for further details.

All consumers must be advised that the call is part of Exercise Quartz and that actual interruption of the site is not required.

7.3 Stage 2 – Declaration

Actions:

Maximise terminal supplies

- You may receive from the GNCC **Shipper2a** and **Shipper2b** forms requesting that you maximise supplies from Terminals and Storage Facilities.
- A reply to OIC of Supply is required using **Shipper2aR reply** form indicating how much additional gas could be delivered from Terminals.
- APX will be advised of the withdrawal of National Grid's participation on the OCM
- Please provide further updates as appropriate.

Shippers are not required to take any physical actions.

7.4 Stage 3 – Firm Load Shedding

- The relevant transporter(s) contact VLDMC firm loads and will issue a notification to Shippers of VLDMC load shedding (for info. only). More than one form may therefore be received by each shipper.

7.5 Stage 5 – Restoration

- The relevant transporter will issue a notification of the revocation of emergency measures in place (for info. only)

7.6 National Transmission System Consumers

During day two of the exercise, the Shipper Liaison Team at GNCC will undertake a NTS Consumer Survey. This survey will involve contacting all the interruptible and firm NTS consumers to request information relating to what the implications and impact on them may be, if they are directed to cease taking gas urgently in the event a gas emergency.

GNCC also require National Transmission System consumers to complete the demand reduction and demand restoration profile as detailed overleaf :

Exercise Quartz Briefing Notes

NTS Site Name:		Max Daily Throughput:	kWh
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REDUCTION	15 Minutes	30 Minutes	45 Minutes	1 hour	1hour 15 minutes	1hour 30 Minutes	1hour 45 minutes
Percentage Demand Reduction From Notification Time							

RESTORATION	15 Minutes	30 Minutes	45 Minutes	1 hour	1hour 15 minutes	1hour 30 Minutes	1hour 45 minutes
Percentage Restoration From Notification Time							

Comments:

In case of query, consumers should contact a member of the GNCC Emergency Planning Team (see Appendix 8 for details). The table above should be completed and returned to the GNCC Emergency Planning Team at:

gasops.emergencyplanning@uk.ngrid.com

7.7 Reporting

Responsibility:

Following the exercise, produce a report detailing any problems or observations associated with each process that you were involved in and return it to the GNCC Emergency Planning Team. Contact details provided in appendix 8.

Please see appendix 7 for further guidelines on the reporting process.

8. DISTRIBUTION NETWORK RESPONSIBILITIES

All communications to and from Distribution Networks should be made through each relevant Distribution Network Control Centre. i.e. SGN should send communications to GNCC through the SGN Control Centre support team, NGN should send communications to GNCC through the NGN Control Centre support team etc.

8.1 Stage 3 - Firm Load Shedding

Aim

The aim of the firm load shedding exercise is to establish:

- a) If a firm end-user can be contacted using emergency contact information
- b) If a firm end user can stop using gas once contacted
- c) Timeliness of Firm Load Shedding
- d) That processes are in place to enforce (physically isolate) load shedding, if required

Responsibilities

Once the GNCC requests that firm load shedding begin for those sites >25,000 tpa, the Networks will be required to start contacting the end-users in this category to request them to cease using gas.

The Distribution Networks will be requested to Firm Load Shed a percentage of their >25,000tpa load. This more accurately represents what would happen in a real emergency. However, we have no information on how many sites a DN would need to contact to deliver this load reduction.

The Distribution Networks should contact **at least 200 sites per LDZ** even if this is in excess of the load requirement. This will enable a direct comparison to be made of Firm Load Shedding performance in previous exercises. A Distribution Network may use its discretion to continue contacting sites in an LDZ if the load reduction has not been met but in excess of 200 sites have been contacted.

Please provide feedback to GNCC through the relevant Distribution Network Control Centre (DNCC) if the required load reduction has not been achieved, with an estimate of how long it would take to deliver the requested load reduction.

The Distribution Networks are also required to identify the quantity of firm load shedding that can be delivered in a four hour period.

To enable direct comparisons with previous exercises Distribution Networks are requested to report on arrangements for firm load shedding overall and also on the actions relating to Large DN Loads (i.e.>2mtpa <50mtpa).

As part of exercise Quartz Distribution Networks should estimate the number of Large DN Loads that can be shed based upon the existing plans and personnel that would be

available under an NGSE. There is no requirement for Distribution Networks to undertake site visits as part of exercise Quartz.

The **NET2R** form should be completed to provide an update on Firm Load Shedding progress to the relevant DNCC. The DNCCs will copy this information to the GNCC. This form is to be updated and sent hourly by DNs and DNCCs.

Please see appendix 2 for further details.

A Firm Load Shedding contact proforma sheet must be completed for every consumer that is contacted.

All customers must be advised that the call is part of Exercise Quartz and that they should not actually cease taking gas.

8.2 Stage 3 - Public appeal

Not being tested during exercise Quartz.

8.3 Stage 4 - Isolation

Not being tested during exercise Quartz.

8.4 Stage 5 – Restoration

Aim

To ensure that appropriate staff within the GNCC, DNCCs and the Distribution Networks are familiar with the restoration process.

To assess the manpower required and time it would take to restore affected supplies after large firm load shedding has taken place.

Requirement

Once the GNCC sends the declaration to the Networks requesting restoration of supply, the Networks should calculate the time and manpower that would be required to restore affected supply points. Each DNCC should send written details direct to GNCC.

Please see appendix 6 for further information.

8.5 Reporting

Responsibility:

Once the exercise is completed each Distribution Network should produce a report detailing any problems or observations associated with each process undertaken during the exercise.

In addition the Distribution Network should collate the following data sets and return them to the GNCC Emergency Planning Team. Each Distribution Network should aim to complete and submit the data within one week of the exercise and then complete and submit the written report within a further week. Contact details provided in appendix 8.

For ease of data collation and in order to maintain comparisons across years, Distribution Networks are requested to collate their firm load shedding and Large DN Loads data as detailed below:

Firm load shedding data:

Firm load shedding information should be provided in the same format as utilised in exercise Prelude. Summarise by LDZ and by Shipper as shown below:-

LDZ	Shipper	Calls	Unsuccessful Contacts	Can Turn Off	Cannot Turn Off	% Unsuccessful Contacts	% Can Turn Off	% Cannot Turn Off	SOQ Can Turn Off	Total Site SOQ	% of Site SOQ Isolated
TOTAL											

The information provided in the above table should show the results of firm load shedding achieved by telephone contact only.

Large DN Loads (>2mtpa <50mtpa) :

As a subset of the Firm load shedding information, Distribution Networks should also compile the following data relating to their Large DN Loads. As there is no requirement to visit sites during exercise Quartz, Distribution Networks should predict the number of these sites that would be shed given the personnel available during an NGSE and the Distribution Networks existing plans.

LDZ	No. of Large DN loads	Total SOQ of Large DN Loads	No. of Large DN Loads shed by phone	SOQ of Large DN Loads shed by phone	No of Large DN Loads visited in exercise	SOQ of Large DN Loads shed by site visit in exercise	Predicted No. of Large DN Loads shed in 4hrs	Predicted SOQ of Large DN Loads shed in 4hrs	Predicted Time to deliver maximum load shed of Large DN Loads (mins)	Maximum Predicted No. of Large DN Loads shed	Maximum predicted SOQ of Large DN Loads shed

Additionally, please provide details of an appropriate contact in your organisation that can field any Shipper queries etc. These details will be included in an appendix to the exercise Quartz report.

Please see appendix 7 for further guidelines on the reporting process.

9. SUPPLEMENTARY TRANSPORTER RESPONSIBILITIES

9.1 Stage 1 - Emergency Interruption

Once the GNCC has requested that Emergency Interruption needs to take place the Distribution Networks (DNs) will contact their Supplementary Transporters to advise them of the situation and request them to reduce their interruptible SOQ (if applicable) by the same percentage as at the appropriate Network.

The Transporters should calculate the reduction and provide the appropriate DN(s) with the kWh figure that this reduction represents.

Please see appendix 1 for further details.

All customers must be advised that the call is part of Exercise Quartz and that they should not actually cease taking gas.

9.2 Stage 3 - Firm Load Shedding

Once the GNCC has requested Firm Load Shedding of end-users >25,000 tpa, the DNs will notify their Supplementary Transporters that they will also need to reduce their SOQ by the same percentage as at the appropriate Distribution Network.

The Transporters should calculate the reduction and provide the appropriate DN(s) with the kWh figure that this reduction represents.

To test their consumers contact details they should contact their consumers and provide hourly updates to the appropriate DN(s), on the amount of load shed by number of contacts made.

Please see appendix 2 for further details.

All customers must be advised that the call is part of Exercise Quartz and that they should not actually cease taking gas.

9.3 Reporting

Responsibility:

Following the exercise, produce a report detailing any problems or observations associated with each process that you were involved in and return it to the GNCC Emergency Planning Team. Contact details provided in appendix 8.

Please see appendix 7 for further guidelines on the reporting process.

10. INTERCONNECTOR OPERATOR RESPONSIBILITIES (BGE, IUK)

The Interconnectors will be notified of actions at each stage by GNCC. This section is only for operators, and relevant Interconnector Shippers.

10.1 Moffat Interconnector:

Moffat Interconnector will receive a **BGE** form from GNCC requesting information on the breakdown of your firm load and whether a Voluntary Firm Load reduction is available/required. Please reply ASAP.

In stage 1:

- BGE Shippers will receive **BGE1** form declaring emergency interruption required, operators will be copied in on this fax.
- The BGE Shippers are asked to re-nominate interruptible load to zero **but for the purposes of this exercise re-nominations are not to be entered into Gemini.**

In stage 3:

- Moffat Interconnector will receive **BGE2** requesting a percentage reduction in their firm load.
- Note: This may be repeated if required during further stage 3 actions.

In stage 4 (Isolation):

- Not being tested during exercise Quartz.

In stage 5:

- Moffat Interconnector will receive **BGE4** to revoke stages 1-3
- Moffat Interconnector will receive **BGE3** when the situation is resolved revoking Emergency Interruption.

Reporting

Following the exercise, produce a report detailing any problems or observations associated with each process that you were involved in and return it to the GNCC Emergency Planning Team. Contact details are provided in Appendix 8.

Please see appendix 7 for further guidelines on the reporting process.

REMINDER: For the purposes of this exercise no physical actions are required and re-nominations are not to be entered into the Gemini system.

10.2 Bacton Interconnector

In Stage 1:

- I(UK) Shippers will receive **IUK1** form declaring Emergency Interruption required. Operators will be copied in on this fax.
- The I(UK) Shippers are asked to re-nominate interruptible load to zero **but for the purposes of this exercise re-nominations are not to be entered into Gemini.**

In Stage 3:

- Bacton Interconnector will receive **IUK2** requesting a reduction in firm load.
- Note: This may be repeated if required during stage 3.

In Stage 5:

- Bacton Interconnector will receive **IUK4** to revoke stages 1-3.
- Bacton Interconnector will receive **IUK3** when the situation is resolved, revoking Emergency Interruption.

11. LNG TERMINALS :

Isle of Grain, South Hook and Dragon LNG Terminals will be notified at each stage by GNCC.

In Stage 1:

- LNG terminals will receive a **LNG2a** form requesting details of what the maximum level of delivery to the NTS could be. Please respond within 30mins by faxing the completed form to GNCC

In Stage 2:

- LNG terminals will receive a **LNG2b** form requesting storage facilities to maximise supply delivery to the NTS
- Please provide a new Flow Nomination to GNCC via fax, based on LNG2b

In Stage 5:

- LNG terminals will be advised that they can return to normal operation

For the purposes of this exercise no physical actions are required.

12. STORAGE SITE RESPONSIBILITIES

Storage Sites will be notified of actions at each stage by GNCC.

Stage 1 - Emergency Interruption

- Storage sites may receive **Storage1** form requesting Emergency Interruption of injection, in response please provide a revised nomination.
- Storage sites may receive **Storage2a** form that requests details of capability and current status. Please response within 30mins by faxing the completed form to GNCC.

Stage 2/3

- Storage sites may receive **Storage2b** form requesting a required export rate and time to commence delivery.
- Please provide new Storage Flow Nomination (SFN) to GNCC via fax.

Stage 5

- Storage sites will receive **Storage3** form to revoke Emergency Interruption.
- Storage can now return to normal operation.

For the purposes of this exercise no physical actions are required.

13. REPORTING

The NEC is required to produce a report for the HSE and the Gas Industry on the outcome of Emergency Exercise Quartz.

This report will contain the views of all parties involved and will contain recommendations from the HSE and NEC on any improvements that are required to the process.

It is, therefore, important that all parties participating in Exercise Quartz produce a report detailing their observations and findings. Guidelines for producing an Exercise Report can be found in Appendix 7.

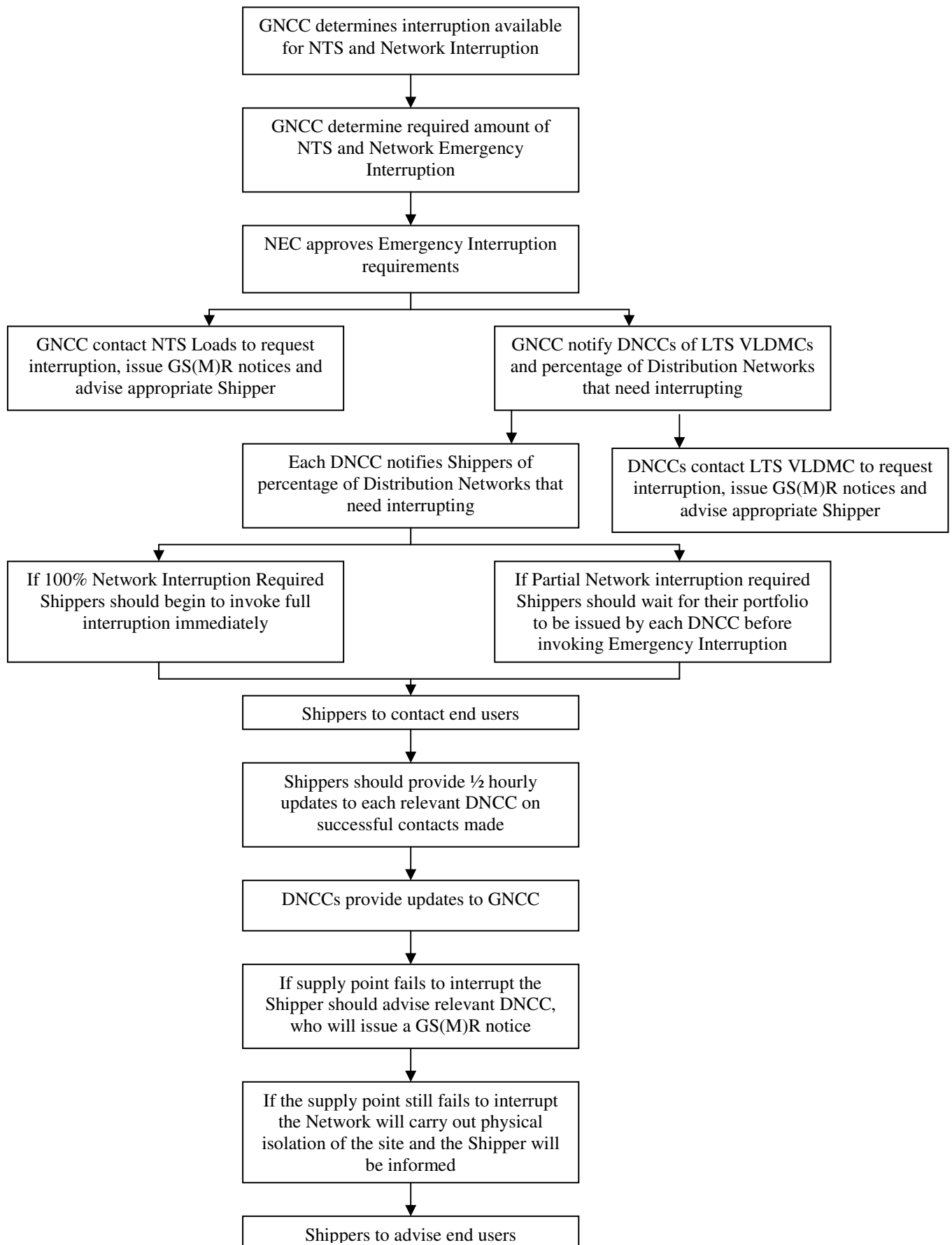
After the exercise has been completed it is critical that all parties submit their reports to the NEC as soon as possible, as the NEC is required to produce a first full draft to the HSE within four weeks of the completion of the exercise.

If specific parties wish to know their individual results from the NEC, then they should send a request in writing to the GNCC Emergency Planning Team.

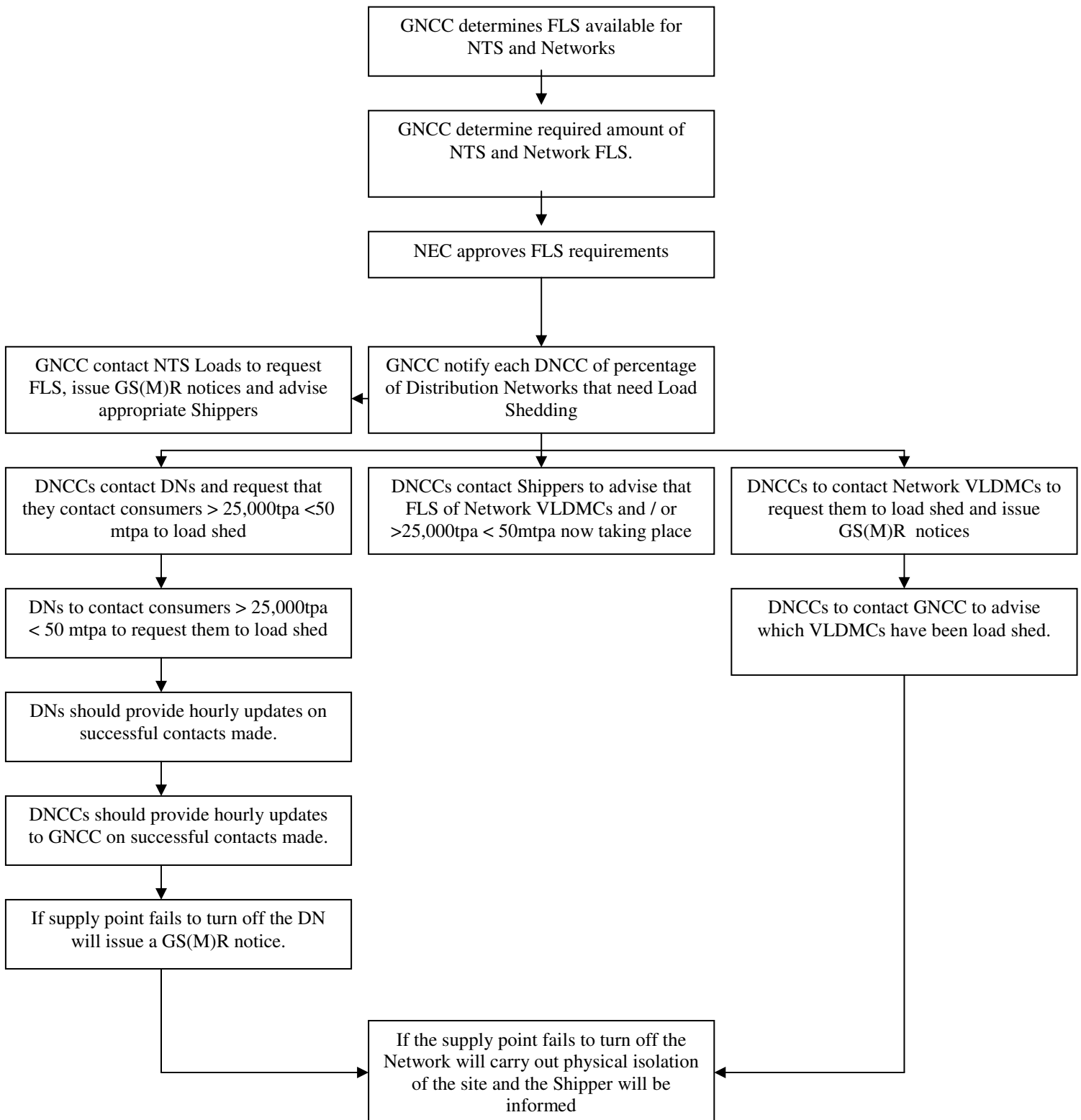
Note - The HSE will subsequently publish a copy of the NEC's Final exercise report to their website.

14. Appendices

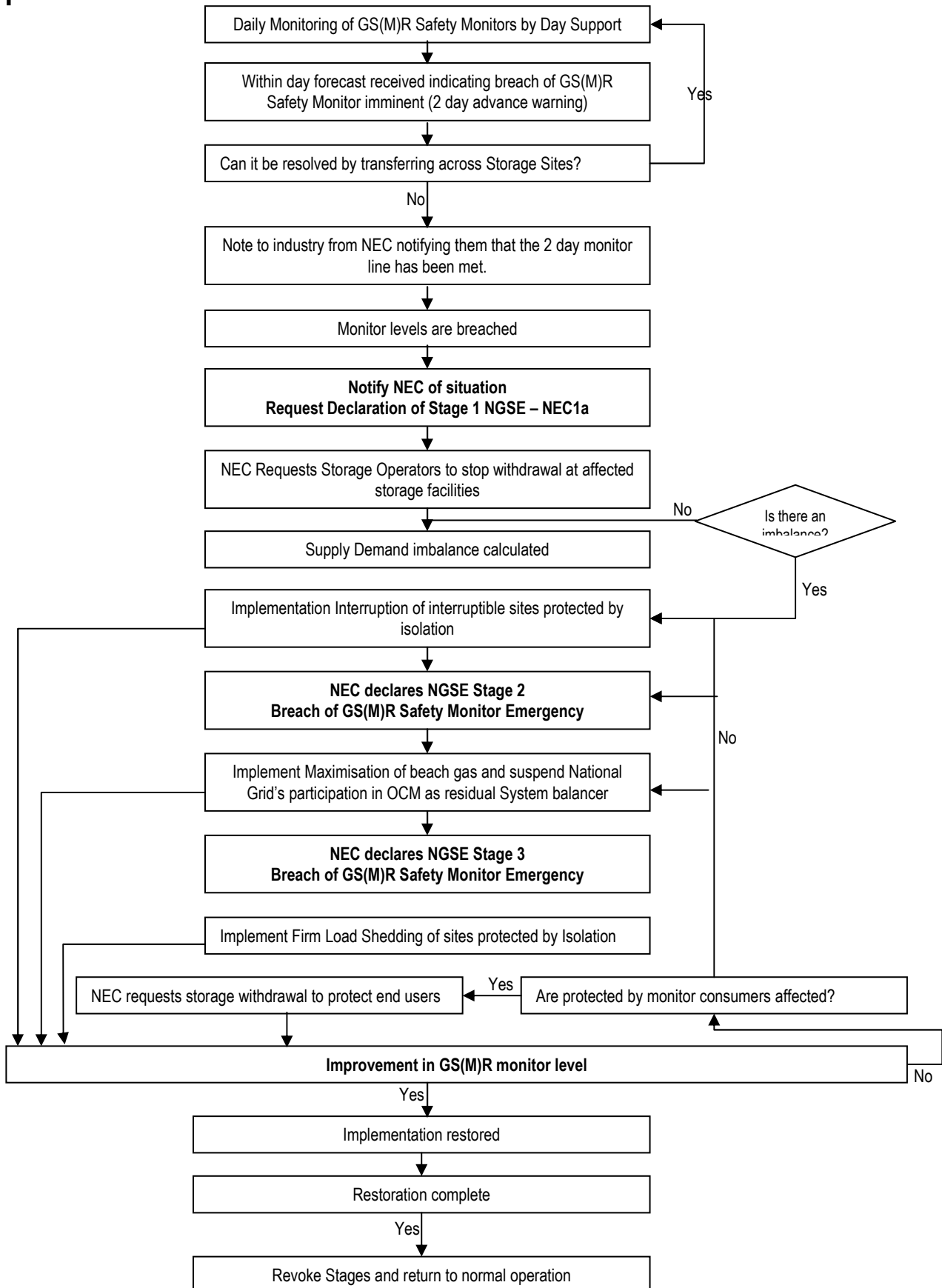
Appendix 1 – Flow chart detailing Emergency Interruption process



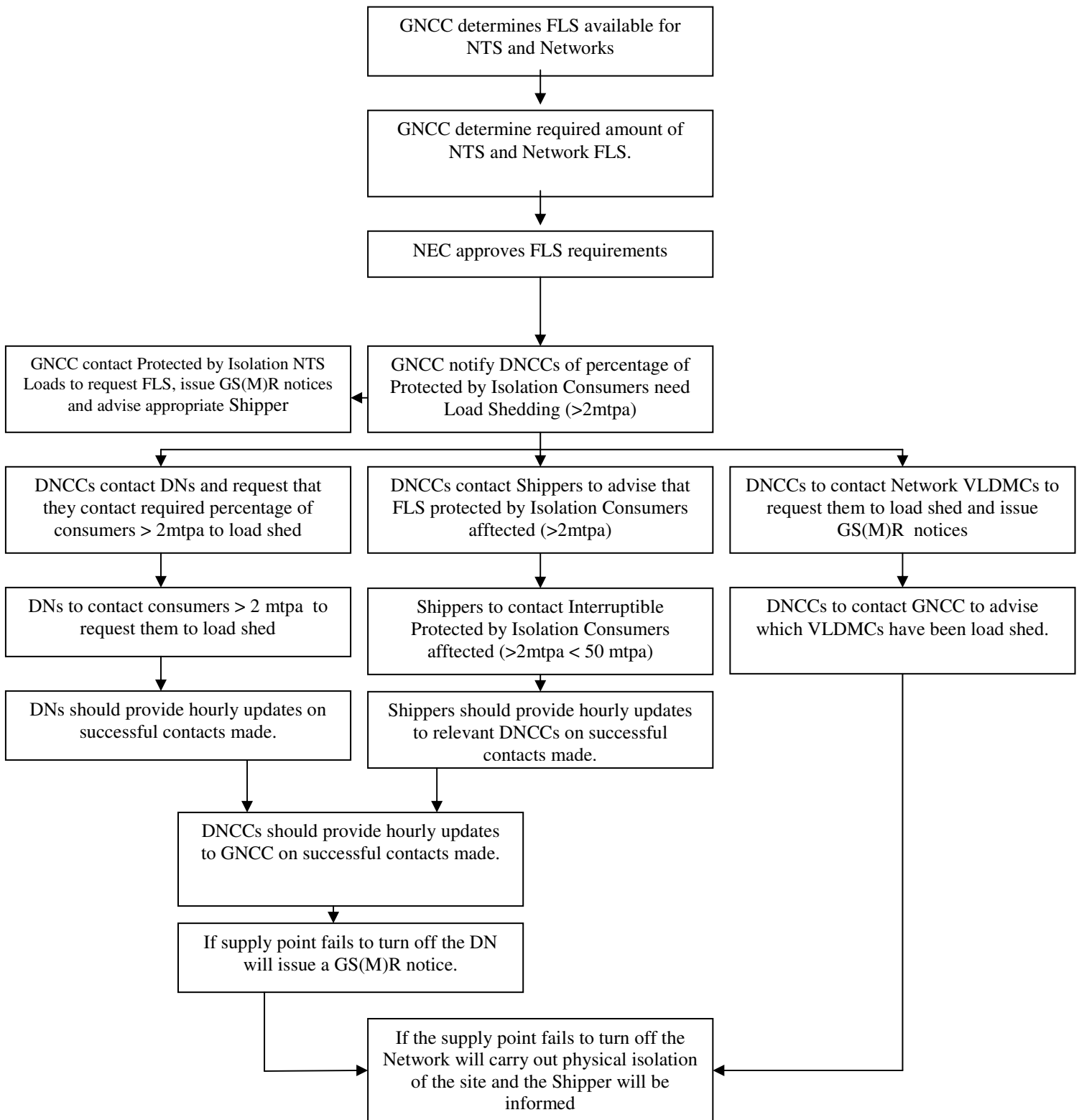
Appendix 2 – Flow chart detailing Gas Deficit – Insufficient Supplies Firm Load Shedding process



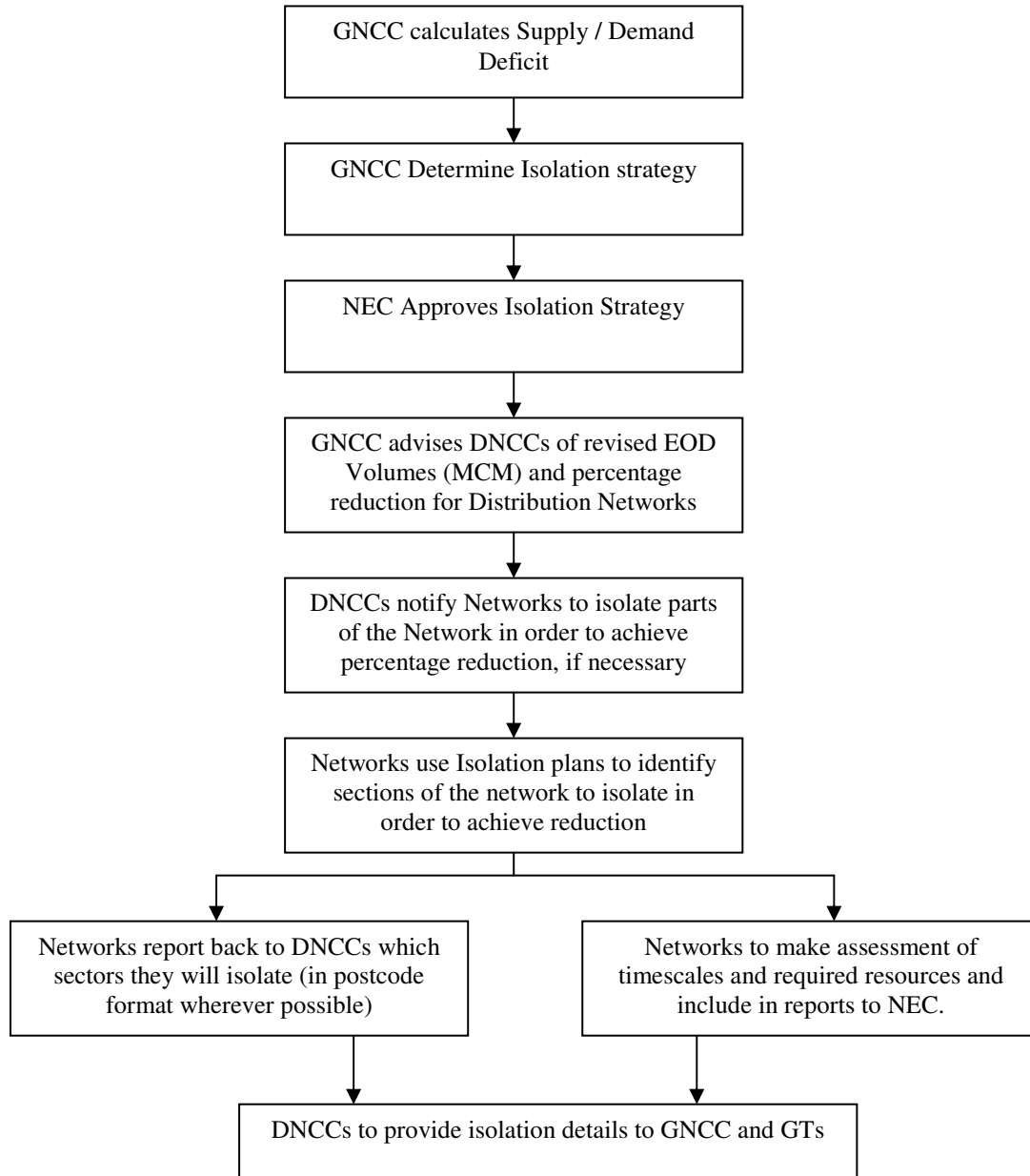
Appendix 3 – Flow chart detailing Gas Deficit – Breach of GS(M)R process



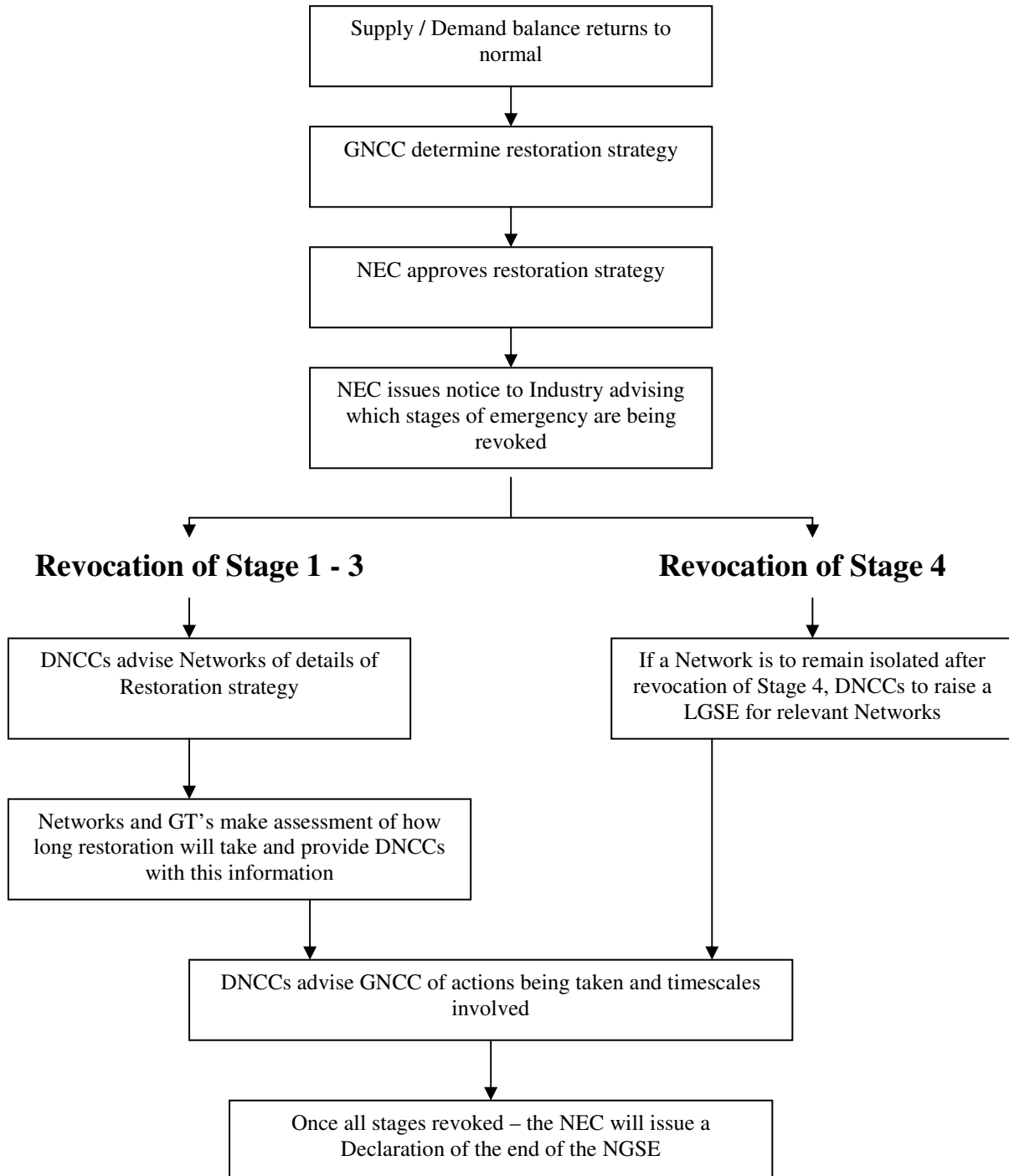
Appendix 4 – Flow chart detailing Gas Deficit – Breach of GS(M)R process Load shedding process



Appendix 5 – Flow chart detailing Isolation process



Appendix 6 – Flow chart detailing Restoration process



Appendix 7 - Guidelines for producing a report on Exercise Quartz

Each party involved in Exercise Quartz should, where possible, appoint an observer to oversee all parts of the exercise in which they are involved or alternatively a log keeper to keep records of each stage of the process.

A report should then be produced and sent to the GNCC Emergency Planning Team (see appendix 8) within a week of the exercise itself.

The GNCC Emergency Planning Team will use your comments to produce an overall report for the HSE on how the Emergency Procedures were implemented and will need to include any problems that are encountered during the exercise and any actions that may be required as a result.

The following guidelines are for use by the Observers/Log Keepers for Exercise Quartz.

The report should clearly identify which party you represent, each stage of the emergency that you were involved in and its associated comments.

On the following page you will find a report proforma for use during the Exercise.

The following is a list of things that should be observed/reported on during each stage of the exercise: -

Whether the correct procedures were adhered to during the each stage.

Whether the notification method was correct according to the procedures.

Whether the information provided in any correspondence was legible and easy to understand.

Whether there was any confusion over what actions were required.

Whether or not there were enough people to implement the procedures required.

If the equipment was suitable for the job – was there enough equipment.

Ascertain the time taken to calculate the information required.

Ascertain whether the speed of response from the parties involved was reasonable.

If the Systems (including spreadsheets etc) were suitable for purpose.

You may also wish to include any recommendations that you may have to improve any part of the Emergency process

Report Proforma

Name of Observer:

Representing (Shipper name, NMU, transporters name, etc):

Stage of Emergency:

Process:

Observations:

Recommendations for Improvement to process:

Appendix 8 - National Grid, GNCC Emergency Planning Team contact details

Should you have any queries regarding Exercise Quartz, please contact us on the numbers below: -

Paul Youngman – Emergency Planning Manager (GNCC)

Tel: 01926 654151

E-Mail: Paul.Youngman@uk.ngrid.com

or

gasops.emergencyplanning@uk.ngrid.com

Claire Baldwin – Principal Operations Engineer

Tel: 01926 653232

E-Mail: Claire.J.Baldwin@uk.ngrid.com

Lynn Crooks – Operations Engineer

Tel: 01926 653223

E-Mail: Lynn.Crooks@uk.ngrid.com