Department of Energy & Climate Change

National Emergency Plan:

Downstream Gas and Electricity

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Contents

Introduction

1.1. The Department of Energy & Climate Change (DECC) works with industry, regulators, sector bodies and other stakeholders to improve and maintain the resilience of the energy infrastructure, networks and assets, to reduce vulnerabilities, and ensure an effective response to actual or potentially disruptive incidents.

1.2. This document presents the National Emergency Plan: Downstream Gas & Electricity (NEP), and describes the national arrangements established between DECC, the downstream gas and electricity industry, the Office of Gas and Electricity Markets (Ofgem) and the European Commission and other interested parties for the safe and effective management of both downstream gas and electricity supply emergencies.

1.3. Although separate requirements for gas and electricity emergencies exist under sector specific legislation, the overarching response structure is the same and interdependencies can exist. Therefore this plan is maintained as one document to ensure consistency in the annual review cycle. Generic arrangements are described in the main body of this plan, with sector specific requirements and arrangements described in the relevant annexes. This plan does not cover response arrangements within individual organisations, who maintain their own detailed operational response procedures.

1.4. The purpose of this document is to support the UK Government's robust emergency planning across the downstream gas and electricity sectors. Additionally, within the gas sector, the EU Regulation Security of Gas Supply 994/10 (Regulation 994/10) sets out measures to safeguard the security of gas supply, including making provisions for the requirement and publication of this plan setting out gas safety emergency arrangements. This document is prepared in accordance with the requirements of the Regulation.

1.5. The National Preventive Action Plan (PAP) for gas has also been developed alongside this revision of the NEP and the regional cooperation mechanisms and agreements relating to managing emergencies across Northern Ireland and the Republic of Ireland are referenced in the PAP.

Scope

2.1 This plan applies to the downstream gas supply network from reception terminals and storage sites to consumer isolation valves, as well as the electricity supply network from generators to consumers' meters in Great Britain.

2.2 Energy Policy for Northern Ireland is devolved to the Northern Ireland Assembly. The Department of Enterprise, Trade and Industry in Northern Ireland (DETINI) maintain their own procedures for responding to gas and electricity emergencies. However, the arrangements for managing gas supply emergencies in Northern Ireland in terms of interactions between DETINI, DECC and the European Commission are covered in this plan.

Purpose of this Document

3.1 The National Emergency Plan – Downstream Gas & Electricity:

- Describes the joint industry/government arrangements in place for the effective management of downstream gas or electricity supply emergencies in the UK.

- Defines the roles and responsibilities of all parties involved in the emergency response;
- Details the arrangements for the safe management of the consequences of emergencies; and
- Describes the arrangements for management of the interactions with connected systems, for example through the EU Gas Coordination Group.

Governance

4.1 DECC as the UK Competent Authority and Lead Government Department (LGD) for gas and electricity emergencies is responsible for the development, review, updating and testing of the arrangements contained in this document. Updated documents will be approved by the appropriate DECC Minister.

4.2 The Energy Emergencies Executive (E3) has been established with representation from DECC, Ofgem and National Grid to consider the risks to the supply of gas and / or electricity to consumers, and identifying ways to manage these risks.

4.3 Detailed emergency planning activities are undertaken by the joint industry and government emergency planning body, the Energy Emergencies Executive Committee (E3C) and associated Task Groups, reporting to E3. This body, and its Task Groups, consists of experts drawn from the gas and electricity industries as well as government, agencies, regulators, Trade Associations and Industry Bodies.

4.4 E3C maintain oversight of the NEP to ensure it incorporates identified best practice in emergency response, learning from emergency exercises, and amendments to the process resulting from changes in the structure of the industry.

4.5 The NEP is subject to annual review.

The Response Structure

1.1. In the event of a major gas or electricity supply emergency, both industry and government have significant roles to play in managing the incident and its consequences.

1.2. The gas and electricity companies are responsible for the practical and operational management of an incident in order to ensure that the situation is contained, managed safely and supply effectively restored. The companies have well established plans and procedures in place to achieve this, which can range from the management of a moderate supply deficit to the management of a major loss of gas supplies impacting on domestic consumers or restoration of electricity supplies from a national shut down.

1.3. Gas and electricity companies manage complex operational situations on a day to day basis. These also cater for the interactions between gas and electricity supply. Although major supply emergencies can occur either very suddenly or as a result of a developing situation, it is highly likely that the companies will have taken initial independent action to mitigate or manage the incident without government intervention.

1.4. The role of the Government is to understand and manage the wider consequences that may arise from a major gas or electricity supply emergency. In energy supply emergencies DECC is the lead government department, responsible for assessing the situation and providing coordinated policy advice and other support as necessary to local responders, providing the interface between industry and central government. The Government may also have a role to play in the use of emergency powers that are available to the Secretary of State.

1.5. The successful management of a supply emergency will require effective communication and cooperation between industry and Government. For example, industry will have the most up to date information on the incident, which Government will require in order to determine the strategic actions it needs to take. Similarly some of the wider consequences of an incident could be mitigated by the choices that industry is able to make, and some of the practical aspects of managing an incident could be assisted by the activities of Government and the European Commission.

Detailed roles and responsibilities

2.1 The following table, figure 1, outlines the general roles and responsibilities of all parties involved in operational response and emergency planning.

Organisation	Role & Responsibilities
DECC	DECC is the Lead Government Department for energy supply emergencies under "Concept of Operations (CONOPs)" – *The UK Central Government Arrangements for Responding to an Emergency*. In the event of an emergency DECC will exercise its responsibilities as set out in CONOPs including assessing the situation and providing coordinated policy advice and other support as necessary to local responders, providing the interface between industry and central government. DECC, as the Competent Authority and lead government department has responsibility for assisting with the management of the consequences of any emergencies and supporting the undertakings in managing any supply disruptions. The DECC response will be run an Emergency Response Team (ERT) led by a senior official – the Incident Controller, who has the responsibility for the categorisation of the crisis level and the management of the crisis level communications with other Competent

	Authorities and the European Commission for gas emergencies. Typical membership of an ERT is shown in Figure 5 below, however this could vary on a case by case basis and could involve other parties e.g. Suppliers as required.
NSC (THRC)	The National Security Council (Threats, Hazards, Resilience and Contingencies) operates from the Cabinet Office Briefing Rooms (COBR) and manages the central government response to emergencies including in the energy sector.
NEC	The Network Emergency Co-ordinator (NEC) is an independent role, whose legal obligation is to co-ordinate actions across the affected parts of the gas network to minimise the possibility of a gas supply emergency developing, and where one does develop, to minimise the safety consequences in accordance with the requirements of the Gas Safety (Management) Regulations 1996 (GS(M)R). A supply emergency could result from a Network Gas Supply Emergency (NGSE) or a Local Gas Supply Emergency (LGSE). The NEC role is independent from the commercial interests of industry participants. The NEC is responsible for declaring an NGSE and authorising the strategy proposed by National Grid Gas Transmission (NGGT) to resolve the emergency.
National Grid	National Grid is the operator of the gas and electricity National Transmission Systems within GB and is responsible for managing the response to any gas and electricity supply emergencies. An emergency affecting NGGT is known as an NGSE. NGGT is responsible for developing the emergency strategy to resolve an NGSE for authorisation by the NEC. Once authorised, NGGT, in conjunction with the other natural gas undertakings and industrial gas consumers, will implement the emergency strategy. NGGT will also provide information to DECC during the emergency. National Grid is also the owner and operator of a number of Gas Distribution Networks (GDNs) within the UK. Similarly the strategy for management of an emergency affecting the National Grid Electricity Transmission (NGET) system is developed by National Grid and implemented in conjunction with DNOs, generators and other industry participants as required.
DNOs	The electricity Distribution Network Operators own and operate the regional electricity networks and manage local electricity supply emergencies affecting their own networks. The DNOs also provide information to DECC during an emergency.
GDNs	The GDNs own and operate the local gas transmission and distribution systems supplied by the NGGT. An emergency affecting a GDN is known as an LGSE. The GDN Operators are responsible for managing local emergencies affecting their own networks and co-operating with the NEC and NGGT in managing an emergency on the NGGT. The GDN Operators also provide information to DECC during an emergency.
Energy Network Association (ENA)	ENA will support in the co-ordination and delivery of a national media strategy in the event of a national gas or electricity disruptive event.
Shippers and Suppliers	Shippers, who feed into the gas system, and suppliers who provide gas and electricity directly to consumers are responsible for communication with their customers in an emergency.
Gas Producers and Storage Operators	Gas producers and storage facility operators are responsible for maximising gas supplies if directed. Whilst it is the responsibility of the Shippers to maximise terminal delivery in an emergency, it is the responsibility of the Storage operator to maximise storage withdrawal if requested.
Generators	Electricity generators are responsible for maximising electricity supply in an emergency, if directed.
Gas Interconnectors	Interconnectors which operate pipelines connecting with continental gas supplies and

& **LNG Operators**	Liquefied Natural Gas (LNG) facility operators which receive cargoes of LNG and feed it into the UK system, are responsible for maximising gas supplies in an emergency, if directed.
Industrial Gas Consumers (including electricity generators)	Industrial gas consumers connected to the NGGT or to a GDN, including electricity generators, are required to co-operate with the NEC during an NGSE. Industrial gas consumers may be required to reduce or cease gas consumption if requested to do so by NGGT or the GDN Operator in the event of an NGSE and/or LGSE.
Ofgem	Ofgem, as the National Regulatory Authority in GB, is responsible for regulating the gas and electricity markets in England, Wales and Scotland. Ofgem is responsible for ensuring market arrangements are established and maintained which minimise the possibility of gas or electricity supply disruptions. In an emergency impacting the operation of the regulated or licenced gas and electricity markets Ofgem would form part of the ERT. Its role includes providing guidance on market operation, industry codes and regulatory arrangements.
HSE	The Health and Safety Executive (HSE) is responsible for safety legislation and may grant exemptions to safety regulations in an emergency, if appropriate.
EA/SEPA/NRW	The Environment Agency (EA), Scottish Environment Protection Agency (SEPA) and Natural Resources Wales (NRW) are responsible for environmental legislation and may grant exemptions to environmental regulations in an emergency, if appropriate.
DCLG Resilience & Emergencies Division	The Department for Communities and Local Government (DCLG) Resilience & Emergencies Division (RED) are responsible for co-ordinating information from multiple Local Resilience Forums (LRFs) and Strategic Co-ordination Groups (SCGs) to generate situational awareness across all areas affected, to identify strategic challenges and co-ordinate central response with SCGs.
Local Resilience Forums (LRFs)	LRFs are multi-agency partnerships made up of representatives from local public services, including the emergency services, local authorities, the NHS, the Environment Agency and others (Category 1 Responders), supported by Category 2 responders, as defined by the Civil Contingencies Act. LRFs are responsible for planning and preparation for localised incidents and catastrophic emergencies. They work to identify potential risks and produce emergency plans to either prevent or mitigate the impact of any incident on their local communities.
Strategic Co-ordination Groups (SCG)	LRFs will establish an SCG (also referred to as 'Gold Co-ordinating Group') to provide strategic leadership throughout the course of an emergency and/or major incident. An SCG is responsible for managing the civil consequences of an emergency within their designated operational area, and for communicating with the central Government response, when activated.

Figure 1 – Organisational Roles & Responsibilities

Operational Response

1.1. This section describes the stages of an operational response, identifying triggers for a potential or actual event occurring, describing the crisis levels against which the event will be judged and classified, and detailing activation and operation procedures. Actual events may dictate that a number of these stages run concurrently and are an iterative process.

Triggers for Activation (potential events)

2.1 An electricity or gas emergency can be caused by a number of events. These can be broadly separated into two different categories:

- A developing, “rising tide”, incident which evolves over a period of several days or even weeks. It does not have an immediate effect but over a relatively short period of time could seriously impact supply. In this case DECC may conduct a watching brief, monitoring the situation, and making preparations, in readiness for any deterioration to an emergency. DECC may also pre-emptively establish an ERT to facilitate these actions.
- A “sudden shock” crisis which happens instantly or develops within a few hours and immediately impacts gas and electricity supply. In this case DECC is likely to activate a central government response to the emergency and establish the ERT in order to respond to the emergency.

2.2 A summary of the major events which can be triggers for a gas or electricity emergency are shown in figure 2. This list is not exhaustive, recognising that other events can occur.

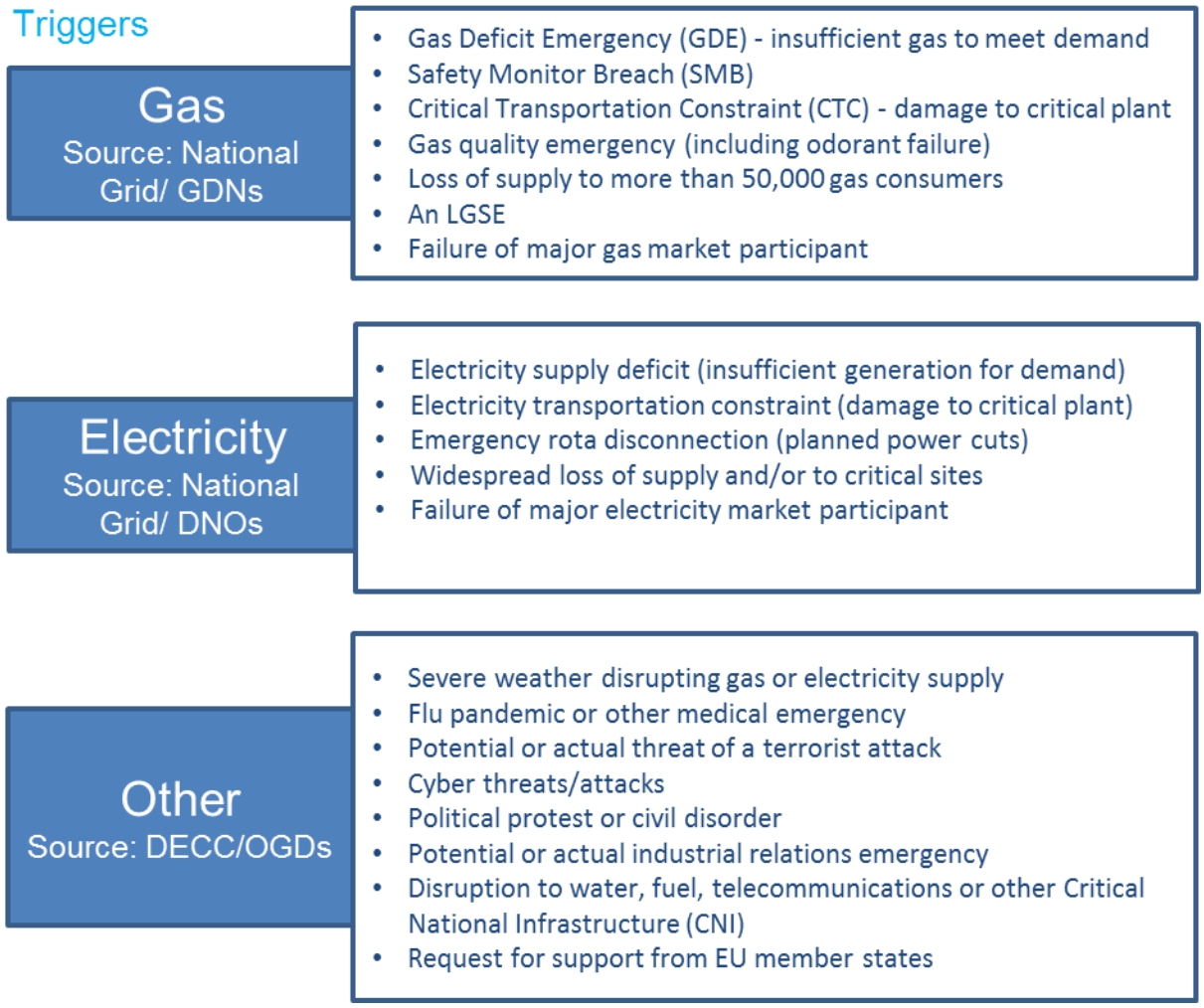

Figure 2

Crisis levels used in response

2.3 Crisis levels are intended to ensure there is a consistent approach to the assessment of an emergency situation and to confirm that an appropriate level of response is implemented locally, nationally, and across the European Union, as required.

2.4 DECC will determine the crisis level following discussions with key industry responders and wider HM Government stakeholders, and evaluating the need to activate a central government response, notifying responders accordingly.

2.5 The Crisis Levels are shown and described in the following table, figure 3.

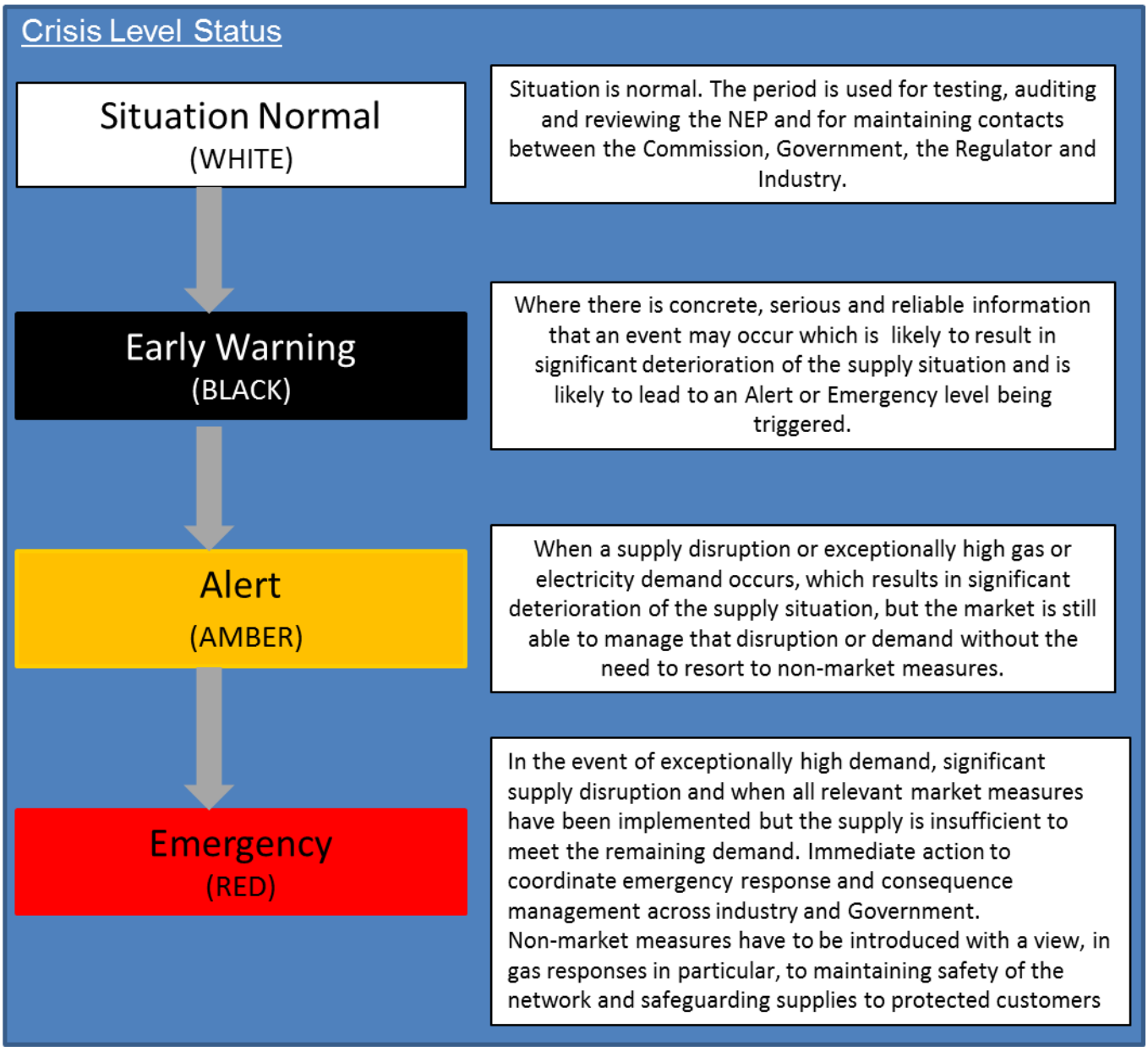

Figure 3 – Crisis Level Status

Notification and Activation Procedures

1.1. The following section describes the likely notification and activation routes, both for during office hours, and out of hours. As an incident may be identified through unexpected routes, all organisations will alert their counterparts as soon as an emerging incident is identified.

Activation of a DECC Led Central Government Response

2.1 The arrangements for activating the plan are summarised in the following diagram:

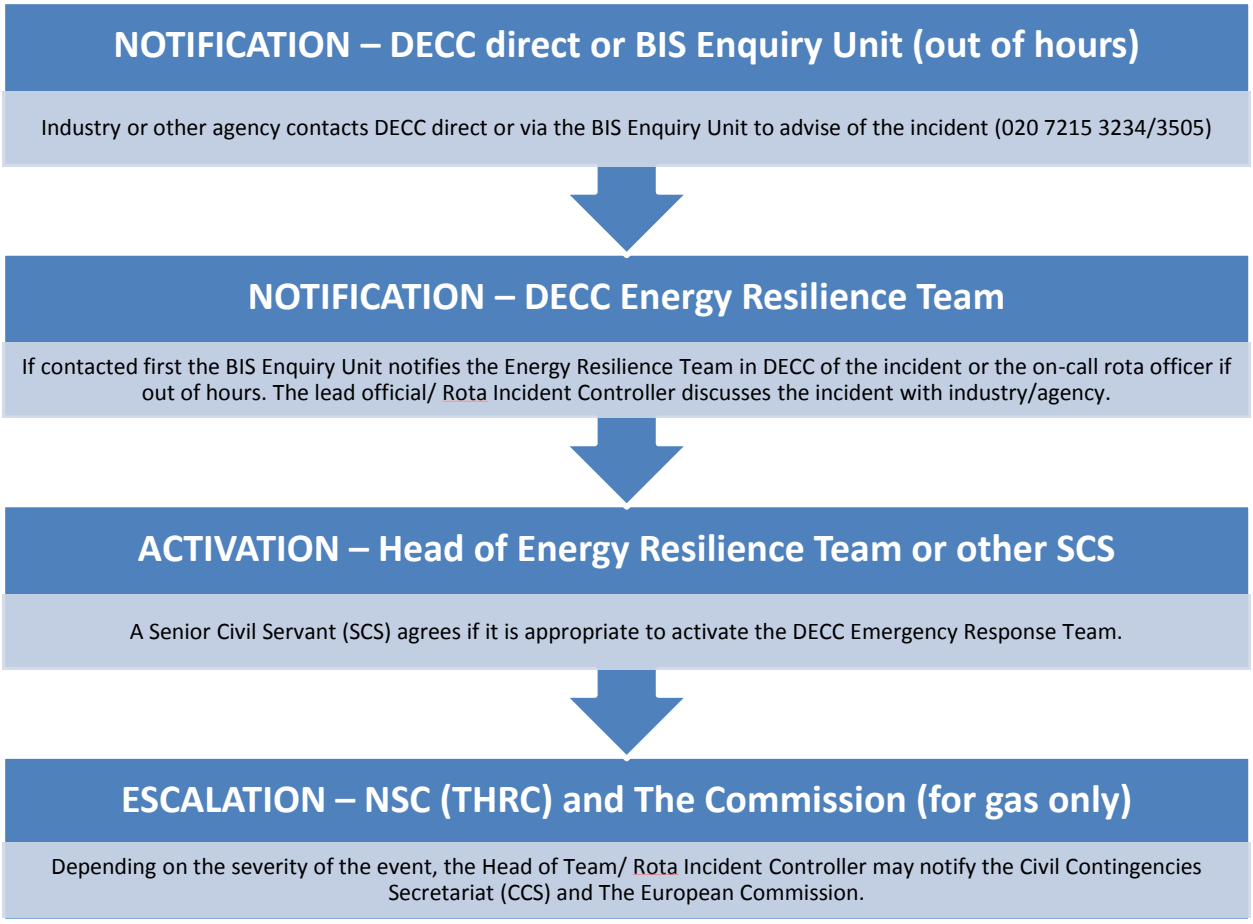

Figure 4

2.2 When industry activate a response to an incident, or identify an emerging incident, the relevant responsible person from industry will contact a member of the DECC Energy Resilience Team, or, the Department for Business, Innovation and Skills (BIS) Enquiry Unit.[1] Out of hours notification is made via the BIS Night Duty Office, who will notify the relevant DECC on-call rota officer. Where DECC identify an actual or potential incident

[1] NOTE: the only contact information included in the plan is for the BIS Enquiry Unit/Night Duty Office. In the event of the unavailability of DECC's Energy Resilience Team during hours, the BIS Enquiry Unit will ensure DECC receive notification. The BIS Night Duty Office holds the DECC out of hours on-call rota and will maintain accurate contact information for all responders.

through other routes, DECC will alert relevant industry stakeholders. All parties are expected to maintain and share emergency contact details where appropriate.

2.3 DECC will make an initial evaluation of the incident, and decide if it is necessary to activate a DECC Emergency Response Team (ERT). If activated, DECC will determine the crisis level, activate emergency response in accordance with DECC procedures, and advise stakeholders accordingly. DECC is responsible for liaison across Government, including with the Civil Contingencies Secretariat, to consider if the event requires a COBR activation. The crisis level is kept under regular review. DECC will, in consultation with industry and government stakeholders, regularly review the crisis level and decide if any changes should be made, notifying all interested parties.

2.4 The functions of the ERT include:

- Strategic Leadership and Coordination
- Industry Liaison
- Information Management
- Operations
- Specialist Support

2.5 The membership of the ERT is determined by the Incident Controller based on the nature of the incident. The timing, method and location of ERT meetings will also be decided by the Incident Controller.

2.6 As part of ensuring an effective co-ordinated response, DECC may ask industry or regulators to embed staff as liaison officers in the DECC ERT, thereby forming a joint response. Full membership of a DECC ERT is shown in Figure 5.

Figure 5

Operation

1.1. Following activation of an emergency response, individual organisations will be responding and operating according to their agreed internal procedures. This section does not provide detailed guidance for individual organisations but sets out the overarching response structure, interactions between organisations, identifying the communication routes and reporting procedures.

National Emergency

2.1 DECC is the Lead Government Department (LGD) for energy supply emergencies as set out in the UK Government arrangements for responding to an emergency ('CONOPS') and outlined in this document.

2.2 The National Security Council (Threats, Hazards, Resilience and Contingencies) is responsible for managing the cross-government response to a national energy emergency and operates the Cabinet Office Briefing Rooms (COBR). NSC (THRC) will only convene if the emergency is of a sufficient level. In the event of an incident in Scotland, the Scottish Government would activate its Scottish Government Resilience Room (SGoRR) and is responsible for the consequence management aspects of the incident.

2.3 The gas and electricity industries are responsible for the operational management of an emergency, for notifying DECC and ensuring that appropriate information is provided to the central government response to inform effective strategic decision making as required.

2.4 Industry will also interface directly with the local SCGs on local issues and for consequence management. This is often through a utilities sub-group though arrangements vary across SCGs. The Resilience & Emergencies Division of DCLG in England, and Devolved Administrations, provide a link to central government for local responders, and may facilitate groups or mechanisms to co-ordinate emergencies that overwhelm individual LRF boundaries or resources.

2.5 The following diagram, figure 6, describes the relationships for a national gas or electricity supply emergency, recognising that a response may include one or both sectors, given the close interactions between the two.

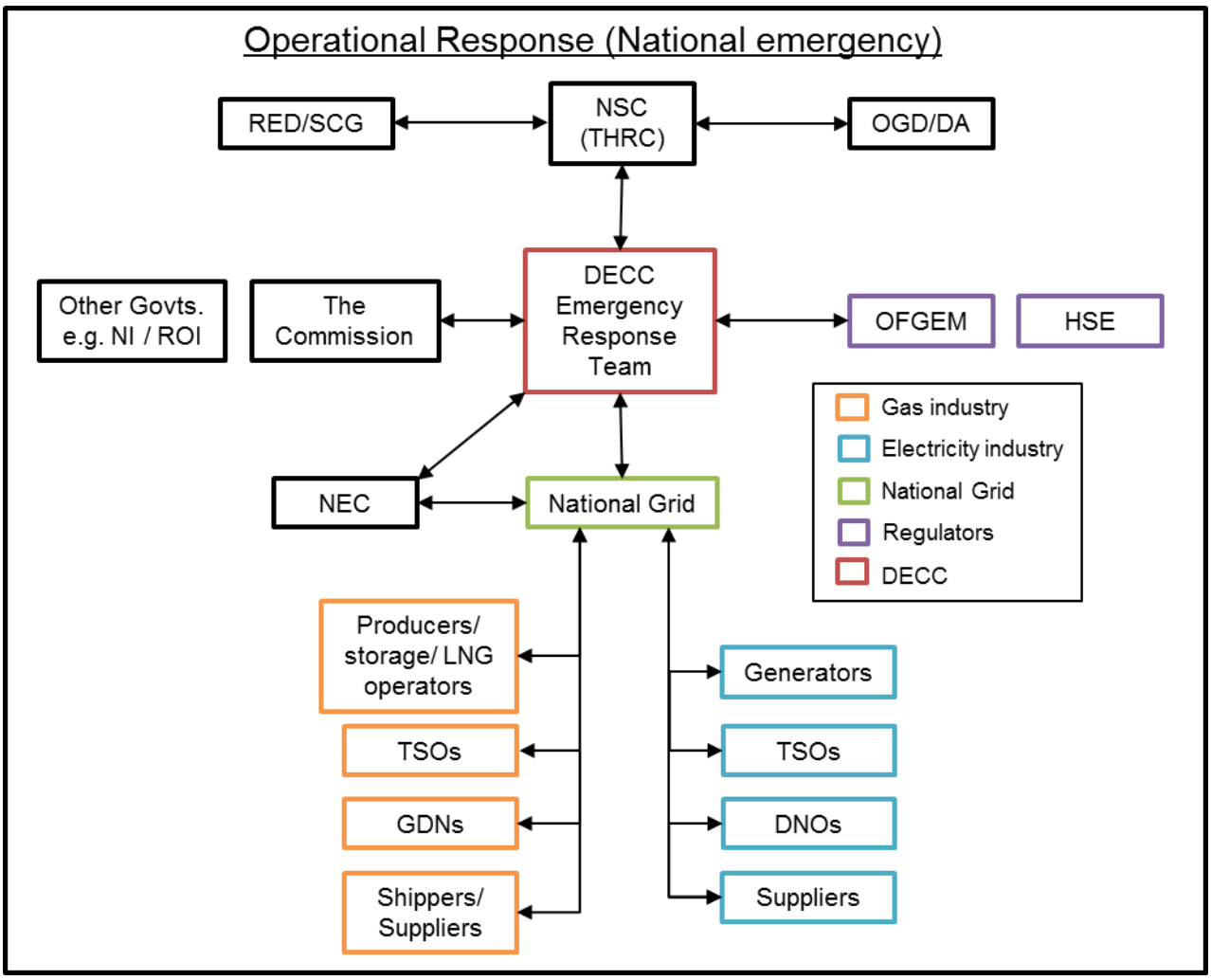

Figure 6 – Operational Response (National Emergency)

Regional / Local Emergencies

3.1 If the incident is not of a sufficient scale for COBR to convene, DECC will continue to take the role of LGD, and arrangements will continue largely as described above, with DECC liaising directly with relevant other Government Departments and with industry. The GDNs and DNOs will interface directly, as per national emergencies, with the local SCGs for consequence management.

3.2 Depending on the nature of the local incident other organisations and agencies may also be engaged in the operational response as required.

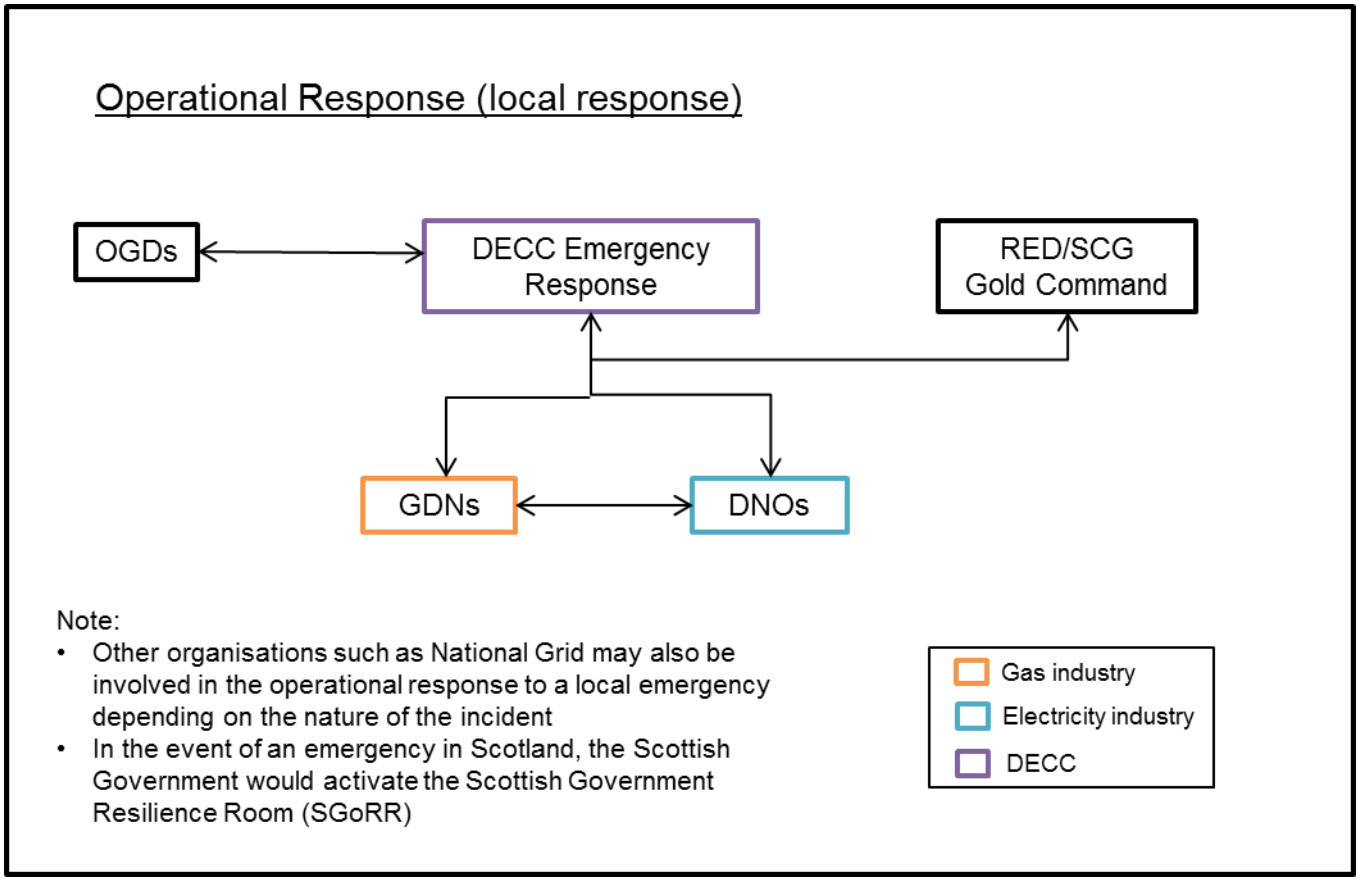

Figure 7

Situational Assessment and Management

4.1 The key tasks in the co-ordinated response are shown in the following figure 8:

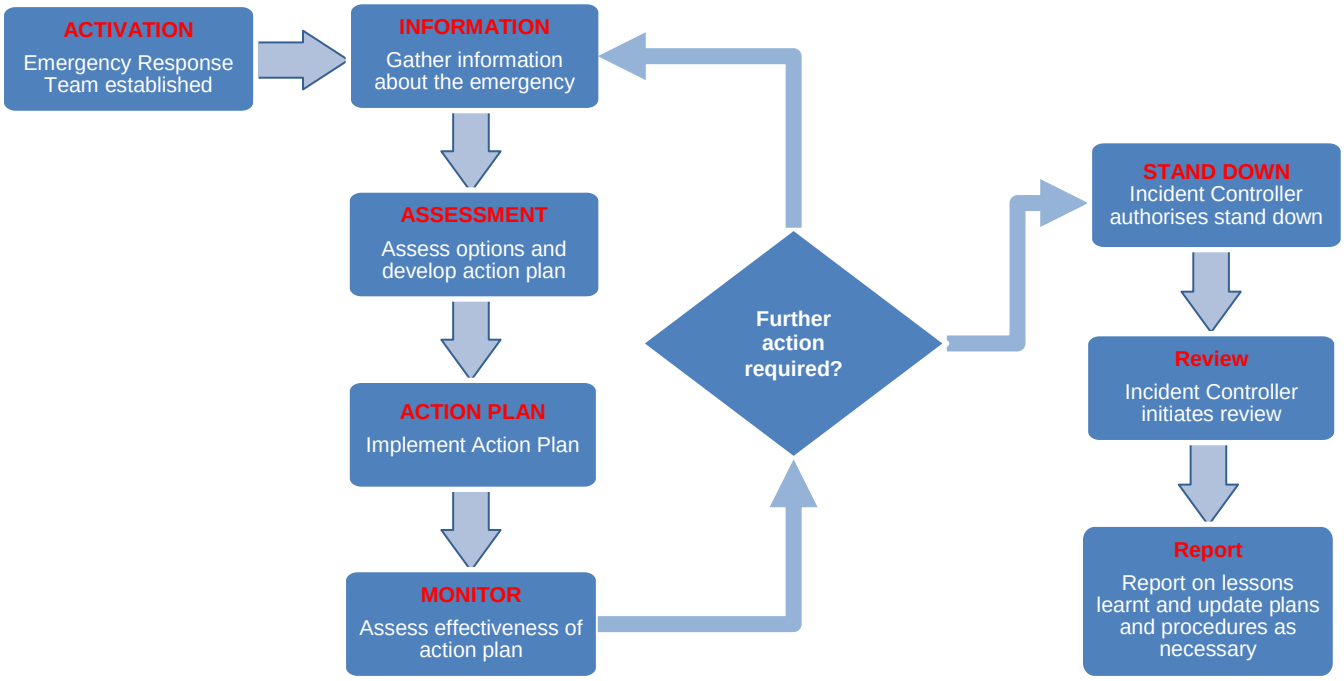

Figure 8

Information Management

5.1 Developing and maintaining situational awareness amongst all responders is a key requirement for the effective management and response to the emergency. Types and sources of information and interested stakeholders are given in the following table, figure 9.

Information	Sources/Stakeholders
Cause of the emergency	Industry
Scale and duration of the emergency	Industry
Timescale for restoration	Industry
Government powers required	Industry/DECC
Actions already taken	Industry/DECC
Customer issues (including priority users)	Industry
Market issues	Ofgem
Gas/electricity supply/demand balance	National Grid
Actions to increase gas/electricity supply	National Grid/Industry
Actions to decrease gas/electricity demand	National Grid/Industry
Societal impacts (health/transport/essential services)	OGDs
Security issues	Security Services
Media interest	Industry/DECC
Media lines-to-take	Industry/DECC

Figure 9

Industry Data Reporting

6.1 To fulfil its LGD responsibilities, DECC will require industry data on a regular basis (see battle rhythm section below). All information will be provided by industry in an appropriate format agreed with DECC. An 'industry data reporting' framework (see Annex V) is in place specifically for disruption scenarios. Any differing requirements will be communicated with industry at the early stage of a response and kept under review throughout. This process will enable the information from all providers to be readily assimilated for onward communication, including to COBR and wider government, and with key stakeholders.

Assessment and action plan

7.1 Assessment of the information will consider the following issues:

- Immediate actions required to protect life and property and to prevent the further escalation of the emergency.
- Longer-term actions required to manage the consequences and assist with recovery.

- Ownership for the actions and any requirement to implement government emergency powers.

7.2 The purpose of the ERT is to develop a strategy and action plan that will result in appropriate and cohesive actions to manage the incident consequences. The action plan is intended to assist with the management of the consequences of the emergency and to support industry in containing and resolving the incident. It is not intended to directly control the technical response of industry to the emergency.

7.3 Specifically, the ERT will:

- Identify gas and electricity supply priorities arising from the incident;
- Identify the consequences of the emergency for Other Government Departments;
- Develop and make recommendations to government on strategic options;
- Request emergency powers to manage the incident, as appropriate; and
- Inform the NEC regarding the wider aspects of a gas supply emergency.

7.4 In developing strategic options to address a gas and/or electricity supply emergency the ERT will take account of:

- Public safety;
- Protection of property and key infrastructure; and
- Maintenance of national economic performance.

Public and Media Communication

8.1 Communication with both the public and media during an emergency response is a critical function and it is vital that external communications are co-ordinated, consistent, clear and timely. To ensure effective co-ordination of messages detailed arrangements have been established between industry partners and with DECC and there are supporting procedures and best practice guides in place, which include the need for early activation and regular communication between responders. These arrangements are subject to regular review by the Communications Task Group of E3C and are maintained separately to this NEP.

Battle rhythm

9.1 Following activation of a response, DECC will set out a battle rhythm and communicate this to all relevant stakeholders. The battle rhythm will set the pace and tempo of the response, taking account of key milestones and events such as meetings and teleconferences and the major actions necessary to support these milestones. The battle rhythm will identify key timings and deadlines for submission of information or implementation of actions. The battle rhythm will be reviewed regularly and updated as appropriate.

Procedures for stand-down / closure and review

10.1 It is the responsibility of DECC, as LGD, to confirm the closure of the emergency response phase of an emergency. DECC will liaise with industry, and Other Government Departments, including the Civil Contingencies Secretariat, in making this decision, and will ensure this is communicated to all stakeholders. Some scenarios may result in longer term actions to support the return to normality (the 'recovery phase'). In such scenarios, DECC will maintain its lead co-ordination role, providing support to industry and updates to central Government as appropriate.

10.2 Following closure of a response, DECC will lead a review of the incident to ensure any lessons are identified, taking account of the views of key stakeholders. The review will consider the following issues and will report to E3C:

- The effectiveness of the emergency response and the NEP.
- The nature of the emergency including cause, course and consequences.
- Quality and effectiveness of internal and external communications.
- Actual outcome against desired/anticipated outcome.
- Action plan to address identified deficiencies in the NEP.

Appendix I: Managing Downstream Gas Emergencies - Gas sector specific arrangements

Introduction

1.1. Specific procedures and requirements for responding to gas sector emergencies are covered in this appendix. This appendix should be read in conjunction with the main body of the plan.

Legislative Framework

2.1 The EU Regulation Security of Gas Supply 994/10[2] (Regulation 994/10) sets out measures to safeguard the security of gas supply, including making provisions for the requirement of this plan. The Regulation also requires that detailed procedures and measures are to be followed for each Crisis Level.

2.2 The Gas Safety (Management) Regulations 1996 (GS(M)R) requires NGGT and the GDN Operators to establish adequate arrangements for dealing with supply emergencies. GS(M)R defines a supply emergency as an emergency endangering persons and arising from a loss of pressure in a network or any part thereof.

2.3 Gas emergencies are subject to the GS(M)R. Whenever there is more than one company acting as a gas transporter these regulations require the appointment of a Network Emergency Co-ordinator (NEC). The NEC must have a safety case accepted by the Health and Safety Executive. The NEC then uses this safety case to discharge their obligation of minimizing the risk of a supply emergency happening, or if that is not possible minimizing the duration.

2.4 The NEC directs all gas industry players in the event of a network gas supply emergency (NGSE), defined as a potential or actual supply emergency on the NGGT. The NEC is legally independent of National Grid and other parties under GS(M)R. In Northern Ireland such arrangements are effectively mirrored with GSMR(NI) and the Northern Ireland Network Emergency Coordinator (NINEC), currently Phoenix Gas. The NINEC and the Primary Transmission System Operator (TSO) - Premier Transmission Limited - play the key roles when co-ordinating the response to an emergency.

Crisis Levels

3.1 There are different classifications of NGSE and the NEC may declare up to four stages of a NGSE. These classification levels sit alongside the crisis levels established under Regulation 994/10, as defined in paragraph 3.4. DECC determines the level and tells stakeholders, including the European Commission. Figure 10 shows the different classifications of NGSE, the corresponding crisis levels, and indicates the possible actions at each stage of the NGSE that may be implemented by NGGT as part of the emergency strategy authorised by the NEC.[3]

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[2] Regulation (EU) No 994/2010 of the European Parliament and of the Council of 20 October 2010 concerning measures to safeguard security of supply and repealing Council Directive 2004/67/EC.

[3] T/PM/E1 – National Gas Supply Emergency Arrangements refers.

Figure 10: Network Gas Supply Emergency Classification

EU Regulation Crisis Levels[4]	NGSE Emergency Stage[5]	Gas Deficit: Insufficient Gas Supplies Available to the NGGT		Critical Transportation Constraint in the NGGT
		Gas Deficit Emergency	GSMR Monitor Breach	
Early Warning	NGSE not declared	-	-	-
Alert	1 (Potential)	- Emergency Spec Gas - NGGT Linepack - Distribution Network Utilisation: Distribution Network Storage & Emergency Interruption - Public Appeals	- Instruct shippers & storage operators to amend storage flows - Public Appeals	- Emergency Spec Gas - NGGT Linepack - Distribution Network - Utilisation: Distribution Network Storage & - Emergency Interruption - Public Appeals
Emergency	2	- National Grid Gas plc's participation in the On The Day Commodity Market (OCM) will be suspended - Maximise supplies - Firm Load Shedding	- National Grid Gas plc's participation in the OCM will be suspended - Maximise Supplies - Firm Load Shedding	- Maximise Storage - Firm Load Shedding
	3	- Allocation & Isolation	- Allocation & Isolation	- Allocation & Isolation
	4	Restoration		

Overview of gas response sector

4.1 The Regulation 994/10 requires that natural gas undertakings and industrial gas consumers are given sufficient opportunity to respond at each crisis level.

4.2 Under the licences to operate, granted to National Grid Gas Transmission and the Gas Distribution Networks Operators by Ofgem, the natural gas undertakings are required to prepare a Uniform Network Code (UNC). The UNC:

- Sets out the commercial relationship between the undertakings and the users of their systems.
- Covers arrangements for the timely exchange of information between the undertakings and system users to permit the safe and efficient operation of the network.
- Sets out arrangements to incentivise system users to deliver sufficient gas to the system to meet their customers' requirements.

[4] DECC declares these stages and notifies the European Commission & industry.

[5] The NEC declares these stages and notifies DECC & industry.

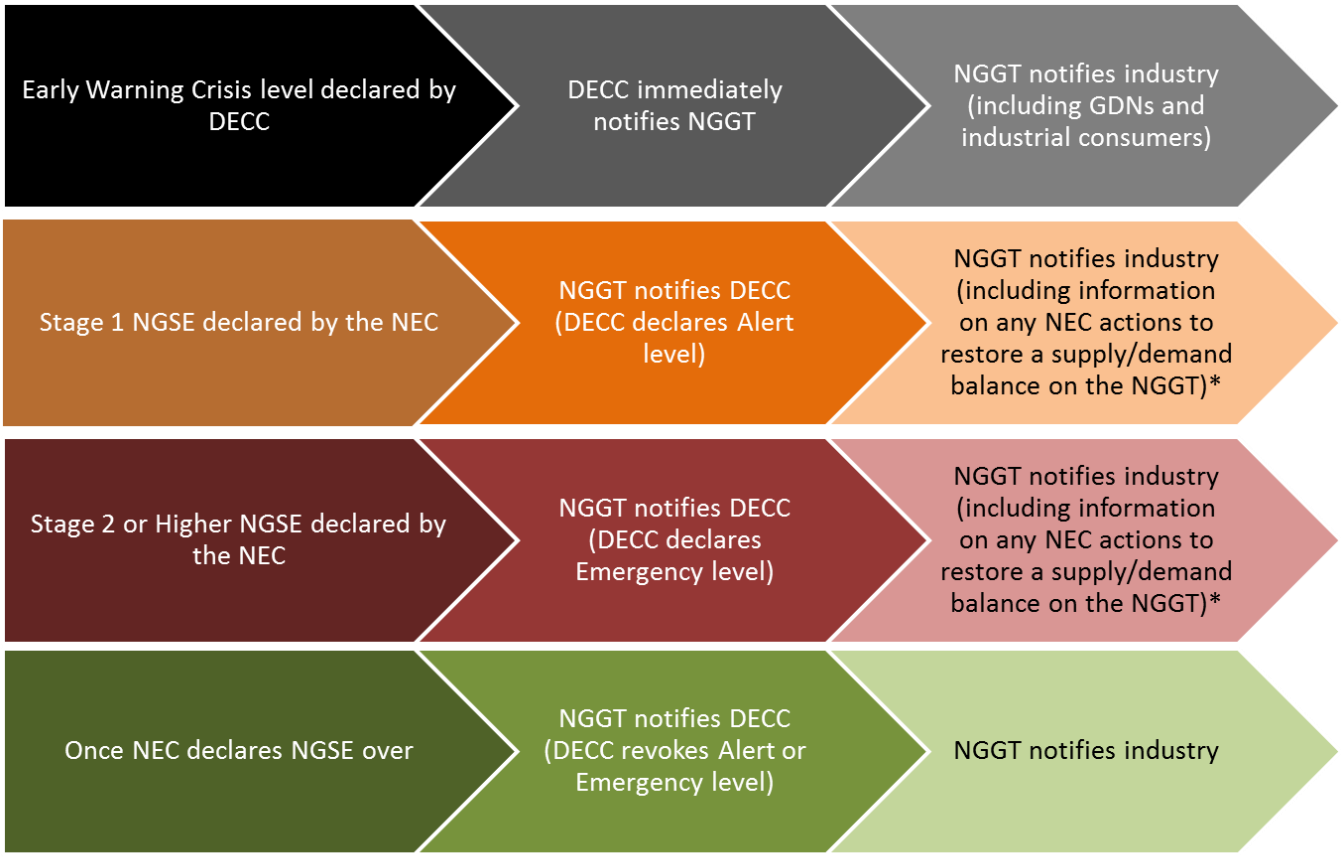
4.3 National Grid Gas Transmission, via its Gas National Control Centre, continuously monitors the physical and commercial operation of the NGGT. The GDN Operators, via their Distribution Network Control Centres, continuously monitor the physical operation of their high pressure gas distribution networks.

4.4 NGGT is responsible for providing information to system users to allow them to deliver sufficient gas to the system to meet their customers' requirements. This includes providing forecast gas demand information for the NGGT for the current and following gas days.

4.5 On an hourly basis throughout the gas day National Grid will publish information to system users on the current supply/demand position on the NGGT. This information is published on a number of systems, including the Gemini commercial system; NGGT and system users make use of to exchange information with each other and the National Grid website.

4.6 NGGT also keeps all industry participants, including natural gas undertakings and industrial gas consumers, updated before and during the gas day of the supply/demand balance on the NGGT. Detailed information on the current supply/demand balance on the NGGT is made available via the National Grid website. Examples of the information provided on the National Grid website include forecast and actual instantaneous physical flows being delivered to the NGGT from the beach terminals, LNG importation terminals and interconnectors.

Activation of a response



*The actions authorised by NEC will be dependent on the cause and severity of the emergency.

Figure 11

Safety Cases and procedures

5.1 EU Regulation 994/10 requires that detailed procedures and measures are to be followed for each Crisis Level.

5.2 Domestically, the Gas Safety (Management) Regulations 1996 (GS(M)R) requires NGGT and the GDN Operators to establish adequate arrangements for dealing with supply emergencies. GS(M)R defines a supply emergency as an emergency endangering persons and arising from a loss of pressure in a network or any part thereof. A Network Gas Supply Emergency has been categorised by the NEC as a potential or actual supply emergency on the NGGT.

5.3 GS(M)R requires the NEC to prepare a safety case. The NEC's safety case describes the arrangements established by the NEC for co-ordinating the actions of relevant industry participants, including the GDN Operators, to prevent a supply emergency occurring or to minimise the safety consequences where one develops.

5.4 NGGT and the GDN Operators are also required under GS(M)R to prepare safety cases for their own networks. These safety cases describe the arrangements established by NGGT or the GDN Operators to manage an NGSE or LGSE and should be consistent with the arrangements within the NEC safety case.

5.5 The NEC arranges for the preparation of the Procedure for Network Gas Supply Emergency. The purpose of this procedure is to provide a measured, appropriate and co-ordinated response to an NGSE in accordance with the requirements of the NEC safety case. The procedure describes the causes and classifications of an NGSE, the arrangements NGGT has in place for managing the NGSE, the possible stages of an NGSE and the actions that could form part of the strategy for resolving the emergency. The procedure is made available to all industry participants via publication on the National Grid website.[6]

5.6 There are different classifications of NGSE and the NEC may declare up to four stages of a NGSE. Figure 9 above shows the different classifications of NGSE and indicates the possible actions at each stage of the NGSE that may be implemented as part of the emergency strategy, subject to authorisation by the NEC, to resolve the emergency.

5.7 NGGT and the GDN Operators have also prepared detailed procedures describing the arrangements they have in place for managing an NGSE. Other industry participants are expected to establish and maintain procedures for responding to gas supply emergencies in accordance with their statutory or regulatory obligations and these procedures should align with the Procedure for Network Gas Supply Emergency and in turn the NEC Safety Case.

5.8 In addition, the GDN Operators have prepared Procedures for Managing a Local Gas Supply Emergency. The purpose of this procedure is to provide a measured, appropriate and co-ordinated response to a LGSE in accordance with the requirements of the GDN Operator's safety case.

5.9 The emergency procedures are reviewed on a regular basis and are subject to periodic testing to ensure they remain suitable for use during an NGSE and/or LGSE and support NGGT and the GDN Operators in meeting their statutory safety obligations including GS(M)R.

5.10 The NEC will run annual cross-industry/HMG exercise to test the emergency arrangements in place to manage an NGSE as part of its safety case obligations. The NEC will prepare a report providing the results of these exercises and identifying recommendations to improve the emergency arrangements which will be made available to all industry participants by the HSE.

[6] http://www.nationalgrid.com/nec

5.11 Figure 12 indicates the extent to which natural gas undertakings and industrial gas consumers **may** be affected at each of the crisis levels for any potential or actual gas supply disruptions.

5.12 Regulation 994/10 requires that natural gas undertakings and industrial gas consumers are given sufficient opportunity to respond at each crisis level. Figure 13 indicates the likely interactions between the natural gas undertakings and industrial gas consumers and the Competent Authority and Ofgem at each of the crisis levels for any potential or actual gas supply disruptions (though these may differ, depending on the specific situation).

Undertaking	Extent to which affected		
	Early Warning Level	**Alert**	**Emergency**
National Grid Gas Transmission	• Normal physical and commercial operation of NGGT continues. • Increased monitoring of supply/demand situation. • Increased provision of information regarding supply/demand situation on NGGT to industry participants.	• Stage 1 of an NGSE declared by the NEC. • Strategy developed and, following authorisation by the NEC, implemented to achieve an acceptable balance between supply and demand on NGGT. • Notify industry participants of actions being implemented as part of authorised emergency response strategy. • Continue to participate in energy market as residual system balancer.	• Stage 2 (or higher) of an NGSE declared by the NEC. • Strategy developed and, following authorisation by the NEC, implemented to achieve an acceptable balance between supply and demand on NGGT. • Notify industry participants of actions being implemented as part of authorised emergency response strategy. • Suspend participation in energy market as residual system balancer as required.
Gas Distribution Network Operators	• Normal physical and commercial operation of GDN continues.	• Co-operate with NGGT and the NEC in managing NGSE. • May be requested to maximise utilisation of available storage within network and reduce inputs into network from NGGT.	• Co-operate with NGGT and the NEC in managing NGSE. • May be requested to implement demand reduction measures including firm load shedding. • May need to declare and manage a LGSE within network.
Industrial Gas Consumers connected to NGGT or a Gas Distribution Network (including electricity producers)	• Normal physical and commercial operations continue.	• Co-operate with NGGT and NEC in managing NGSE. • May reduce gas consumption requirements in response to energy market signals.	• Co-operate with NGGT and NEC in managing NGSE. • Co-operate with GDN Operator in managing NGSE and LGSE. • Gas consumption may be reduced or suspended. • Operations may be subject to directions from Competent Authority making use of emergency powers.

Figure 12: Effect on Gas Undertakings (Note: DECC informs The European Commission of the Crisis Level in line with Regulation 994/10)

Undertaking: National Grid Gas Transmission					
Interaction with DECC			Interaction with Ofgem		
Early Warning	Alert	Emergency	Early Warning	Alert	Emergency
Notification of declaration from DECC.			May occur.	Expected to occur.	Expected to occur.
Exchange of information regarding supply/demand situation on NGGT.	Provision of information to DECC regarding supply/demand situation on NGGT.		Exchange of information regarding impact of crisis level on operation of energy market.		
	Provision of information to DECC regarding implications of emergency response strategy on NGGT operations.			Notification of any temporary impairment of NGGT's ability to meet regulatory obligations during NGSE.	
					Notification of suspension of NGGT's participation in energy market as residual system balancer.

Undertaking: Gas Distribution Network Operators					
Interaction with DECC			Interaction with Ofgem		
Early Warning	Alert	Emergency	Early Warning	Alert	Emergency
Not expected to occur.	May occur.		Not expected to occur.		May occur.
	Provision of information to DECC regarding implications of emergency response strategy on GDN operations.				Notification of any temporary impairment of GDN Operator's ability to meet regulatory obligations during NGSE and/or LGSE.

Undertaking: Industrial Gas Consumers connected to NGGT or a Gas Distribution Network (including electricity producers)					
Interaction with DECC			Interaction with Ofgem		
Early Warning	Alert	Emergency	Early Warning	Alert	Emergency
Not expected to occur.	May occur.		Not expected to occur.		
	DECC may issue directions to electricity producers connected to NGGT or a GDN under emergency powers.				

Figure 13 (Note: DECC informs The Commission of the Crisis Level in line with the Regulation)

Appendix II: Managing Electricity Emergencies – Electricity sector specific arrangements

Introduction

1.1. Specific procedures and requirements for responding to electricity sector emergencies are covered in this Appendix. This Appendix must be read in conjunction with the main body of the plan.

Legislative Framework

2.1 Whilst both public and employee safety is a fundamental requirement of the electricity networks, unlike the gas networks, there is no equivalent legislation which requires the production of Safety Cases and supporting approaches. Detailed emergency interface procedures and protocols are however set out in the Grid Code and Distribution Code (see Appendix III for references).

2.2 The Grid Code covers the requirements in respect of the national electricity transmission system and the Distribution Code distribution networks. These codes are owned and maintained by Industry with changes approved by Ofgem.

2.3 The Codes cover a range of potential emergency scenarios, for example load shedding, whether by voltage reduction or disconnection, and Black Start, the procedure for re-energising the electricity network following a complete shutdown, specifying inter alia, technical details, notification protocols and implementation requirements. The commercial treatment and associated market details are set out in the Balancing and Settlement Code, administrated by Elexon, which contains the governance arrangements for electricity balancing and settlement in Great Britain.

2.4 Emergency powers are available to Government via the Electricity Act, the Energy Act, the Electricity Supply Emergency Code (ESEC) and Fuel Security Code (FSC). ESEC outlines the process for ensuring fair rationing of electricity during an electricity supply emergency, using a process known as 'rota load disconnections'. The Fuel Security Code (FSC) provides a mechanism by which Government can instruct power stations as to the level of fuel and other materials which it must keep in stock and also to direct the manner in which they are used.

Operation during a response

3.1 The majority of incidents do not require enactment of this NEP however when a response to a significant electricity emergency (for example a significant generation deficit requiring demand management, large scale loss of supply or Black Start), is activated the procedures and structures outlined in the main body of this plan will be followed.

3.2 In the event of the need to obtain emergency powers, these would be requested, as necessary, following a decision by the Emergency Response Team. Use of Emergency Powers is generally considered a matter of last resort and therefore strict protocols must be met in order to enact them. For example, in the event that Rota Load Disconnection via the ESEC becomes necessary, an Order in Council signed by the Queen, or nominated deputy, is required to enact these Energy Act powers.

Appendix III: Supporting Procedures & Emergency Powers

1.1. Brief details and references are given for the following statutory provisions, regulations, provisions and procedures relevant to:

Gas supply emergencies

- The EU Regulation: measures to safeguard security of gas supply 994/10
- Energy Act 1976
- The Civil Contingencies Act 2004
- Gas Safety (Installation and Use) Regulations 1998
- Gas Safety (Management) Regulations 1996
- Network Emergency Coordinator Safety Case
- T/PM/E1 – National Gas Supply Emergency Arrangements
- T/PM/E2 – Local Gas Supply Emergency Arrangements
- Uniform Network Code
- Upstream Crisis Management Plan
- National Emergency Plan – Fuel v.3
- Gas Coordination Group

Electricity supply emergencies

- Energy Act 1976
- Electricity Act 1989
- The Civil Contingencies Act 2004
- Fuel Security Code
- Electricity Supply Emergency Code
- Grid Code
- Distribution Code
- National Emergency Plan – Fuel v.3

Note: Any reference to a statutory provision or a regulation does not replace the actual text as written in such provision or regulation. All users should refer to the exact text when relevant and obtain professional opinion in the interpretation of such provision or regulation.

Other Documents of use in a Gas supply emergencies and / or Electricity supply emergencies

NAME: The EU Regulation: measures to safeguard security of gas supply 994/10
DESCRIPTION: EU Security of Gas supply regulation, formally known as Regulation 994/2010 of the European Parliament and of the Council of 20 October 2010 concerning measures to safeguard security of gas supply and repealing Council Directive 2004/67/EC. The regulation sets various requirements on member states to improve European security of gas supply. These include amongst other things the preparation and publication of an Emergency Plan.
LOCATION: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:295:0001:0022:EN:PDF
NAME: Energy Act 1976
DESCRIPTION: This power enables the Secretary of State to control the production, distribution and use of energy in the UK. If there is a domestic incident which is likely to result in "an actual or threatened emergency affecting fuel supplies" in the UK, then an Order in Council under Section 3 of the Energy Act 1976 may be made giving the Secretary of State exceptional powers for "controlling the sources and availability of energy." An Order in Council allows the Secretary of State for DECC to issue a Direction under the Energy Act 1976 which has the effect of restricting, prohibiting or maximising the production and supply of energy.
LOCATION: http://www.legislation.gov.uk/ukpga/1976/76
NAME: The Civil Contingencies Act 2004
DESCRIPTION: The Civil Contingencies Act is part of the Government's effort to increase the UK's resilience to a wide range of disruptive challenges, including energy supply emergencies. The Act brings into being a National and Regional Resilience Structure for both planning and responding to these threats. The Act gives Government the power to control and direct a wide range of resources and activities. The Civil Contingencies Act powers would only be used after all other emergency powers, such as those available under the Energy Act 1976, had been exhausted.
LOCATION: http://www.legislation.gov.uk/ukpga/2004/36/contents

NAME: Gas Safety (Installation and Use) Regulations 1998

DESCRIPTION:

These regulations relate to the safe installation and operation of gas equipment downstream of the emergency control valve (maincock), including domestic and non-domestic pipework and appliances.

The regulations make a requirement for a Gas Safe registered and competent person to undertake work on most equipment.

LOCATION: http://www.legislation.gov.uk/uksi/1998/2451/contents/made

NAME: Gas Safety (Management) Regulations 1996

DESCRIPTION:

The Gas Safety (Management) Regulations apply to any connected network of pipes used for the conveyance of gas from a gas processing facility, a storage facility or an interconnector, except a connected network of pipes used exclusively for conveying gas to non-domestic premises. The regulations require the appointment of a Network Emergency Coordinator (NEC) to manage a gas supply emergency.

The NEC is required to produce a Safety Case describing the arrangements for managing a gas supply emergency to be accepted by the HSE. The Safety Case describes the arrangements for reducing demand and increasing supply, including the relaxation of gas quality requirements. The Regulations require that relevant persons shall co-operate so far as is necessary with a person conveying gas in a network and with the NEC to enable them to comply with the provisions of the regulations.

LOCATION: http://www.legislation.gov.uk/uksi/1996/551/regulation/7/made

NAME: Network Emergency Coordinator Safety Case

DESCRIPTION:

The NEC Safety Case describes four stages of a gas supply emergency;

- Stage 1 - Potential Emergency
- Stage 2 – Actual Emergency, Firm Load Shedding
- Stage 3 – Allocation & Isolation
- Stage 4 - Restoration

It also describes the arrangements for the provision of information, control of the primary systems (NGGT) and communications with industry.

LOCATION: www.nationalgrid.com/nec

NAME: T/PM/E1 – National Gas Supply Emergency Arrangements

DESCRIPTION:

T/PM/E/1 is the procedure used to manage a Network Gas Supply Emergency (NGSE) in accordance with the directions of the NEC.

The procedure is owned, maintained and implemented by National Grid as the operator of the primary transportation system, the NGGT.

LOCATION: http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=5187

NAME: T/PM/E2 – Local Gas Supply Emergency Arrangements

DESCRIPTION:

T/PM/E/2 is the procedure used for to manage a Local Gas Supply Emergency (LGSE) and it details the arrangements used during an emergency affecting secondary systems (Gas Distribution Networks) or supplementary systems.

The arrangements for managing a LGSE include:

- Supply Management

- Demand Management

- Isolation of Parts of the Network

- Restoration

There are four different types of LGSE: Minor, Large, Major, and Severe (loss of supply to greater than 50000 consumers)

LOCATION: Not publically available

NAME: Uniform Network Code

DESCRIPTION:

The Uniform Network Code (UNC) describes the arrangements for the operation of the commercial regime for the gas industry of Great Britain.

Emergency arrangements are described in Section Q of the UNC. National Grid participation in the On The Day Commodity Market (OCM) as a residual balance is suspended at Stage 2 of a Gas Deficit Emergency or a GS(M)R Monitor Breach Emergency. The UNC also includes the arrangements for the emergency cashout process.

LOCATION: http://www.gasgovernance.co.uk/UNC

NAME: Upstream Crisis Management Plan

DESCRIPTION:

The Crisis Management Briefing Pack (CMBP) describes the arrangements for the Upstream Oil & Gas Industry for the management of a potential or actual gas supply emergency.

It has two key stages:

- Initial evaluation

- Implementation of the DECC Upstream Crisis Management Plan.

The CMBP provides a description of the roles and responsibilities of upstream DECC, National Grid and upstream industry, and the processes used as part of the crisis management organisation at each stage of the alert warning system. The legislative powers under which emergencies will be managed are also set out.

LOCATION:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/256238/Upstream_Crisis_Management_Briefing_Pack_November_2013.docx

NAME: Gas Coordination Group

DESCRIPTION:

The EU Regulation security of gas supply 994/10 requires the development of a Preventative Action Plan and this Emergency Plan after obtaining results of a Risk Assessment. The Regulation has also formally established the Gas Coordination Group which may facilitate coordination of security of supply measures in the event of a major supply disruption. This group can also assist Member States in coordinating measures taken at national level.

The Group is composed of representatives of Member States, Agency for the Co-operation of Energy Regulators (ACER), European Network of Transmission System Operators for Gas (ENTSOG), other representative bodies in the industry and relevant consumers, under the chairmanship of the Commission.

The requirement to request the activation of the Gas Coordination Group would be identified by the ERT and actioned by the Incident Controller – A DECC senior Official.

LOCATION: http://www.europarl.europa.eu/

NAME: Electricity Act 1989

DESCRIPTION:

Under Section 34 and Section 35 of the Electricity Act 1989, the Secretary of State has the power to issue Directions to operators of certain power stations and to electricity transmission companies as follows:

a. Power to direct operators of certain Power Stations.

b. Power to direct Transmission Licensees.

LOCATION: http://www.legislation.gov.uk/ukpga/1989/29/contents

NAME: National Emergency Plan – Fuel

DESCRIPTION:

The National Emergency Plan – Fuel describes the arrangements for the management of a fuel supply emergency in Great Britain. It details the role of government and industry as well as the schemes that would be implemented following direction by the Secretary of State to manage demand and maintain supplies to essential services.

Specifically;

- Maximum Purchase Scheme
- Emergency Service Scheme
- Utilities Fuel Scheme
- Bulk Distribution Scheme
- Commercial Scheme

LOCATION: Not publically available

NAME: Fuel Security Code

DESCRIPTION:

The principal objective of this Code is to provide an administrative structure designed to enable compliance with directions issued under Section 34 or 35 of The Electricity Act 1989 by the Secretary of State.

The FSC enables the Secretary of State to direct operators of power stations (not less than 10MW generated capacity) as to the level of fuel and other materials which it must keep in stock and to direct the manner in which the power station operator uses such stocks; and operates its power stations. It also describes the arrangements for the recovery of exceptional costs.

LOCATION:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/79194/FuelSecurityCode.pdf

NAME: Electricity Supply Emergency Code

DESCRIPTION:

The purpose of the Electricity Supply Emergency Code (ESEC) is to describe the steps which the Government could direct industry to take to deal with an electricity supply emergency.

Specifically, ESEC describes the arrangements for the implementation of rota disconnection and for the protection of priority consumers.

LOCATION:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/79195/RevElectSupply.pdf

NAME: Grid Code

DESCRIPTION:

The Grid Code is designed to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity, to facilitate competition in the generation and supply of electricity and to promote the security and efficiency of the power system as a whole. National Grid and users of its transmission system are required to comply with the Grid Code. Changes to the Grid Code are subject to approval by Ofgem.

National Grid is the National Electricity Transmission System Operator and is required by its transmission licence to maintain the Grid Code.

LOCATION: http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=35172

NAME: Distribution Code

DESCRIPTION:

The Distribution Code covers the technical aspects relating to the connection and use of the distribution licensee's distribution network.

The Distribution Code specifies day-to-day procedures that govern the relationship between the distribution licensee and users of its distribution system for planning and operational purposes in normal and emergency circumstances.

The Distribution Code is also designed to ensure that the distribution licensee can meet its Grid Code compliance obligations.

LOCATION: http://www.dcode.org.uk/assets/files/dcode-pdfs/Distribution%20Code%20v24.pdf

NAME: Electricity Safety, Quality and Continuity Regulations (ESQCR)

DESCRIPTION:

The ESQCR specifies the statutory limits of electricity supply voltage and frequency and applies to any generator, distributor, supplier or meter operator, as well as any agent or subcontractor working on their behalf. It covers general adequacy of electrical equipment, a duty of co-operation within the sector and inspection of networks.

The regulations specify safety, quality and continuity aspects of the above including: earthing, substations, underground cables and overhead lines, generation, and supply to other networks.

An amendment in 2006 was made to improve resilience to tree disruptions and include equipment in offshore waters.

Safety aspects are enforced by HSE. Quality and Continuity aspects are enforced by DECC.

LOCATION: http://www.legislation.gov.uk/all?title=electricity%20safety%20quality

Appendix IV: Framework for Emergency Planning

1.1. The framework for emergency planning established between DECC, Ofgem and the downstream gas and electricity industry is shown in the following diagram figure 14.

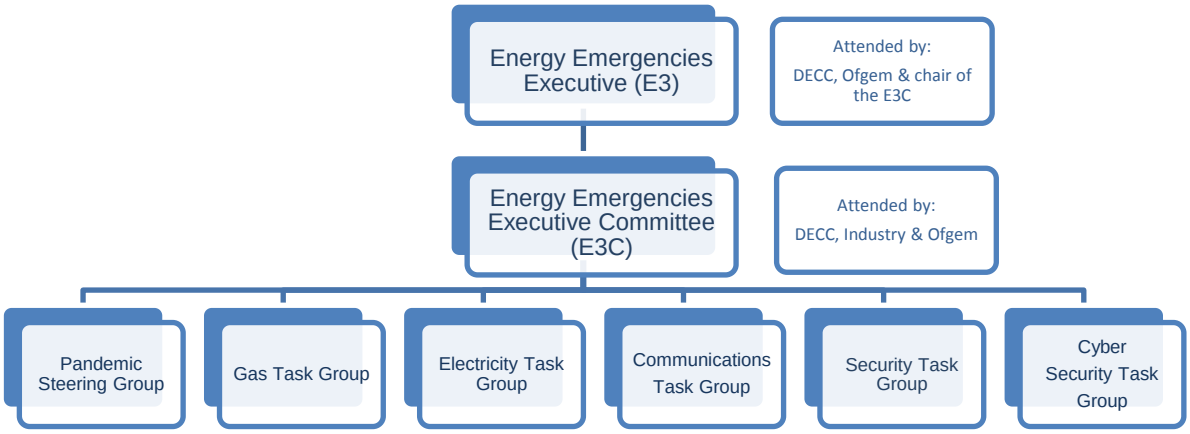


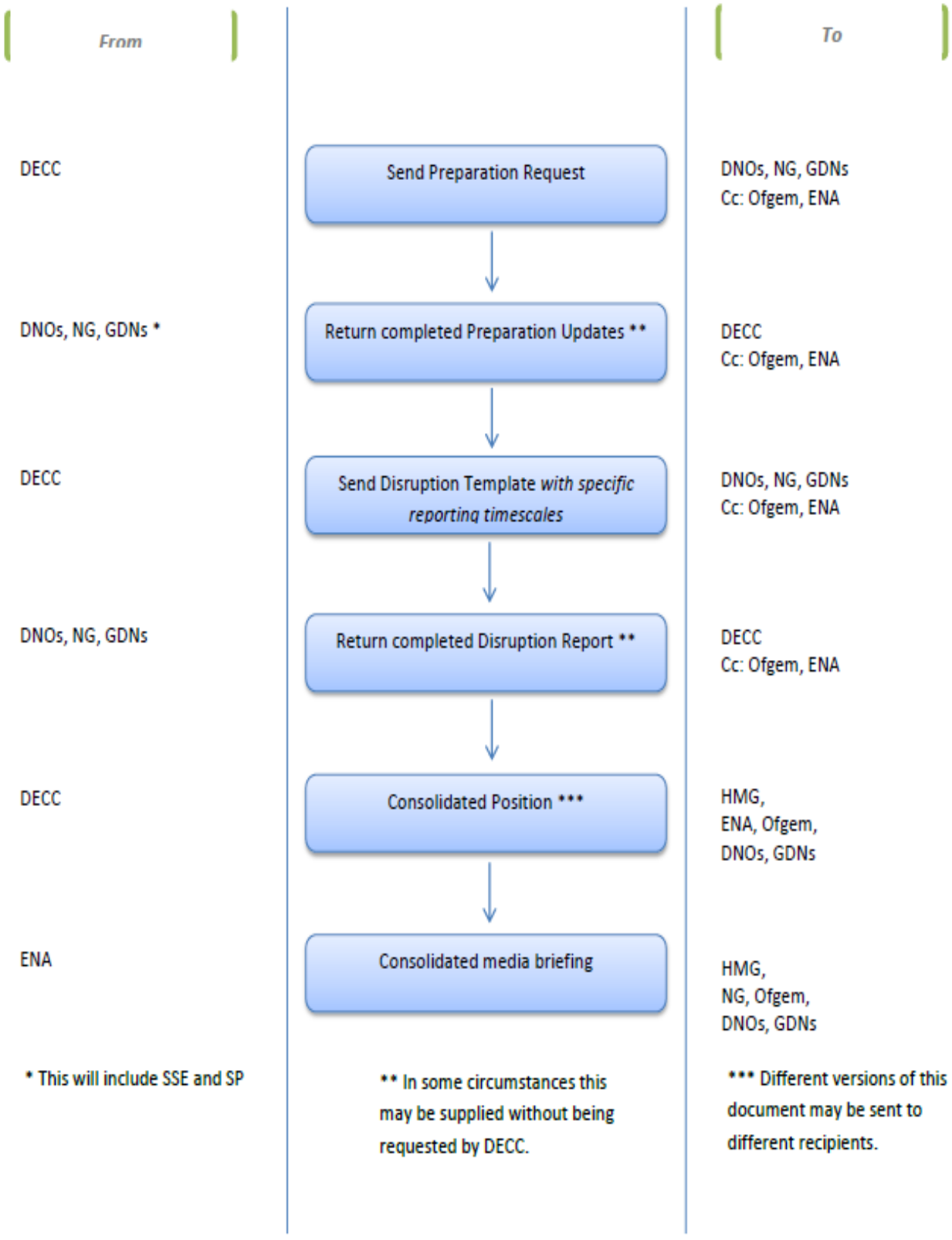
Figure 14 – E3 structures

1.2. E3C is responsible for the development and implementation of electricity and downstream gas emergency arrangements and approves the NEP.

1.3. E3C is responsible for running an exercise programme for the NEP to test the effectiveness of the plan and operational arrangements. Where appropriate this exercise will be carried out in conjunction with other exercises being carried out by industry, government and/or the NEC. A major exercise on the NEP will be carried out periodically including from time to time a test of electricity interactions. Desktop exercises may also be undertaken to ensure that the plan is subject to annual test.

1.4. The scope of major exercises will be agreed with E3 and an Exercise Director appointed. The Exercise Director will provide a full report to E3 and DECC, including an action plan detailing improvements to existing arrangements and timescales for delivery.

Appendix V: DECC Incident Reporting Framework



Glossary

ACER	Agency for the Co-operation of Energy Regulators
BIS	Department for Business Innovation & Skills
CMBP	Crisis Management Briefing Pack
CNI	Critical National Infrastructure
COBR	Cabinet Office Briefing Rooms
CONOPS	Concept of Operations
CTC	Critical Transportation Constraint
DCLG RED	Dept. for Communities & Local Government Resilience & Emergencies Division
DECC	Department of Energy & Climate Change
DETI NI	Department of Enterprise, Trade and Investment in Northern Ireland
DNO	Distribution Network Operator
E3	Energy Emergencies Executive
E3C	Energy Emergencies Executive Committee
ERT	Emergency Response Team
ENA	Energy Networks Association
ENTSOG	European Network of Transmission System Operators for Gas
ESEC	Electricity Supply Emergency Code
ESQCR	Electricity Safety, Quality & Continuity Regulations
FSC	Fuel Security Code
GDE	Gas Deficit Emergency
GDN	Gas Distribution Network
GSMR(NI)	Gas Safety (Management) Regulations (Northern Ireland) 1997
GS(M)R	Gas Safety (Management) Regulations 1996
HMG	Her Majesty's Government
HSE	Health & Safety Executive
LGD	Lead Government Department
LGSE	Local Gas Supply Emergency
LNG	Liquefied Natural Gas
LRF	Local Resilience Forum
NEC	Network Emergency Coordinator
NEP	National Emergency Plan: Downstream Gas & Electricity
NGGT/NGET	National Grid Gas Transmission/ National Grid Electricity Transmission
NGSE	National Gas Supply Emergency
NINEC	Northern Ireland Network Emergency Coordinator
NSC (THRC)	National Security Council (Threats, Hazards, Resilience & Contingencies)
OCM	On-the-day Capacity Margin
OFGEM	Office of Gas & Electricity Markets
OGD	Other Government Department

PAP	Preventive Action Plan for gas
SCG	Strategic Co-ordination Group
SGoRR	Scottish Government Resilience Room
SMB	Safety Monitor Breach
TSO	Transmission System Operator
UNC	Uniform Network Code

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