HM Government

The Scottish Government
Riaghaltas na h-Alba

Nuclear Emergency Planning and Response Guidance

Part 2 - Response

October 2015

URN 15D/464

Any enquiries regarding this publication should be sent to us at correspondence@decc.gsi.gov.uk

Contents

1. Introduction

Overview

1.1. Part 2 of this guidance focuses on the key principles, operational doctrine and practical considerations relevant to the response phase of a radiation emergency that would impact on the UK. While this guidance outlines the key activity to be undertaken during a response, it is purposely not prescriptive in the manner in which such activity should be undertaken; this will be influenced by local arrangements. In keeping with the UK's approach to planning for and responding to wider civil contingency scenarios arrangements for a radiation emergency should be flexible and adaptable to enable an effective joint response to and recovery from any emergency.

What is Response

1.2. Response encompasses the decisions and actions taken to deal with the immediate effects of an emergency. It is the decisions and actions taken in accordance with strategic, tactical and operational objectives defined by the emergency responders. At a high level these objectives will be to protect life, contain and mitigate the impacts of the emergency and to create the conditions for an eventual return to normality. In many scenarios the immediate response is likely to be relatively short lasting measured in a matter of hours or days - rapid implementation of arrangements for collaboration, co-ordination and communication are therefore vital. Response encompasses not only the effort to deal with any direct effects of the emergency situation (e.g. radiation control measures, fire fighting) but also the indirect effects (e.g. disruption, mass media interest).[1]

1.3. For a radiation emergency in the UK, initial response measures to protect the public should be informed by the detailed planning contained in the Local Authorities off-site plan.

[1] The response definition is aligned to and consistent with the definition provided in HMG ERR Non statutory guidance accompanying the CCA 2004.

2. Responding to a Radiation Emergency

Radiation Emergency Response Structure

2.1.2 During a radiological emergency there are broadly four discrete but interconnected tiers, which work together to ensure an effective response. These tiers are as follows: "*Site*" on which the radiological release has occurred or is expected; "*Local Strategic*" from which the local level multi-agency strategic response will be coordinated; "*National*", which includes central government engagement through Cabinet Office Briefing Room (COBR) as well as, where appropriate, support from national agencies and individual departments; and "*International*" which includes organisations such as the International Atomic Energy Agency (IAEA) as well as foreign Governments with whom the UK Government would liaise to notify of the emergency and potentially request assistance from.

2.1.3 This chapter provides a high level summary of the key groups at each level and the way in which they can be expected to interact with the other levels of the response during a radiation emergency. Further guidance is referenced and should also be contained in local and individual organisation response plans. The following groups are outlined in this chapter:

- Site Level
  - Site Emergency Control Centre (SECC)
  - Central Emergency Support Centre (CESC)
- Local Level
  - Strategic Coordinating Centre (SCC)
  - Strategic Coordinating Group (SCG)
  - Scientific and Technical Advice Cell (STAC)
  - Recovery Working Group (RWG)
  - Strategic Media Advisory Cell (SMAC)
  - Media Briefing Centre
  - Forward Media Briefing Point
- National Level
  - Cabinet Office Briefing Room (COBR)
  - Scientific Advisory Group for Emergencies (SAGE)
  - Departmental and Agency Response Centres
  - News Coordination Centre (NCC)
- Regional Level
- Devolved Administrations
- International
- Radiological Emergencies Overseas

Site

2.2.1 Nuclear site operators play a fundamental role in the mitigation of the risk posed by nuclear operations. Nuclear plants are designed and operated in a way to ensure that risks are kept as low a level as is reasonably practicable (ALARP). Should an event escalate to a point where a radiological release

occurs or is imminent, operators would enact their emergency procedures and practices in an attempt to prevent and, if necessary, control and halt any release of radiological material.[2]

2.2.2 The operators SECC (sometimes referred to as the Station ECC or just the ECC) would provide the focus for initial on-site management of the response to an emergency at a nuclear site. Its functions include:

- Overall management of the on-site response;
- Co-ordination of the collection and interpretation of radiological and other data obtained by the site operator, ensuring that all results are passed to relevant authorities in a timely manner;
- Provision of facilities to enable senior officers from the emergency services to liaise with site management; and
- Ensuring that the key groups within the off-site SCC, such as the SCG and STAC, are kept fully updated concerning significant events on site.

2.2.3 It should be noted that detailed response structure for individual sites and operators will vary. Further advice can be sought from site operators at a local level. Category 1 and Category 2 responders should be familiar with, and have fully rehearsed, specific local on-site arrangements.

Central Emergency Support Centre (CESC)

2.2.4 Nuclear operators EDF and Magnox also have a permanent emergency response centre to provide additional support to individual SECCs; this is located at Barnwood, Gloucestershire. Once activated the CESC will perform much of the interaction with the SCC, including the provision technical advice on the diagnosis and prognosis of the fault as well as radiation monitoring information and interpretation.

Local

Strategic Coordinating Centre (SCC)

2.3.1 The local level multi-agency strategic response will be coordinated from the SCC, which will normally be housed in local police HQ. The SCC should be flexible enough to allow for the smooth transition from an initial command structure, and should be built upon incrementally, calling for the assistance of agencies as and when appropriate. This must be operational and staffed by trained people, within one or two hours[3] of any radiation emergency being declared.

2.3.2 The SCC should provide the means whereby:

[2] Training and exercising for such an eventuality is conducted with local emergency services and Local Authorities and is regulated under Licence Condition 11 by the Office for Nuclear Regulation (ONR).

[3] An SCG capability should be fully in place within 2 hours and organisations that are geographically remote should be capable of providing an initial response once IT and communications linkages have been established and until such times as their personnel can arrive physically at the SCC location.

- Relevant multi-agency groups and advisory cells, such as the Strategic Coordination Group, STAC etc. as well as their constituent local and national agencies members can receive full and authoritative information about the emergency;

- Advice can be provided to those charged with local executive actions to protect the public;

- Information about the emergency can be formulated for the media and the public; and

- Co-ordinated action can be taken to protect the public.

2.3.3 Representatives of agencies, services and organisations attending the SCC should have clear responsibilities and authority for defined functions regarding the formulation of advice, the implementation and co-ordination of protective action and the provision of information.

2.3.4 The features of the SCC should include:

- Suitable designated accommodation for the SCG, STAC etc. equipped in advance of any emergency and capable of being activated quickly;

- Media briefing facilities, or premises nearby which can be used to house the media briefing cell;

- Adequate equipment to enable representatives of participating agencies, services and organisations to communicate effectively with their local and national headquarters and with the DECC Emergency Operations Centre (EOC) in London, or the Scottish Government Resilience Room in Edinburgh or the Welsh Government Emergency Coordination Centre in Cardiff; and

- The SCC should be capable of continuous operation over a period of several days and defined routes are required for the transmission of information and decisions between the SCC and the other emergency centres involved in the response.

Strategic Co-ordinating Group (SCG)

2.3.5 The SCG, usually chaired by a senior police officer, will take overall responsibility for the multi-agency management of the emergency and establish the policy and strategic framework within which tactical and operational tiers will operate. The SCG will:

- Determine and promulgate a clear strategic aim and objectives and review them regularly;

- Establish a policy framework for the overall management of the event or situation;
- Prioritise the requirements of the tactical tier and allocate personnel and resources accordingly;
- Formulate and implement media-handling and public communication plans, potentially delegating this to one responding agency; and
- Direct planning and operations beyond the immediate response in order to facilitate the recovery process.

2.3.6 As a multi-agency group, the SCG has collective responsibility for decision-making and implementation. To achieve this, SCG relies on a process of discussion and consensus to reach decisions at strategic level and to ensure that the agreed strategic aim and objectives are implemented at the tactical and operational levels.

2.3.7 During a radiation emergency the SCG will have a key role in ensuring that implementation of countermeasures and advice to protect the public keep pace with the risk posed by the emergency. To support the SCG it will receive specialist scientific and technical advice from STAC and the nuclear operator. The SCG Chair, or their representative, will be expected to also make him or herself available to participate remotely in COBR meetings.

2.3.8 The SCG should be based at an appropriate location away from the scene. The place at which the SCG meet is referred to as the Strategic Co-ordination Centre (SCC). This will usually, but not always be at the headquarters of the lead service or organisation (e.g. police headquarters). The location of meetings may shift when the response transitions to the recovery phase. In the preparation phase, consideration should be given to the arrangements suitable for a range of scenarios and alternative locations should be identified for business continuity purposes.

Scientific and Technical Advice Cell (STAC)

2.3.9 The STAC plays a crucial role during a radiation emergency, supporting the SCG through the provision of timely and co-ordinated advice on scientific and technical issues. During a radiation emergency the immediate concern of the STAC will be the risk to human health from radiation, contamination of the environment, food chain / water supplies and the possible mitigation measures required. A more detailed overview of the role of the STAC during a radiation emergency is detailed at section 6.1.2).

2.3.10 During a radiation emergency, in addition to liaising with the SCG, STAC will be expected to engage with the national level SAGE, to help ensure consistency in the provision of scientific advice. In addition individual agencies within STAC are expected to liaise with their parent department and agency.

2.3.11 Local Resilience Forums (and Strategic Co-ordinating Groups in Scotland) should have plans in place, which identify a designated lead and core

membership of the STAC; and set out the arrangements for its activation in the event of an emergency. Given the focus of the STAC on public health issues it is suggested that an appropriate person from the health community (such as the DPH or PHE) should chair the STAC during the early response phase of an emergency.

Recovery Working Group (RWG)

2.3.12 A RWG should be convened as soon as practicable during the response phase to support the SCG. During the response phase of a radiation emergency the role of the RWG would be to advise the SCG to ensure that the SCG are aware of any potential implication or complications response phase activity may have on the implementation of the recovery strategy. Further information on Recovery can be found in Part 3 – Recovery.

Strategic Media Advisory Cell (SMAC) / Media Communications Cell (MCC)

2.3.13 Good practice involves building strategic media planning into the SCC operations via a SMAC (also referred to as a Media communication Cell) to ensure consistent communication is delivered by all agencies. The multi-agency approach brings together media representatives of the key organisations involved in the response to the emergency and liaises with the main incident press office.

2.3.14 The primary purpose of the SMAC is to advise the SCG on media strategy and to ensure consistent communication with the media. It is not media facing but is designed to formulate strategy and propose key avenues of delivery. Local plans must ensure that the agreed media strategy is delivered.

2.3.15 In the operational phase press officers from all agencies will contribute up to date information at SMAC meetings to enable the Police strategic media adviser, as SMAC lead, to produce up to date press releases/briefings. Agencies may choose to brief separately on matters, which they feel are relevant but are not included in the police press releases. In this instance, agency press officers should advise the police press office of their intentions before issuing anything and take advice from the police strategic media adviser where necessary.

2.3.16 When an event moves into the recovery phase, leadership of the SMAC is assumed by the Local Authority press officer; mirroring the arrangements in the SCG.

Media Briefing Centre (MBC)

2.3.17 The Media Briefing Centre (MBC) is a designated location for media interviews and briefings and access to responding organisation personnel. The MBC would be staffed by spokespersons from all the principal responding organisations. The MBC also provides the media with a base to work from and office facilities.

2.3.18 The MBC should provide a steady flow of information between press conferences. The MBC may include less formal briefings with representatives

of organisations on specific issues and provide, where possible, visual material. Further background information will also be made available. Press releases from the various organisations should be clearly available in the MBC.

2.3.19 Normally, the Police Commander chairing the SCG will, through the SMAC, have overall responsibility for the co- ordinated management of the Media Briefing Centre, which forms the working/ briefing area for the media. This responsibility is discharged through the MBC Manager who will be nominated as part of the pre-planning arrangements.

2.3.20 The MBC is usually, but not exclusively, located close to the SCC.

Forward Media Briefing Point

2.3.21 The police may identify an appropriate location for a Forward Media Briefing Point. This is partly dependent on health and safety issues, and also how close the MBC is located to the incident scene. The location should offer easy access from public areas and be close to the incident scene. If possible it will include a media vantage point for photographs and filming at the scene.

2.3.22 The SCG Chair, through the SMAC, also has overall responsibility for the co-ordinated management of the Forward Media Briefing Point if set up. This responsibility is discharged through the Forward Media Briefing Point Manager who will be nominated from one of the responder agencies as part of the pre-planning arrangements.

National

2.4.1 The UK's approach to emergency response and recovery is founded on a bottom-up approach in which operations are managed and decisions are made at the lowest appropriate level. The role of central government and the devolved administrations is to support and supplement the efforts of local responders through the provision of resources and co-ordination.

2.4.2 The response structures for England and Wales are illustrated at Figure 1 below.

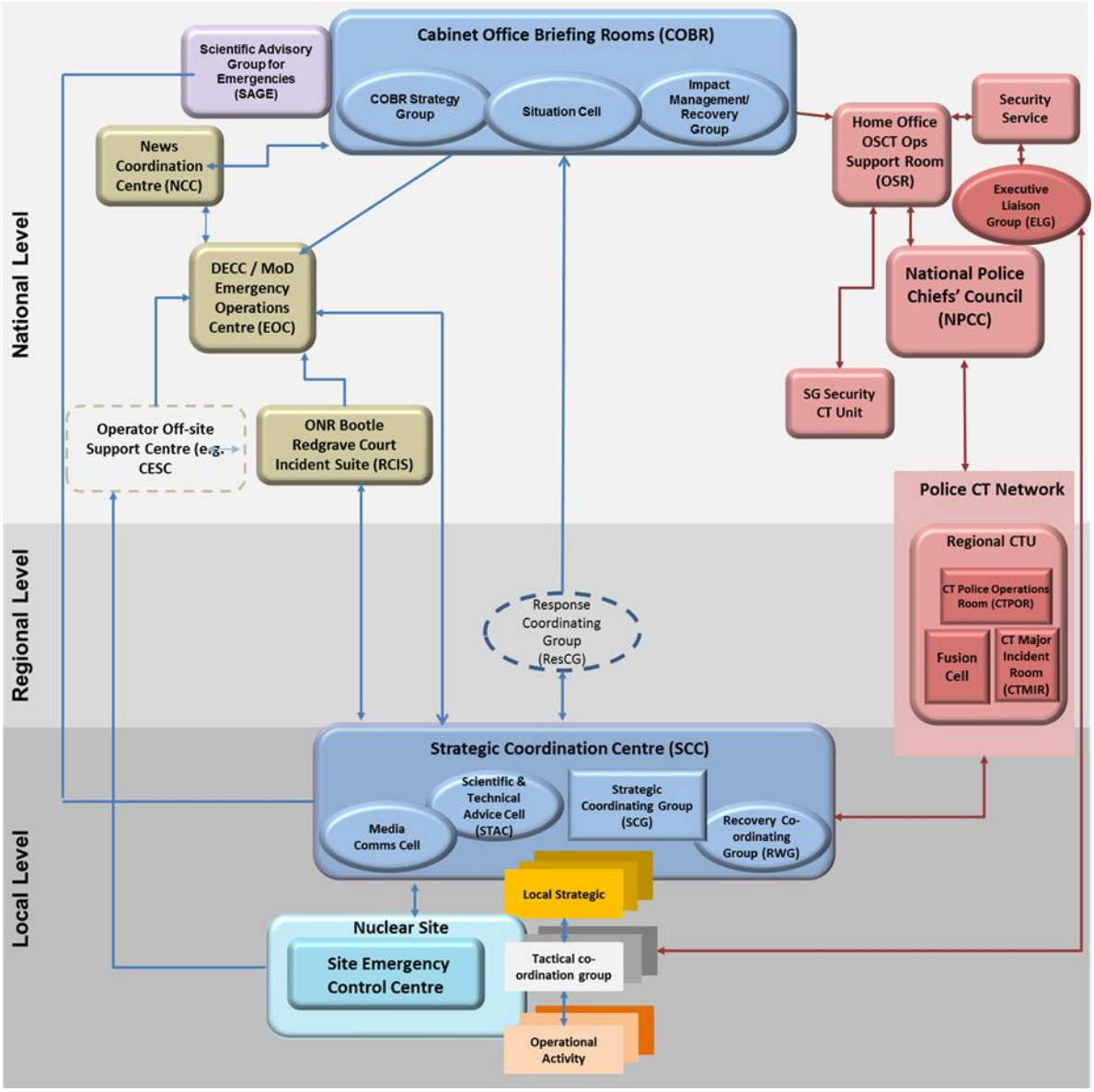


Figure 1. Response structures for England and Wales

Cabinet Office Briefing Rooms (COBR)

2.4.3 The COBR facility is the physical location from which the central government response is activated, monitored and coordinated. COBR provides a focal point for the Government's response, and is used as a means to facilitate rapid coordination and collective Government decision-making. It also provides the primary conduit through which Ministers can engage with the SCG. Given the anticipated impact of a radiological emergency, and likely public reaction, it is assumed that COBR would be activated in the event of a domestic nuclear emergency or overseas nuclear emergency.

2.4.4 The COBR structure is designed to be flexible to adapt to the circumstances at the time. In the event of a radiological emergency, the Cabinet Office will, in consultation with the lead government department, decide which components

should be activated and how they might best be used. It will also provide secretarial support and ensure that the response is managed effectively across all areas of activity.

2.4.5 These arrangements are well established and clearly defined within Central Government Arrangements for Responding to an Emergency: Concept of Operations.[4]

2.4.6 Early COBR priorities at the Central Government level will be:

- Preparation and distribution of information and advice to the public and media;
- Coordination and monitoring the overall response to the incident;
- Assessing the requirements and current priorities of the Government Departments in delivering the response to the emergency;
- Considering the requirement for fundamental science or research to be undertaken in order to underpin the response and recovery to the incident in conjunction other government scientific advisory bodies;
- Preparing and distributing an outline agenda for use across government based upon the following broad topics:
    - Summary of current situation;
    - On-going public health issues;
    - On-going environmental issues;
    - Initial considerations of recovery strategy and plan;
    - Future public health issues;
    - Future environmental objectives;
    - Environmental recovery issues;
    - Waste management issues;
    - Finance and Legal issues;
    - Strategy for lifting of imposed restrictions;
    - Public and Media Communication issues; and
    - Any other issues arising from the emergency impacts.

2.4.7 Where a SCG has been established and COBR has been activated, a Government Liaison Officer (GLO) will be despatched immediately at the onset of an emergency. For a radiological emergency the Department will perform this role for Communities and Local Government Resilience and Emergencies Division (DCLG-RED). In the event that a radiological emergency is caused by terrorist activity, the GLO will be a Senior Home Office Official. In both instances the GLO will be supported by a multi-

[4] https://www.gov.uk/government/publications/the-central-government-s-concept-of-operations

disciplinary, multi-departmental team (the Government Liaison Team). The GLO will be the main liaison channel between Government and the SCG.

Scientific Advisory Group for Emergencies (SAGE)

2.4.8 It is anticipated that SAGE will be activated in support of COBR for a radiological emergencies where 1) there has been an off-site release of radiological material, 2) an off-site release is considered possible, or 3) there is an incident that has serious implications for the site itself and those on it.

2.4.9 During a radiological emergency SAGE is responsible for coordinating and peer reviewing, as far as possible, scientific and technical advice to supports Ministers in making evidence based decisions on key national policy questions. During a nuclear emergency it will be important for SAGE to remain flexible and adaptable to ensure that it is best able to provide the scientific advice required by COBR. That notwithstanding, during a radiological emergency it is anticipated SAGE will focus on three primary areas:

- Peer reviewing and supporting the STAC;
- Undertaking horizon scanning activity to understanding how the situation may evolve; and
- Consideration of the on-site technical diagnosis / prognosis.

2.4.10 During a radiological emergency, members of SAGE will participate remotely in STAC meetings.

2.4.11 For further information on the role of SAGE during a radiological emergency see: Nuclear Response Guide for the Scientific Advisory Group in Emergencies (SAGE) (2015)[5].

The Lead Government Department (LGD)

2.4.12 In the event of a radiation emergency, a Lead Government Department (LGD) is designated. The LGD is responsible for the coordination of central Government's response to the emergency through COBR. In order to provide accurate and timely briefing to COBR, the LGD is also likely to establish its own emergency response centre. The table below details the different LGDs for various radiological emergency scenarios and the location of their emergency response centres.

2.4.13 Counter terrorism guidance, which should be used to inform the counter terrorism element of emergency response plans, is being developed separately, and will be issued shortly.

---

5 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/80087/sage-guidance.pdf

Table 1. Lead Government Departments

Type of Emergency	Location	Lead Government Department	Emergency response Centre
Terrorism at Civil or Defence Site	England, Scotland or Wales	Home Office	2 Marsham Street, London
Radiation emergency at Civil Site	England or Wales	DECC	3 Whitehall Place, London
Radiation emergency at Civil Site	Scotland	Scottish Government	St. Andrew's House, Edinburgh
Radiation emergency at Defence Site	England or Wales	MoD	Whitehall, London
Radiation emergency at Defence Site	Scotland	MoD	Whitehall, London

Departmental and Agency Response Centres

2.4.14 Various other government departments and agencies would also establish their emergency response centres in order to carry out their statutory duties and support the emergency response. These might include:

- Office for Nuclear Regulation (ONR) - Redgrave Court Incident Suite (RCIS);
- Department of Health (DH);
- Public Health England (PHE);
- Department of Environment, Food and Rural Affairs (DEFRA);
- Environment Agency (EA) / Scottish Environment Protection Agency (SEPA);
- Food Standards Agency (FSA) / Food Standards Scotland (FSS);
- Department for Transport (DFT) / Transport Scotland;
- Department for Communities and Local Government (DCLG); and
- HM Treasury (HMT).

2.4.15 Throughout the response these Departments' and Agencies' emergency response centres/rooms would maintain communications at the national level with the LGD, Cabinet Office, in its role as COBR secretariat, and other key departments as appropriate. In addition departments and agencies would be expected to maintain communication with their representative at a local level to ensure the each department and agency is providing a consistent

message. Some of the Departments and agencies would have key roles in responding to radiation emergencies. These are outlined in the table at section 6.

News Co-ordination Centre (NCC)

2.4.16 The LGD's press office will lead on public presentation in support of the lead Minister. However, where an emergency has wide ranging impacts or gives rise to considerable public and media interest, a News Coordination Centre (NCC) will be activated. This is always in place whenever COBR is activated, but may also be stood up in support of the LGD.

2.4.17 COBR would activate the NCC, depending on the nature and scale of the incident. The NCC does not replicate the role of the LGD. Instead, it checks the consistency of messaging across government departments and agencies ensuring that they are not contradictory and are being released from limited sources. The NCC would also make sure that messages and speeches from ministers and senior officials are not being made at the same time.

2.4.18 The NCC's duties can include:

- Compiling and maintaining a 'top lines brief' summarising the key facts and messages for distribution to Ministers and others involved in the response at a national and local level;
- Briefing the COBR media handling;
- Developing, in conjunction with local responders and government departments, a coherent public information strategy for consideration by COBR

2.4.19 Each Department and agency involved would be expected to provide the NCC (or DECC/MOD if LGD is not established) with the following to ensure effective coordination:

- Details of planned information activities, messages and lines;
- Requests for interviews with Ministers and senior officials;
- Briefings on the nature of media enquiries received;
- Feedback on the effectiveness of their communications.

2.4.20 Establishing a fully functioning cross-government media centre under the leadership of the lead department and supporting the policy direction from COBR, the NCC will handle all requests to government for information on the emergency, co-ordinating requests for interviews with Ministers and leading talking figures/third parties; and co-ordinating between national and local media handling.

Regional Co-ordination (England only)

2.5.1 DCLG-RED is responsible for the UK Government's resilience function between the national and local levels. The Division has teams in London, Leeds, Birmingham and Bristol.

2.5.2 If a radiation emergency necessitated the activation of multiple SCCs, DCLG may, on its own initiative, or at the request of local SCGs or the LGD in consultation with the Cabinet Office, convene a Response Coordinating Group (ResCG). The ResCG would assist with the coordination and support of the multi-agency response at the local level. It would bring together appropriate representatives from local LRFs or SCGs (e.g. the Chair or Chief of Staff) where activated to facilitate information sharing and support arrangements.

2.5.3 Such gatherings would most likely take place via a tele/videoconference, though there may be occasions when face-to-face meetings would be appropriate. The ResCG's responsibilities would include:

- Developing a shared understanding of the evolving situation (including horizon scanning);
- Assessing the emergency's actual and/or potential impact;
- Reviewing the steps being taken to manage the situation, and any assistance that may be needed/provided; and
- Identifying any issues that could not be resolved at the local level and need to be raised at the national level (e.g. addressing niche capability gaps).

2.5.4 Depending on the situation, the DCLG may convene further telephone/video conferences or face-to- face meetings as appropriate. DCLG's Deputy Director would normally chair the ResCG unless otherwise agreed. DCLG staff would normally take the lead in confirming the form that each meeting would take and the attendance.

Devolved Administrations

Wales

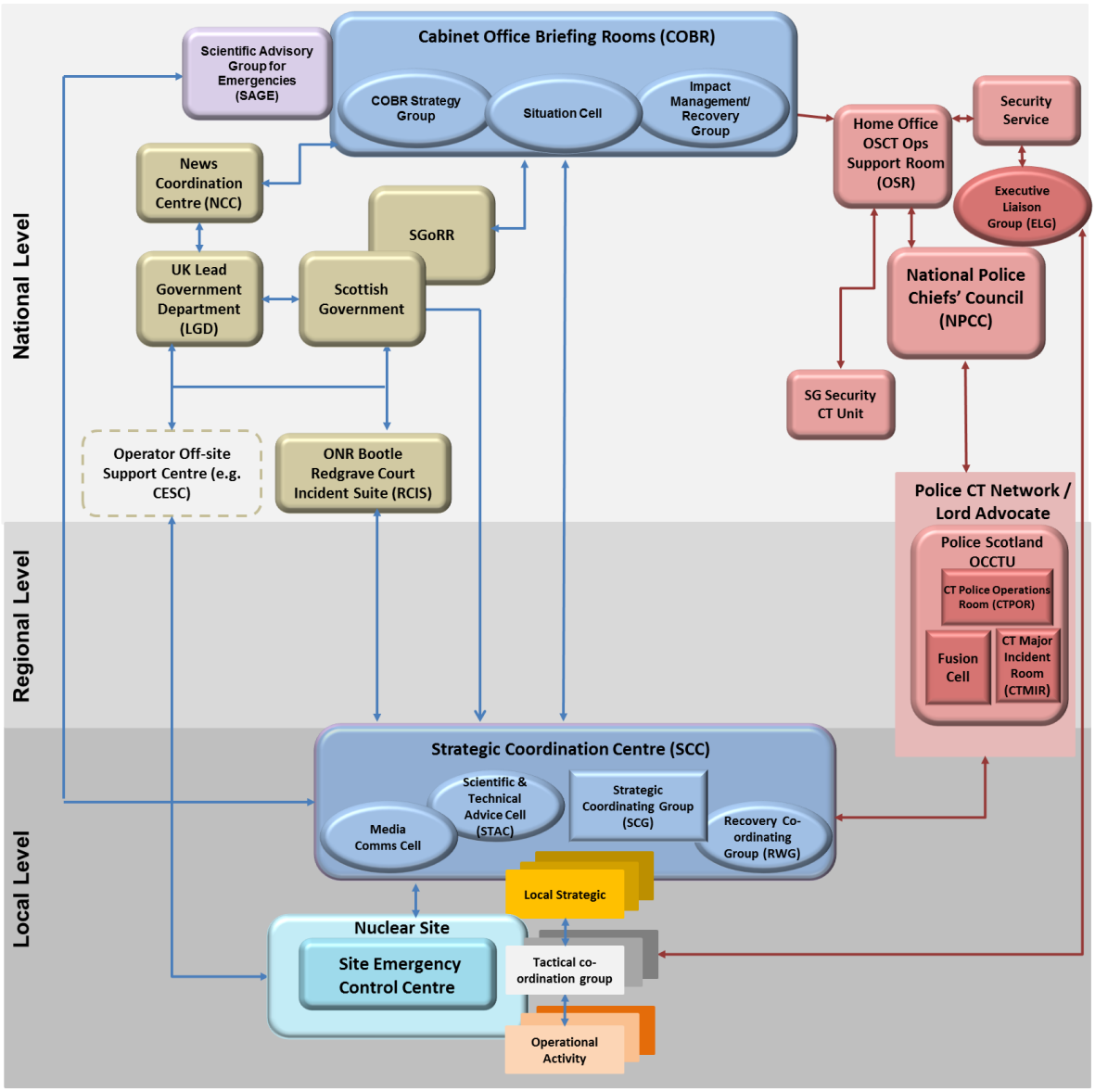
2.5.5 If the location of the emergency is in Wales, or it is likely to impact directly on Welsh territory, the Welsh Assembly Government will be advised and kept informed through their Emergency Co-ordination Centre. Further detail is at Annex L.

Scotland

2.5.6 For a radiation emergency that takes place in or is likely to have a direct impact on Scotland, the Scottish Government would activate its Scottish Government Resilience Room (SGoRR) arrangements (similar to COBR in

London). In the event that UK level arrangements are initiated, SGoRR will work with COBR and other relevant UK departments, which will be available to advise and support as required. The Scottish Government Liaison Officer (SGLO) would attend the SCC to: support responders; help to ensure effective communication between responders and government; act as the principal contact for government officials or Scottish Ministers; participate in meetings with other agencies; liaise with SGoRR; and, provide general government-related advice and support. When a SAGE is activated it will provide advice to and interact with the STAC and SGoRR.

Figure 2: Response Structure for Scotland



International

2.6.1 In the event of a Radiation emergency in the UK, DECC as the designated competent Authority would lead on engagement with multi-national

organisations such as the IAEA or EU. The UK is party to the IAEA Early Notification Convention and signatory to Council Decision 87/600/Euratom. The former convention obliges the UK to target a 2-hour deadline for informing the IAEA of a 'general emergency' at a UK plant with potential for trans-boundary consequences.

2.6.2 DECC would also undertake initial notification of the emergency to countries with which we have relevant bi-lateral agreements, such as Belgium, Denmark, Netherlands, France, Ireland, Norway and Russia.

2.6.3 As party to the IAEA Assistance Convention, DECC would coordinate UK international assistance arrangements both in the case of a domestic or overseas event, such as through the Response and Assistance Network (RANET) managed by the IAEA.

Radiological Emergencies Overseas

2.7.1 The *Nuclear Site Emergency Response Concept of Operations 2015* defines two circumstances for an overseas-related response:

2.7.2 **Near Overseas;** If a radiation emergency occurs in European territory, which threatens to affect the UK directly, a top down approach by central government will be adopted. COBR and/or a LGD would be activated to coordinate the national response, which may include the need to initiate local response arrangements at locations within the UK that may be threatened or directly affected. Acting on advice from SAGE, central government would direct priorities and provide additional specialist resources where and when necessary.

2.7.3 **Distant Overseas;** Where a radiation emergency occurs at a civil nuclear site sufficiently distant to pose no direct adverse effect within the borders of UK territory, there may still be a threat to both expatriates, Overseas Territories, Crown Dependencies and importation of radiological contamination to the UK. In such a situation COBR is likely to be initiated to consider the implications for UK interests and set in place mitigation measures as advised by SAGE. The Foreign and Commonwealth Office (FCO) would most likely be the co-ordinating Department for any UK response that may include contributions from OGDs including DECC, to provide appropriate specialist response capabilities and technical assistance to the affected area.

2.7.4 Further detail on the UK's response arrangements in the event of a radiation emergency overseas is contained at Annex N.

3. Radiation Emergency Response Actions

Radiation Emergency Response Actions

3.1.1 This section provides an overview of key response actions and primary responsibility for delivery. Further guidance is referenced and should also be contained in local and individual organisation response plans. Actions are grouped in themes as follows:

- Alerting and Activation;
- Warning, Informing and communicating during an emergency;
- Public Countermeasures;
- Food Safety;
- Provision of Scientific and Technical Advice;
- Radiation Monitoring;
- Security Incidents;
- National Support and Mutual Aid; and
- Response Timeline.

Alerting and Activation Process

3.2.1 Nuclear facilities have comprehensive protection safety systems. In the event of abnormal conditions being suspected, site personnel will follow predefined and rehearsed procedures to investigate, assess and, if required, declare a radiation incident. The site operator should aim to make a declaration within 15 minutes of symptoms being detected and assessed.

3.2.2 The alert process will follow locally agreed arrangements but will generally be made by phone and then followed up immediately with a FAX or e-mail from the operator to the local Police Control Centre confirming the notification detail using a standard format. An established and robust cascade alerting system will then be instigated to inform both local and national levels. It is recommended that the alerting process is detailed in the Local Authority Off-Site plan as well as in the Operator's Plan.

3.2.3 For any response to be effective, it is vital that information on the nature of the radiological hazard is made available to the SCG in a timely manner to inform decisions on response actions and the implementation and possible adjustment of pre-agreed immediate public protection measures. The same information should be made available to national emergency management structures, notably the LGD, that will be preparing briefing for COBR. It is important that the local information does not lag that available at the national level (and vice versa).

Declaration States

3.3.1 The following declaration states are in common use:

- **Site Incident** - a hazardous condition, which is confined in its effect within the boundary of the site security fence.
- **Off Site Nuclear Emergency** - a hazardous condition which results, or is likely to result, in the need to consider the implementation of countermeasures to protect the public beyond the site boundary from a radiological hazard.

3.3.2 Declaration of an Off Site Nuclear Emergency will result in the declaration of a 'major incident' at local level with an SCG being formed and the SCC activate. Following declaration of a Site Incident it is recommended that a virtual SCG meeting is held to consider whether a Major Incident needs to be declared and whether the SCC should be activated

3.3.3 The decision to activate the SCG, and the need to declare a 'major incident', would rest with local responders and be dependent on the nature and scale of the site incident. If the SCC / SCG are not activated, then local off-site agencies should consider activating a TCG to manage the offsite consequences.

3.3.4 The process to cancel any declaration state once the conditions of the site have been brought under control will follow local arrangements, for example:

- **Site Incident** - the Site Emergency Controller may cancel the declaration. This decision will be relayed to the Police to allow local responders to be briefed.
- **Off Site Nuclear Emergency** - the Site Emergency Controller, in consultation with the ONR technical adviser may cancel the declaration. The SCG is to be informed of the decision through the Company Technical Adviser (CTA) to allow the wider response strategy to be updated. The SCG will agree to cancel any Major Incident declaration.

4. Warning and Informing

Warning and informing the public

4.1.1 This chapter outlines what warning and informing means, and the preparations that should be in place in advance of any reasonably foreseeable radiation emergency. It is not intended to act as a set of procedures but to provide guidance to those involved in responding to a radiation emergency, differentiating between the roles of government, local authorities and operators.

4.1.2 This includes guidance on the following:

- Prior communication;
- Communicating during emergencies;
- What information is needed when;
- Warning methods;
- Working with the media; and
- Public communications.

4.1.3 A well-informed public is better able to respond to an emergency and to minimise the impact on the community. By informing the public in a timely manner with appropriate and consistent information, all organisations can build public trust, improve the chances for an effective response and also avoid alarming the public unnecessarily.

4.1.4 Legislation covering warning and informing is detailed in Annex R.

Communicating before emergencies

4.2.1 REPPIR Regulation 16 requires operators to provide specified prior information to members of the public who may be affected by a reasonably foreseeable radiation emergency.

4.2.2 When deciding what type of information to publish, organisations should consider how the public would receive information. Will it be easily understood? Are there clear actions that the audience should take? In accordance with REPPIR, responding organisations should consult and work together when developing and publishing public information.

4.2.3 Prior information needs may differ between different population groups. For example, those who are in an area where their co-operation in pre-planned urgent countermeasures is necessary, as opposed to other groups unlikely to be affected directly by countermeasures but who still may want information and updates.

4.2.4 Organisations should aim to raise public awareness with their communications but not cause unnecessary alarm. All public information

materials should be accessible, easy to understand and provided in a range of formats, both electronic and paper. Particular care should be taken to reach vulnerable people or those who may not understand the messages (such as the elderly or children in schools). Excessive use of technical information or jargon may be difficult for people to read and absorb quickly, which can in turn lead to confusion and uncertainty about what they need to know or what actions they should take.

Being Prepared to Communicate During Emergencies

4.3.1 The government is prepared to warn and inform the public about a whole range of possible emergencies, with an established briefing process in place. It includes top line briefs that are shared with Category 1 and 2 responders. These top line briefs are designed to ensure that all parties have the same information and top lines.

4.3.2 In the specific case of a radiation emergency, local response organisations will need to ensure that they too have arrangements in place to warn, inform and advise the public. REPPIR Regulation 17 requires local authorities to prepare and keep up to date information and advice on the facts of the emergency, the steps to be taken and, as appropriate, health protection measures.

4.3.3 Organisations whose functions could be seriously obstructed by an emergency or who expect to take action in relation to an emergency and would require a redeployment of resources or additional resources to do so (e.g. emergency services or local authorities) must have well prepared communications arrangements in place. These should cover both the content of messages and the means for dissemination even when normal routine channels of communication may not be available.

4.3.4 Confusion would be caused, however, if more than one organisation were to plan to warn the public about the same risk at the same time to the same extent. To avoid duplication, those organisations whose functions are affected by an emergency should aim to co-operate and identify which organisation will take lead responsibility for warning and informing in regard to the particular radiation emergency. Organisations should also ensure that they do not duplicate warning arrangements, which may already be in place in other organisations. For instance, utilities companies have a duty under their own regulatory frameworks to provide warning, information and advice in certain circumstances when their services are interrupted.

4.3.5 As with any other part of planning for response to an emergency, the communications strategy for warning and informing - either direct with the public, or via the media - should be fully integrated into the responder's emergency plans. Organisations should test their warning and informing arrangements as they would emergency plans, through exercising and providing training to staff.

What information is needed when?

4.4.1 Organisations engaged in warning and informing will need to think carefully about what information different audiences will want, and when, during an emergency.

4.4.2 For instance, immediately after an emergency is declared, and during the first hour, the following information should be provided.

Table 2

The public will need to know:	The public will want to know:	Broadcasters will require:
• Basic details of the incident - what, where, when (and the who, why and how, if possible) Implications for health and welfare; • Advice and guidance (e.g. stay indoors, symptoms, preparing for evacuation etc.); • Reassurance.	• Other practical implications such as the effect on normal routine, power supplies, telephones, schools, water supplies, food etc; • A helpline number; • What is being done to resolve the situation?	• Well-thought-out and joined-up media briefing arrangements between emergency services, local authority and other organisations, capable of providing agreed information at speed; • An immediate telephone contact; • A media rendezvous point close to the scene.

4.4.3 It is important that all information produced is in plain English, avoids all jargon and can be delivered through a variety of communications channels including digital media. Information should also be tested and periodically reviewed to make sure it is providing the different audiences what they want and need in an accessible format.

Warning methods

4.5.1 The methods available to deliver urgent information to members of the public are varied. Some depend on the availability of power supplies or phone lines. Some may require careful consideration of the risks to human life and health, in case at the time of an emergency staff or members of the public are exposed to hazards while they are warning or being warned.

Working with the media

4.6.1 All response organisations should be familiar with the media organisations and outlets in their own areas, and should aim to develop good relations with them. The BBC is recognised as an emergency broadcaster for the UK, in particular the BBC Local Radio service and the BBC News website. Their editors can be contacted for advice and to agree contact details and processes in the event of an emergency. More information is available from the BBC's 'Connecting in a Crisis'.

4.6.2 The importance of a good pre-existing relationship between those in the media and those involved in emergency planning and work during an incident cannot be overestimated.

4.6.3 The key to effective communication with the public is getting the right messages to the right audiences. The delivery of information and advice can greatly affect how they are received. Organisations should give careful thought ahead of any emergency about who will act as their official spokespeople and undertake media interviews, including whether these individuals will require suitable training. Other public-facing people in the responder community should have a basic level of information so that they can handle inquiries confidently and accurately.

4.6.4 Do not under-estimate the importance of digital media during an emergency. Responding organisations should have social media channels prepared and ready to use to disseminate information instantly. Hashtags should be planned in advance and all messages given to the media or local community should also be sent out simultaneously via the relevant social media channel e.g. Twitter, Facebook, You Tube etc.

Communicating to the public and media

4.7.1 The purpose of this section is to give strategic guidance on media issues around events arising from radiation emergencies. It should be read in conjunction with the UK Government's Emergency Recovery and Response guidance (for England and Wales) and Emergency Preparedness and the Scottish Government's Preparing Scotland guidance, applicable in Scotland. This guidance should be used in conjunction with existing local emergency communications plans.

Demands for information

4.8.1 In the event of a radiation emergency at a nuclear site in the UK, it is expected that:

- The public will:
  - Seek direct advice and reassurance from whoever they can contact, particularly from those within the affected area;
  - Demand information from responding agencies.
- The media will:
  - Attend in very large numbers including international news organisations from an early stage of a radiation emergency, and seeking information while the emergency services response is still getting underway;
  - Attempt to get as close to the site as possible, in search of information and images;
  - Quickly seek out members of the public who can provide eyewitness accounts and photographs taken with mobile phones or digital cameras which are likely to be broadcast within minutes of the incident occurring;

- Be equipped with up-to-date communications technology seeking information for immediate broadcast and to reporting deadlines; and
- Most importantly, likely to be the most effective and resilient method of quickly reaching large numbers of people.

- Other key stakeholders will:
  - From the point of view of their different interests seek information from the responder organisations; and
  - Need good information supplied in a timely manner so that they can play their part in support of events and help promote the correct messages.

Public Communications

4.9.1 The specific information required by REPPIR (Schedule 10) to be given to members of the public is listed in Annex R.

4.9.2 A well-informed public is better able to respond to an emergency and to minimise the impact on the community. Information should be made readily available to any member of the public during any radiation emergency to ensure that they are informed of the facts of the emergency and the measures to be taken for public health. The information will be aimed at those directly affected by the emergency; this is likely to include people who have been advised to shelter and take stable iodine tablets, to evacuate, or to refrain from eating or selling foodstuffs which may have been contaminated.

4.9.3 Procedures for alerting the public at nuclear sites are well established and are initially led by the site operator. The operator issues automated warnings and, once alerted, the Police will also confirm that the automated warning has been provided and the detail provided in the message.

4.9.4 Automated telephone and message alerting systems offer an efficient and effective means of communication for those registered to use them. Pre-recorded messages enable rapid dissemination of initial information and messages can be tailored to different audiences based on geographical proximity to the site or by specific group. Alert message templates and guidance is available via Resilience Direct. Arrangements vary between site operators with some messages being issued direct from site, and others being initiated from the CESC.

4.9.5 If the assessment of the hazard leads to the implementation of public protection measures that extend beyond the immediate responding local authority then arrangements need to be agreed with neighbouring local authorities to ensure public information messages are provided and remain consistent.

5. Public Countermeasures

General

5.1.1 This chapter outlines how the local authority's off-site emergency plan should detail clearly the countermeasures that may be introduced to protect the public in the event of an off-site emergency. It also sets out mechanisms by which these countermeasures will be implemented, adjusted and lifted or withdrawn. Themes covered in this chapter include:

- Emergency Reference Levels (ERL's);
- Provision of countermeasure advice;
- Types of countermeasures;
- Food safety countermeasures;
- Scientific and technical advice;
- Radiation monitoring;
- Security incidents;
- National support and mutual aid; and
- Response timeline.

5.1.2 In the event of a radiation emergency, it is necessary to consider the potential radiological protection benefits, the practical implications and the potential harm of any countermeasures that might be advised. Countermeasures employed to protect the public should be considered against the following 3 principles:

- **Justification** – the measure should be used if it is expected to achieve more good than harm;
- **Optimisation** – the quantities criteria used for introducing and withdrawing countermeasures optimizes public protection; and
- **Avoid Deterministic Effects** – use countermeasures to keep doses to levels below thresholds for deterministic effects.

Emergency Reference Levels

5.2.1 Public Health England has recommended Emergency Reference Levels (ERL) of doses for the justification of countermeasures to protect the public; these are used to identify which actions would be most suitable in specific threat circumstances. For each countermeasure, there is a lower and upper reference level of dose averted by the countermeasure. Below the lower level, the countermeasure is unlikely to be worthwhile; above the upper level, it is likely to be worthwhile.

Table 3. Emergency Reference Levels (ERL) of doses for the justification of countermeasures.

		Dose Averted (mSv)	
Countermeasure	**Organ**	**Lower**	**Upper**
Sheltering	Whole body	3	30
Evacuation	Whole body	30	300
Stable Iodine	Thyroid	30	300

Provision of Countermeasure Advice

5.2.2 When an off-site nuclear emergency is declared, the nuclear operator (initially via the Site ECC but also possibly via the CESC where applicable) would be the source of immediate public protection countermeasure advice, which would be provided directly to the Police. This is likely to include advice to take potassium iodate tablets within areas pre-determined by the local authority's Off Site Emergency plan.

5.2.3 As other organisations are alerted and begin to respond, other sources of public protection advice will be available to the police. These may include, the DPH, PHE CRCE, FSA, and ONR etc. who will likely form a 'virtual' STAC to support the police prior to a physical STAC being established to support the SCG.

5.2.4 Once a STAC has been established the public health countermeasure advice will be provided to the SCG by the STAC drawing upon the public protection expertise within the STAC, notably PHE.

5.2.5 In order to ensure a consistent approach in provision of advice it is recommended that a standardised format (shown at Annex O) be used for summarising early countermeasure advice throughout all phases of the response. This will ensure that responders and other stakeholders involved with the emergency have a consistent picture regarding early countermeasures, which have been implemented to protect the public.

Types of Public Countermeasures

5.3.1 During a radiation emergency health countermeasures need to be implemented promptly in order to maximise the level of protection provided to members of the public, When considering early countermeasures for an off-site radiation emergency the primary ways to protect the public are to take one or more of the following actions: to shelter, to evacuate and (for operating reactor sites) to administer stable iodine.

Sheltering

5.3.2 Sheltering refers to staying inside with doors and windows closed and ventilation systems turned off. Where appropriate, plans should provide details of how advice to shelter is issued to those within the Detailed Emergency Planning Zone (DEPZ), for example via automated messaging or

telephone systems activated by the operator, and also mechanisms for feeding back to responders whether or not that advice is being followed. During the response phase the practicalities of pre-planned advice for people to shelter should be considered and reviewed in light of issues such as variations in local population throughout the year, migrant populations etc.

5.3.3 Sheltering in any structure offers some degree of protection from airborne and deposited radioactive material but the level of protection varies depending on the nature of the structure. The effectiveness of sheltering as a countermeasure reduces over time, as radioactive material will accumulate within a structure as no structure is completely airtight and so when sheltering is lifted ventilating the building will usually be necessary. Arrangements should include consideration of the appropriate message when asking the public to remove sheltering and the need to ventilate, as this can appear to be counterintuitive.

5.3.4 Plans should also consider, in outline, how sheltering advice could be given to areas outside the DEPZ.

Evacuation

5.3.5 Where the risk to public health posed by an off-site release of radioactive contamination has been identified or is predicted through radiation monitoring / modelling to be beyond the short term protection which sheltering affords, the SCG, on advice from the STAC, may decide to evacuate the affected areas. Where appropriate evacuation arrangements should be detailed within local authority off site plan, including detail on how advice to evacuate is disseminated to those within a DEPZ; how evacuation is to take place; where people are to be evacuated to; and what support mechanisms are to be put in place to assist evacuees.

5.3.6 The Police will take the lead in implementing any evacuation action. Areas advised to evacuate need to be clearly identified, for example by post codes and existing local media and communications structures, such as the MCC, should lead on communicating evacuation arrangements to affected people.

Stable Iodine

5.3.7 The administration of stable iodine reduces or prevents the exposure from radioactive iodine, a radioactive material which could be released in the event of an off-site nuclear emergency involving an operational or recently shut down (<90 days) nuclear reactor. Stable iodine is not a relevant countermeasure in other types of radiation emergency. In the UK, stable iodine is administered in the form of potassium iodate, usually in tablet form and is a licensed medicine.

5.3.8 In order to maximise the effectiveness of stable iodine, the tablets must be administered promptly. Consequently, plans should consider the most appropriate way to provide tablets to those who require them in as timely manner as possible. The Director of Public Health local to a licensed nuclear site is responsible for ensuring that there are appropriate arrangements for

the prompt distribution of potassium iodate tablets and for authorising their administration. This is usually done in consultation with the nuclear operator, local authority and emergency services within the framework of existing planning procedures.

5.3.9 Tablets could be distributed in a number of ways which might include:

- Pre-distribution including schools and hospitals and evacuation reception centres;
- Distribution on the day by specified organisations 'door-to- door' or at the reception centres; and
- Pre-distribution to collection centres where a single member of each premises is advised to collect tablets for their premises on declaration

5.3.10 Where appropriate the Director of Public Health can also choose to pre-authorise administration of the tablets based on an agreed set of circumstances so that the nuclear operator can issue the advice to take the tablets promptly along with other public protection advice such as the request to shelter.

5.3.11 Where countermeasure strategies recommend sheltering in combination with potassium iodate tablets, emergency plans should include arrangements for ensuring that a sheltering population has prompt access to these tablets.

5.3.12 In the event of a radiation emergency where there was no requirement for the issue of stable iodine tablets the public should be told that there has been no release of radioactive iodine, therefore potassium iodate tablets will not be needed.

5.3.13 Stocks of stable iodine tablets will be managed at a local level. Additional reserve quantities are held centrally in national stockpiles. Planning should take into consideration the timescales for deployment of extra tablets should they be required for more widespread issue. PHE would be responsible for coordinating the delivery of additional tablets and NHS would be responsible for arranging distribution to the public.

Food Restrictions

5.3.14 Consideration should also be given to advice that will be issued by the Food Standards Agency (FSA) / Food Standards Scotland (FSS) regarding food countermeasures. Food restrictions are likely to extend beyond the area affected by urgent countermeasures implemented. Consequently, an explanation of the basis for these differences needs to be explained to avoid potential confusion by the public.

Air and Maritime Exclusion Zones

5.3.15 During any radiation emergency, the SCG may request Department of Transport (DfT) to apply or increase air movement restrictions around the

affected site under Section 96 of the Civil Aviation - Air Navigation Order 2005 if it is in the public interest.

5.3.16 Similarly the SCG may request restrictions on marine activity at sea if required. This will be arranged with and managed by the Maritime and Coastguard Agency (MCA).

Food Safety Countermeasures

Scope

5.4.1 The FSA/FSS is responsible for ensuring food safety in the event of a radiation emergency, and does this through providing precautionary food safety advice and by implementing food restriction orders if necessary. This advice may cover different geographical areas and different time periods to other countermeasures. The criteria for intervention in food safety issues (at least initially) will be the Council Food Intervention Levels (CFILs) laid down by the European Union. These set maximum permitted levels of radioactivity in foodstuffs and animal feeding stuffs. The FSA / FSS can impose statutory restriction orders, made under the Food and Environment Protection Act (FEPA) 1985.

Food Safety Assessment

5.4.2 On notification, the FSA / FSS will carry out a rapid assessment of the emergency's potential impact on food safety, using whatever information is available. In the early stages of a radiation emergency this may consist of an estimate of source term from the site operators, or a few measurements of air-borne radioactivity close to the site.

5.4.3 If it is assessed that levels of radioactivity in any potential food products may exceed the CFILs as a result of the emergency, the Agency will describe the area in which the relevant CFILs might be exceeded, name the food products affected and advise on actions (e.g. avoiding eating, collecting, harvesting or transporting foods). The products may include agricultural produce, domestic garden produce, fish, shellfish or any other food materials exposed to the release (on market stalls, for example).

5.4.4 Due to the process of radionuclide transfer in the environment, some products may not reach their peak radioactivity concentrations until a few days after a release. The FSA / FSS will aim to allow for this effect, so that initial advice covers any area where intervention levels would later be exceeded.

5.4.5 The FSA / FSS will support the initial assessment with a monitoring programme, where food and environmental samples will be collected from within and outside the affected area, and the results compared to CFILs. The results from the programme will be used to refine the restricted area as appropriate.

Precautionary Food Safety Advice

5.4.6 The FSA / FSS will aim to issue precautionary food safety advice to the public as soon as possible, probably within a few hours of notification, following declaration of a radiation emergency. Cautious assumptions will be used in developing this advice, as the primary purpose is to ensure quick protection of the public from immediate exposure. In the early stages, whilst there are uncertainties, the advice may cover a large area on the basis that this ensures public protection and that it is better to over-estimate an area, and subsequently reduce it, than to under-estimate it and necessitate a later enlargement. The area covered by the advice will have to be easily described in the format of a press statement, and may be defined by postcodes, district / county boundaries or geographical features. The advice would also make clear what food products were unaffected and therefore what was safe to consume within the area.

Food Safety Advice Tends to Cover Large Areas

5.4.7 The area over which food is affected is likely to be much larger than the areas where people have been asked to shelter in their homes or evacuate. Sheltering and evacuation are necessary to avoid people breathing in radioactivity or receiving direct radiation from the plume for the short time that it passes overhead. However, it is possible that some people may eat large quantities of contaminated foods from the affected areas (e.g. vegetables from allotments) over prolonged periods. It is therefore, necessary to limit radioactivity in food at a cautious level, which in turn leads to a relatively large area being affected. This difference is observed in exercises where evacuation or sheltering are usually simulated to a just a few km from the site, while food advice may reach out to tens of kilometres.

Communicating to the Public

5.4.8 The apparent inconsistency between food safety and other countermeasure advice needs to be treated with care and the difference explained to ensure a co-ordinated message is given to the public. The introduction of countermeasures such as evacuation or sheltering will usually precede food safety advice. It is suggested that this advice is accompanied with a statement that food safety advice, regarding crops and livestock, may cover a wider area. It should be explained why food restrictions cover a much larger area than an evacuation area. This raises awareness that food safety advice will follow. Advice can also be provided to those sheltering giving reassurance that unexposed food in the home is safe to consume.

Liaison between FSA / FSS and Other Organisations

5.4.9 Due to its statutory role, the FSA / FSS holds principle responsibility for decisions on food safety and will always act to ensure protection of the public. The FSA will always inform other organisations of its intended actions and will consult them for views where possible and appropriate. Scientific and Technical Advice

Scientific and Technical Advice

General

5.5.1 The effective management of a radiation emergency will require access to

specialist scientific and technical advice. The STAC should be activated by the Police Gold Commander (Strategic Commander in Scotland) through the cell lead or relevant duty officer. However, a senior public health professional e.g. the Regional Director of Public Health having statutory duties in relation to public health matters, or Public Health England Regional Director may recommend to the Police Commander that a STAC needs to be established due to the potential impact on the health of the local population from an actual or evolving incident.

5.5.2 The first key issue the SCG and STAC will face is “are the implemented countermeasures sufficient, should they be extended, or should they be reduced in scope and content?” The advice required by the Police at the SCG from the STAC will be a matter of urgency as it is clear that effective evaluation and implementation of measures to mitigate the consequences of the nuclear emergency at the site will have a profound effect on the extent of the off-site consequences and the subsequent recovery measures required.

Role

5.5.3 The STAC operates under the strategic direction of the SCG. The SCG would agree the high-level objectives guiding the multi-agency response, including immediate priorities. The STAC has as its primary function the provision of health advice for public health protection, but will need to co-ordinate advice in relation to an event with regard to the wider context of public safety, environmental protection and the sampling and monitoring of radiation levels and any radiological contamination.

5.5.4 Guidance for local responders on the provision of science and technical advice in the SCC is available.

Leadership

5.5.5 Given that in the initial stages of an emergency the immediate concern will be the risk to human health from radiation and contamination and the possible mitigation measures required, it is advised that an appropriate person from the health community (such as PHE or the DPH) should lead the cell during the early response phase of an emergency, reflecting the likely initial focus on public health issues. In practice, the lead person should have the right knowledge and skill set to chair complex technical meetings in order to arrive at a consensus based on whatever information is available. The STAC lead should also be someone who has the authority to command the respect of his or her peers. Potential STAC leads should receive appropriate training to execute their key role in the STAC; this training should include an appreciation of the working of command and control environments and the likely requirements to be placed on the STAC lead by the Gold Commander.

5.5.6 Regional Directors of Public Health, in consultation with local chiefs of police, are responsible for ensuring that a suitable and robust 24/7 mechanism is in place to provide public health advice during this initial phase. This must also include a pool of health professionals who are appropriately trained and exercised in chairing and leading technical meetings in an information scarce, time critical environment. Police forces should ensure that adequate and

suitable arrangements are in place at the SCG to ensure the initial STAC response can operate effectively.

Composition

5.5.7 Members should have the necessary knowledge and skills collectively to provide scientific and technical advice in relation to a nuclear emergency. The cell should include specialists in health, the environment, and site-specific response concerns (site / infrastructure owner / operator).

5.5.8 The cell lead or relevant duty officer should initially decide attendance. There should also be effective liaison, usually through a police liaison officer, to provide a link into the police Gold commander. To ensure that the STAC operates effectively, STAC leads should ensure that only those specialists necessary for the specific incident are present. Membership is likely to include but not be limited to:

- STAC Chair (Director of Public Health/ CCG/Public Health England);
- Gold Liaison;
- PHE;
- Clinical Commissioning Groups (CCG);
- Emergency services technical advisors (e.g. Fire Service HAZMAT officer);
- Regulatory bodies (ONR and EA);
- FSA;
- Local Authorities (Environmental Health Officer);
- Site Operator/Duty Holder – Technical Advisor;
- Met Office;
- Government Decontamination Service;
- Operational partners of Defra;
- Other agencies invited to address sector specific issues, such as the Utilities or transport operators; and
- Recovery Advisory Group Liaison Officer.

5.5.9 It is important that the arrangements for the running of the STAC recognise the need for STAC members to have regular access to support staff and colleagues at remote locations to establish an effective advice and information exchange e.g. the cells set up by the operator and the regulator to review and monitor the scientific and technical issues associated with the consequence management at the affected nuclear site.

5.5.10 Additional Cabinet Office Guidance on the establishment of a STAC within the multi-agency SCC is available on line[6].

[6] https://www.gov.uk/government/publications/provision-of-scientific-and-technical-advice-in-the-strategic-co-ordination-centre-guidance-to-local-responders

Scientific Advisory Group for Emergencies (SAGE)

5.5.11 It is anticipated that SAGE will be activated in support of COBR for a radiation emergencies where 1) there has been an off-site release of radiological material, 2) an off-site release is considered possible, or 3) there is an incident that has serious implications for the site itself and those on it.

5.5.12 During a radiation emergency SAGE is responsible for coordinating and peer reviewing, as far as possible, scientific and technical advice to supports Ministers in making evidence based decisions on key national policy questions. During a nuclear emergency it will be important for SAGE to remain flexible and adaptable to ensure that it is best able to provide the scientific advice required by COBR. That notwithstanding, during a radiological emergency it is anticipated SAGE will focus on three primary areas:

- Peer reviewing and supporting the STAC;
- Undertaking horizon scanning activity to understanding how the situation may evolve; and
- Consideration of the on-site technical diagnosis / prognosis.

5.5.13 During a radiation emergency members of SAGE will participate remotely in STAC meetings.

5.5.14 For more information on the role of SAGE during a radiological emergency see: Nuclear Response Guide for the Scientific Advisory Group in Emergencies (SAGE) 2015.[7]

Radiation Monitoring

General

5.6.1 Specialist resources and equipment are available to undertake environmental and personal radiation monitoring following a radiation emergency in the United Kingdom, or in response to an overseas radiation incident. These belong to a number of different organisations and agencies and are part of their well-established emergency plans, which are maintained in a state of readiness and tested regularly.

5.6.2 Radiation monitoring will be carried out throughout response and recovery phases for a number of related purposes, including:

- Activities associated with the immediate safety of people, including determination and confirmation of immediate public protection countermeasures, and provision of public reassurance monitoring;
- For environmental impact purposes; and
- Determination of food countermeasures.

[7] See https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/80087/sage-guidance.pdf

5.6.3 Radiation monitoring during a nuclear emergency would play an important role in providing an input to decision-making and in the provision of information to the public and to official bodies. Monitoring undertaken might relate to the immediate impact of the emergency on people and the potential future impact resulting from environmental contamination. Initial information provision will be based on prediction in light of the likely limited hazard data available but, as more data is gathered, assessments must be updated quickly and communicated consistently. Cross-agency collaboration and co-operation is key.

Responsibilities

5.6.4 Within the UK, responsibilities for radiation monitoring in the event of a nuclear emergency lie with a number of organisations and may for example derive from: a legislative requirement; an extension of responsibilities under non-emergency conditions; or the recommendations of national reviews of emergency arrangements. Public Health England, Centre for Radiation, Chemical and Environmental Hazards (PHE CRCE) is responsible for overall co-ordination of the activities of organisations undertaking radiation monitoring. It is also equipped to undertake a limited amount of environmental monitoring and to provide support to the local health authority with personal monitoring.

Site Operators

5.6.5 Site operators have a key role in providing timely and accurate data from the affected site, and subsequent updates and additional monitoring data from around the site. Operators have a range of fixed and mobile monitoring capabilities and have arrangements in place for providing and receiving support from other sites. In carrying out a range of response activities, licensed nuclear operators would typically undertake monitoring out to 15 or 40 km from the affected site, depending on the nature of the site, and in accordance with the emergency plans for that site. Results data would be provided to other organisations to supplement their own monitoring programmes, and inform and verify countermeasures regimes for the various functions. In the case of a site undergoing decommissioning, the operator's monitoring distance would typically be out to around 10 km.

5.6.6 The principal responsibilities of other organisations are identified under the key monitoring functions as follows:

- **People Monitoring -** The health services locally are responsible for activating local facilities for monitoring in relation to people, specifically to provide reassurance to members of the public. Additionally monitoring resources from nuclear operators would be made available to provide assistance in undertaking personal monitoring as part of public reassurance measures.
- **Environmental Monitoring -** The Environment Agency in England and Wales, SEPA in Scotland, or the Northern Ireland Environment Agency in Northern Ireland, has contractors who carry out environmental

monitoring programmes in support of their regulatory responsibilities. These programmes include: surveys of radiation levels and radiochemical and spectrometric analysis of samples collected in the vicinity of nuclear sites and certain industrial premises; radiochemical analysis of raw water sources which are used for drinking water supplies; and monitoring of radioactive fallout in air and rain. In Scotland, SEPA also carries out routine monitoring of the food chain in coordination with FSS in support of its regulatory activities.

- **Food Monitoring -** FSA / FSS is responsible for arrangements for monitoring and food sampling, and assessing the results to define any area to be subject to food advice and Controls. In the early stages following an incident, the FSA may take environmental samples as a surrogate for food in order to refine their advice. Environmental Health Officers are principally responsible for monitoring food in the retail chain. Trading Standards Officers are responsible for screening potentially contaminated non-food goods.
- **Water Monitoring** - Utility companies and authorities are responsible for ensuring the portability of public drinking water supplied to their customers – including its radioactive content – and identifying potentially contaminated water supplies. Local Authorities are responsible for ensuring the continued wholesomeness of private drinking water supplies serving multiple premises.

Supporting Organisations

5.6.7 In supporting the organisations with their key responsibilities, a number of agencies will carry out various activities to measure radiation and radioactivity, and provide results data for use in determining appropriate response strategies and activities.

5.6.8 The Radioactive Incident Monitoring Network (RIMNET), operated by the Met Office, would continue to take readings from 95 permanently operating environmental gamma dose rate monitoring stations located throughout the UK. RIMNET is the agreed national resource for collection, collation, storage and dissemination of monitoring information, which would be placed on the system by approved suppliers.

5.6.9 The MOD would make various equipment and manpower available for monitoring and general support, under agreements including Military Aid to the Civil Community (MACC) and Military Aid to the Civil Authorities (MACA). It would assist with the presentation of monitoring outputs by making them available as small-scale maps in hard copy, or as graphical computer representations of the monitoring database.

Principles

5.6.10 The following principles apply to monitoring arrangements:

- PHE CRCE will coordinate the monitoring resources made available to it in the event of an emergency and prepare monitoring strategies for approval by the SCG and STAC. These strategies will be prepared on the basis of national and local strategic considerations regarding

prioritisation of monitoring resource to aid and inform the emergency response to a nuclear emergency;

- Radiation monitoring co-ordination includes both the monitoring of people and of the environment. It does not change or remove any existing responsibilities that organisations might hold with regards to radiation monitoring;
- Any organisation offering resource to support the monitoring co-ordination process would do so voluntarily and in the light of particular constraints, which might include statutory monitoring responsibilities. PHE CRCE has no power to commandeer resources and PHE CRCE would not expect to take direct operational control of any resources made available;
- Any organisation which volunteers its resources to be coordinated by PHE is responsible for ensuring that their staff are properly informed and trained, and that resources are adequately maintained. PHE CRCE will provide organisations with appropriate information as the emergency develops, which will include an exchange of information necessary to assist in the restriction of radiation exposure of the employees of other organisations. Organisation's monitoring teams will however need to:
    - Be self-sufficient in respect of their own accommodation, transport, meals, communications, etc;
    - Have appropriate radiation protection skills to competently carry out the agreed monitoring tasks;
    - Work under the supervision of their own management structures;
    - Be self-sufficient in terms of Personal Protective Equipment (PPE);
    - Organisations undertaking monitoring as part of their statutory responsibilities should wherever possible share information about their strategy and activities with PHE CRCE so as to maximise the co-operative effort during the emergency; and
    - Each organisation undertaking monitoring would retain responsibility for entering their results into RIMNET and as such need to be an Approved Data Supplier for RIMNET.

5.6.11 The resources offered to the Monitoring Coordination Team might include staff to undertake monitoring and sampling, laboratory analysis capability, communication facilities and other specialist equipment such as data plotting and mapping capabilities. These resources could be provided by the range of organisations with monitoring responsibilities as listed in Section 6 of the main guidance and could also include resources made available from research organisations and general industry.

5.6.12 Given the recognised capabilities of the identified organisations, the level of resource required to support the monitoring effort could be scaled appropriately to match the size of the event. Many of the organisations identified have existing rostering structures that ensure continuity of the provision of services, and support resilience to events of extended duration. Where this resilience is not initially present, early consideration should be

given to the drawing up of shift rotas and the sharing of effort between responding organisations. This is of particular importance where staff from several responders is to undertake the same activities (for example in sourcing monitoring effort from a 'pool' arrangement resulting from resource made available through mutual assistance agreements).

5.6.13 Consideration should be given to the development of bilateral agreements with other countries and the use of other international assistance agreements for the provision of mutual aid to support additional resource, particularly for specialist activities such as marine and/or aerial monitoring capability.

Practical Issues

Monitoring

5.6.14 The purpose of any radiation monitoring programmes should be agreed and signed off by the SCG before it is implemented. This may include one or more of the following:

- To provide information to influence public protection strategies e.g. extension or reduction of countermeasures;
- To monitor the environment to determine the extent, nature and magnitude of a release of radioactivity;
- To monitor members of the public who may have been exposed to radioactivity to assess any increased levels of radiation exposure; and
- To provide reassurance.

5.6.15 Monitoring strategies should always be developed and implemented in the context of the available monitoring resource and also taking into account likely levels of radiation risk to be assessed.

5.6.16 PHE CRCE is responsible for provision of the initial radiation monitoring capability within 24hrs of an Off Site Radiation Emergency to manage up to 25% of evacuated people. Local plans should identify suitable locations; separate to primary care facilities, as well as additional temporary surge capacity. Arrangements should be capable of monitoring a significant flow of people measured possibly in hundreds. Longer term monitoring capability will be coordinated by PHE and will utilise wider industry and health radiation monitoring resources.

5.6.17 The results of monitoring people are subject to the Caldicott principles and as such, no patient identifiable data will be provided by PHE to non-NHS organisations.

5.6.18 The format of presentation of monitoring information for decision-making and advisory bodies such as SCG, STAC, SAGE and COBR should be agreed, as far as practicable, in advance.

Food Monitoring

5.6.19 The FSA / FSS will devise a sampling strategy which is appropriate to the emergency scenario using guidance in their internal nuclear emergency handbook. The strategy will be derived from routine monitoring procedures and adapted to take account of any specific requirements, for example

laboratory requirements for analysis and transport arrangements.

5.6.20 The principal aim of a sampling strategy is to determine the extent of any contamination and to define the area requiring possible food controls. Reassurance monitoring, and monitoring for impact assessment purposes are also of importance.

5.6.21 Sampling will be used to support modelling predictions in determining the boundary of any area where Maximum Permitted Levels (MPLs) in food are predicted to be exceeded. Once a general idea of the area is established, sampling will be targeted at areas, which are expected to be close to the MPLs to refine the size of this area.

5.6.22 Food sampling will not be carried out in any areas that are subject to sheltering or evacuation advice, as these will almost certainly have contamination levels above those that would exceed the MPLs and could un-necessarily expose sample collectors to higher doses. The boundary for food controls, and hence the area to be sampled, is likely to be significantly larger than for other countermeasures.

5.6.23 Initial effort will concentrate on easily collectable indicator samples, for example grass and milk. At a later stage, other food types may become more important. Consideration will be given to potential hotspots; for example hillsides, lee valleys and regions of higher roughness may have higher deposition.

5.6.24 Consideration will also be given to the sampling strategies of other organisations. The FSA / FSS will make as much use of other available sampling data as possible, for example dose rates, air concentrations and deposition data.

Coordination between Local and National Levels

5.6.25 In implementing the arrangements will require a high degree of co-operation between agencies and co-ordination, the following practical arrangements would also need to apply at the local level:

- Site operators have a vital role, as first line radiation monitoring data will come from the site operator. Communication channels and procedures for passage of monitoring data between the operator and other responders must be robust and well-rehearsed;
- The PHE-CRCE liaison officer would act as the link between the SCG and PHE's Monitoring Co-ordinator. He/she would convey the SCG's priorities for monitoring to the Monitoring Co-ordinator, and report progress on work underway back to the SCG. Through the PHE CRCE liaison officer, the Monitoring Co-ordinator would propose to the SCG, and where necessary update, a monitoring strategy that would aim to address the priorities of the organisations at the SCC;
- The Monitoring Co-ordinator and his/her team would operate at the tactical level, aiming to make the best use of existing resources.

Operational responsibilities would be retained at each monitoring organisation's emergency centre. The Monitoring Co-ordinator and team would match monitoring tasks to specific resources and request completion of the task through the relevant operational centre controlling the resources. This approach would encompass existing mutual support arrangements between nuclear operators; and

- Decisions on how this information should be passed on to the media and the public would rest, in the main, with the SCG under police or local authority chairmanship.

Decontamination

5.6.26 Decontamination arrangements can be put into place as follows:

- **Casualty -** The Ambulance Service may undertake casualty decontamination to reduce radiation levels before taking to hospital. Local Fire & Rescue Service may support this level of decontamination;
- **Mass Decontamination -** Local Fire & Rescue Service can provide mass decontamination capability at the request of the Ambulance Service. Further capability can be drawn from neighbouring Fire & Rescue Services in line with national mutual aid arrangements; and,
- **Vehicles -** There is no current decontamination process for contaminated vehicles. In such cases, the vehicle will be deemed contaminated for insurance purposes and subsequent loss action. The contaminated vehicle will be set aside at the decontamination centre and subsequently removed as contaminated waste.

5.6.27 Further details on decontamination and longer-term considerations are in Part 3 Recovery.

Radiation Protection

5.6.28 Technical guidelines on radiation protection for the public and for intervention personnel are at Annex Q.

Security Incidents

5.7.1 Specific guidance has been developed by DECC in consultation with the Home Office, the lead government department for security related events or acts, in relation to managing the integrated response to a terrorist action that results in a radiation emergency at a nuclear site.

5.7.2 The outline approach to managing such an incident is to build upon the existing radiation emergency response arrangements and provide specialist capabilities to manage any terrorist activity. In particular, single points of coordination at a national level, i.e. COBR, and at a local level, i.e. the SCG, remain fundamental to effective response. It may require additional flexibility and capacity at a local level to deal with both a safety and a security response, arguably the most demanding scenario.

5.7.3 Further details on additional arrangements that will be employed during any terrorist initiated radiation emergency are held under separate cover.

National Support and Mutual Aid

5.8.1 As most radiation emergency response plans are graduated with a number of emergency planning zones linked to different hazard scenarios and warning times, there is a requirement to ensure that any response capabilities beyond those owned by local responders are identified to allow regional and national capabilities to be effectively generated and deployed to support local response activities when needed.

5.8.2 Capabilities can usefully be described in terms of the need for people, equipment, infrastructure, training and plans/procedures and categorized as follows:

- Always Needed - to support immediate and detailed response arrangements for a reasonably foreseeable radiation emergency. For example:
  - Liaison;
  - Food safety advice;
  - Meteorological advice;
  - Environmental monitoring and interpretation;
  - Specialist technical advice;
  - Aerial photography; and
  - People monitoring.
- Potentially Needed - to support a timely response to beyond reasonably foreseeable radiation emergency. For example:
  - Wide scale environmental monitoring;
  - Large scale people monitoring and handling; and
  - Mass decontamination.
- Others - to provide a start point for extended emergency response beyond a reasonably foreseeable radiation emergency. For example:
  - Extended people monitoring and handling resources;
  - Extended environmental monitoring; and
  - Additional countermeasures resources.

5.8.3 Much can be done in preparatory activity (see Part 1: Preparedness) with specific needs reviewed as a response unfolds. If additional support is required arrangements are in place for requesting assistance from specialist agencies, neighbouring organisations etc. via regional or national coordination centres, liaison officers/teams or through established Memorandums of Understanding and mutual aid arrangements.

5.8.4 Many organisations will have mutual aid arrangements in place to cover a wide range of emergency scenarios. Mutual Aid: a short guide for local authorities from the Cabinet Office, 2008[8] provides additional guidance.

Response Timeline

5.8.5 Planners may produce a strategic decision timeline based upon IAEA Response Time Objectives included within IAEA Safety Standards and national good practice. Such an indicative timeline can be used to guide meetings and work schedules to ensure that key response activities are taken in a timely manner to ensure the effective response to a radiation emergency.

5.8.6 Response actions and activities can be grouped into three categories: immediate on-site 'default' response, led by the operator; urgent short-term counter-measure direction; and, the longer-term response to contain and control the situation. In reality some of these actions will run in parallel and with potentially a different focus at different levels of response.

5.8.7 Note: ***These are guidelines only and are not a legal requirement***

- Actions may vary depending on local arrangements; and
- Not all actions may be required in every circumstance

Table 4. Local and National Response Actions (columns are not chronologically aligned)

Local Actions	National Actions
Incident occurs (Site Emergency Plan and Procedures activated)	Notify LGD/DECC and ONR (operator)
Radiation emergency (on-site or off-site) declared (operator)	Initiate call-out of key duty personnel: • LGD/DECC EOC (IRT) • ONR RCIS • GLO
Notify local responders (operator)	ONR RCIS declared operational Determine central government response
Notification confirmed Declare major incident (Police control) Initiate call-out of local responders (Police control)	DCLG liaison team deployed to SCC

[8] See https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/62347/mutual_aid.pdf

Local Actions	National Actions
Provide urgent public protection advice (operator) Agree any immediate counter-measures (Police/SCG Chair) Confirm automated alert messaging (if appropriate) Consider immediate public information requirements and social media effect	LGD/DECC EOC declared operational Cabinet Office/LGD decision on activating COBR and SAGE
Virtual meeting of core initial response SCG members (Police, Fire, Ambulance, Local Authorities)	Initial COBR meeting
SCC and Media Support Cell declared operational (core SCC staff present)	Initial CRIP released
Issue of initial public information/media release covering urgent protective actions (SCG)	LGD/DECC EOC declared fully operational SAGE mobilised
Pre first SCG meeting SCG Chair to confirm: • Information received from operator • Site emergency services in place • TCG being activated • Potential rest centre requirements • Requirement for MBC • Immediate evacuation actions (if appropriate) • Casualty information • Security related or not	Formal liaison established between national operations centres and deployed LO teams
Receive initial radiation monitoring results at site perimeter/near site (operator)	SAGE established NCC established
Consider virtual STAC teleconference (STAC Chair)	
First SCG meeting. Confirm: • Prediction of off-site hazard (reasonable or beyond reasonably foreseeable scenario) • Countermeasures • Other command and control locations	CRIP update released Full formal COBR meeting COBR battle rhythm confirmed

Local Actions	National Actions
• RCG Chair and recovery process • MBC	
SCC declared fully operational (all organisations present or have established effective communications)	Detailed central government briefing issued
Issue first public information/media release	International informing completed
First situation report to EOC/COBR (SCG Chair)	
STAC fully operational (STAC Chair)	
National departmental and agency LOs including ONR, GLO (and team)	
Before 2nd SCG meeting confirm: • Vulnerable groups at risk • Actual off site contamination area from survey activity • Advice to schools • Advice to child care • Advice to care homes • Transport availability for evacuation	
Second SCG meeting (SCG Chair)	
Issue second public information/media release	
MBC established	
Complete radiation monitoring within DEPZ and edge of Extendibility Zone (SCG Chair, STAC Chair, ONR, PHE CRCE, Operator)	
Complete radiation monitoring within Extendibility Zone, ONR, PHE CRCE, Operator)	
Establish public health monitoring facility (PHE CRCE, Local Authority)	

6. Radiation Emergency Roles and Responsibilities

Overview

6.1.1 This section provides an overview of the key roles and responsibilities of those agencies likely to respond to a radiation emergency. The following points are considered:

- Roles and Responsibilities; and
- Skills and Knowledge

Roles and Responsibilities

6.1.2 The table below provides a summary of the roles and responsibilities for individual departments and agencies during a radiation incident. The table is not intended to be exhaustive in either organisations that may be involved or the functions they may fulfil.

Note: not all arrangements and statutory duties are identical across the UK / devolved administrations. It is recommended that individual departments and agencies familiarise themselves with the appropriate off site plans.

Table 5. Key roles for organisations

Organisation	Key Role
Ambulance Service	• Liaise with Police, Fire, Medical (If present) and Site Incident Officer • Provide / Update SitRep (CHALET / METHANE) report to ambulance control • Confirm / Declare Major Incident if required, (this is not included in CHALET used in Scotland) • Establish a suitable location for the Ambulance Control Point, co-located with the Police & Fire and Control Points • Establish a Casualty Clearing Station with adjacent Ambulance Loading Point • Request NHS Medical Commander (MC) / Site Medical team • Provide on scene direction on casualty triage; extrication; stabilisation; clinical intervention and transport to appropriate hospitals. In addition, the Scottish Ambulance Service (SAS) will despatch a SAS Radiation Protection Supervisor to the scene who is able to liaise with the SAS Radiation Protection Adviser (Public Health England).
Cabinet Office	• In conjunction with LGD, agree which elements of COBR

Organisation	Key Role
	need to be activated; • Establish single, authoritative overview of situation; • Coordinate CRIP process with government departments and Res CG/GLT; • Prioritise central government impact management activity; • Provide generic updates to national responders; • Provide central government recovery coordination activity; • Activate the NCC to provide public information in conjunction with the MCC; and • Consider activation of a Logistical Operations Cell to coordinate cross government sourcing and distribution of resources.
Civil Aviation Authority (CAA)	• On request, implement an Emergency Restriction of Flying under Article 161 of the Air Navigation Order
Defence Nuclear Safety Regulator (DNSR)	• Where defence assets or facilities are involved deploy an adviser to the SCC to provide independent advice on the emergency on-site and participate as a member of the STAC
Department for Communities and Local Government (DCLG), Resilience and Emergencies Division (RED) (England)	• Deploy GLO to the SCC to coordinate the Government Liaison team, focussing in the main on the off-site consequences and response; • Where necessary, assist in the co-ordination between Government, and local bodies by facilitating discussions and contact and by acting as a liaison point; • Ensure Central Government departments are fully briefed; • Activate operations centre to facilitate national coordination and assurance for reporting on national consequence management; • Facilitate mutual aid requests; • Liaise and share information with devolved administrations; and • Convene Response Co-ordinating Group (ResCG).
Department of Energy and Climate Change (DECC)	• Deploy a GLO to the SCC to support the wider Government Liaison Team for a civil radiation emergency in England and • Capture and maintain situational awareness of the emergency to inform cross-government response activity (where DECC are LGD); • Understand the immediate, medium, and longer term policy implications for civil Nuclear; • Understand the impacts of the incident on the wider energy sectors for which DECC have responsibility; • Provide accurate and timely briefing for DECC Ministers, and supporting them at COBR and other key meetings; • Meet international radiation incident early notification

Organisation	Key Role
	obligations; • Liaise with nuclear agencies and counterparts in other countries to request additional capability support where appropriate; and • Assist with SAGE secretariat support to Cabinet Office and GO Science if required.
Department for Environment, Food and Rural Affairs (DEFRA) (England)	• Advise on animal welfare issues; • Coordinate activity to minimise the impact of radiation on food production, farming and fisheries; • Coordinate activity with water companies to preserve safe drinking water supply to the public; and • Provide support to the FSA / FSS response.
Department of Health (DH)	• Provide the focal point on public health issues at national level; • Activate DH Incident Response Team and, if necessary an Operations Centre; and • Alert RDsPH and CCGs (if required) and provide authoritative information to regional office and health authorities.
Department for Transport (DfT)	• Advise on and, if required, action movement restrictions
Environment Agency (EA)	• Provide advice to the SCG/STAC on radiological aspects of environmental contamination; • Support environmental monitoring and sampling; • Manage flows of regulated waters if appropriate to minimise environmental impact; • Provide advice to the public on environmental impacts of any radiation emergency; • Check for breaches of a site operators authorisation, where relevant; and • Provide advice on the management and disposal of wastes contaminated with radioactivity.
Fire and Rescue Service Scottish Fire and Rescue Service	• Provide on scene direction on fire fighting, including preventative measures to contain or prevent escalation of the incident, and search and rescue operations; • Consider deployment of mass decontamination capability to nominated Evacuation Centre; • Prepare to support the ambulance service for mass decontamination; • Request PACRAM / CHEMET forecast from the Met Office; and • Prepare to support site emergency response to manage chemical spills or leaks to reduce environmental impact.

Organisation	Key Role
	Note: Due to differing legislation the roles and functions of the Scottish FRS are broadly similar but may vary from that of other UK FRS.
Food Standards Agency (FSA) / Food Standards Scotland (FSS)	• Provide advice to the SCG/STAC and responders on food contamination issues; • Determine and monitor levels of radioactive contamination within the food chain, including animal feed; • Take action to ensure that contaminated food which may pose a risk to human health does not enter the food chain; • Provide public advice and information, on food safety; and • In conjunction with the EA and SEPA, ensure contaminated foodstuffs are disposed of safely.
Foreign and Commonwealth Office (FCO)	• Advise on radiological aspects of environmental contamination; • Provide specialist advice and, if required, representation at LGD meetings; and • Advise DEFRA Divisions on technical and regulatory aspects.
Government Decontamination Service (GDS)	• Provide advice to the SCG / STAC on decontamination; • Advise on options for decontamination of the built and open environment, infrastructure and transport; and • Liaise with specialist decontamination capability suppliers.
Government Office for Science (GO Science)	• Activate SAGE to provide coordinated scientific and technical advice to impact management activity
Home Office	• Be prepared to provide LGD function in terrorism related incidents
Local Authorities *In some areas of England these roles will be split between County and District*.	• Implement local response plan(s); • Inform the public and provide immediate counter-measure advice as quickly as possible; • Assume the role of RWG Chair at the SCC (Local Health Board undertakes this function in Scotland;) • Through the DPH provide the STAC Chair in conjunction with PHE (not in Scotland). (In Scotland, the duty for public health rests with the local NHS Board); • Provide public health assurance to the SCG; • Deploy a communications officer to Chair the SMAC and lead the provision of information to the public. (In Scotland, during the emergency phase, Police Scotland chairs the SMAC.); • Notify and provide updated information for schools (staff and parents) and prepare to evacuate schools if during

Organisation	Key Role
	school day; • Collation of information and records relating to the incident; including policy log at RCG during recovery phase; • Prepare to deploy transport to support evacuation as required; • Identify voluntary organisation support; • Prepare to provide support for Evacuation Centres; • Activate Public Emergency Call Centre number and facility; • Coordinate the collection and disposal of waste; and • Support the FSA in enforcing food safety controls, if required.
Maritime & Coastguard Agency (MCA)	• Coordinate the exclusion of maritime traffic during an Off Site Radiation Emergency; and • Be prepared to support the police in evacuating people by sea where appropriate.
Met Office	• Provide forecasting response service as per PACRAM / CHEMET procedures to responders and site; • If required, deploy forecast adviser to SCC; • Provide long distance pollution information via RIMNET; and • If required, deploy forecast adviser to LGD operations centre.
Ministry of Defence (MOD)	• Deploy JRLO / team to SCC to support the GLO / GLT and to provide situational awareness to MOD through the military chain of command; • Provide advice on military capabilities; • If defence nuclear assets are involved MOD would be the LGD and HQ DNEO would be generated; and • Provide mutual aid as requested in support of a civil radiation incident (including mapping and monitoring resources).
Natural Resources Wales	• Principal adviser to Welsh Government, and adviser to industry and the wider public and voluntary sector, and communicator about issues relating to the environment and its natural resources • Regulator: protecting people and the environment including marine, forest and waste industries, and prosecuting those who breach the regulations that we are responsible for • Designator: for Sites of Special Scientific Interest – areas of particular value for their wildlife or geology, Areas of Outstanding Natural Beauty (AONBs), and National Parks, as well as declaring National Nature Reserves • Responder: to some 9,000 reported environmental incidents a year as a Category 1 emergency responder • Manager/Operator: managing seven per cent of Wales' land

Organisation	Key Role
	area including woodlands, National Nature Reserves, water and flood defences, and operating our visitor centres, recreation facilities, hatcheries and a laboratory • Evidence gatherer: monitoring our environment, commissioning and undertaking research, developing our knowledge, and being a public records body
National Health Service (NHS)	• Coordinate the NHS capability needed to support the local health response to a radiation emergency; • Identify and initiate NHS mutual aid to deliver an effective health response; and • Deploy staff to the STAC as required. Note: In England and Wales, Clinical Commissioning Groups deliver this function. In Scotland it is delivered by NHS Boards. The local health board will take the lead in establishing the STAC and providing advice to the SCG and other responders.
Nuclear Decommissioning Authority (NDA)	• Support and facilitate the responses of Site Licence Companies; • Provide policy advice and support to DECC/LGD; and • Provide communications and recovery support on issues relating to incumbent NDA Sites.
Office for Nuclear Regulation (ONR)	• Deploy an adviser to the SCC and participate as a member of the STAC to provide independent advice, where appropriate, on all matters relating to the: ○ Course of the emergency on-site; ○ Prognosis for the development of the incident and implications off site; ○ Source term for the emergency; and ○ End of the on-site emergency. • Establish emergency room (Redgrave Court Incident Suite); • Monitor activities of the operator and provide assurance on their actions to DECC/LGD; • Advise central government, including deployment of advisers and support teams to DECC EOC and SAGE; • Provide advice to DECC/LGD on wider communications, reporting and notifications; and • For incidents at MOD sites, support DNSR inspectors and provide advice to the MOD and SCG.
Police	• Activate local response; if appropriate, declare a Major Incident; • Activate the SCC and supporting facilities; • Identify a SCG Chair and deploy to SCC; • Collation of information and records relating to the incident,

Organisation	Key Role
	including policy log at SCG during response phase; • Prepare to coordinate any evacuation; • In conjunction with Highways Agency/Transport Scotland manage movement to control the risk to the public; • If required, arrange air and sea movement restrictions with DfT and MCA respectively; • Consider establishing a Casualty Bureau; and • Prepare to investigate the incident to establish any criminal activity; if no criminal activity supports ONR investigation.
Public Health England (CRCE, PHE Strategic Team)	• Provide advice on public countermeasures to the SCG/STAC and radiation protection advisers as required to SCC, STAC or SAGE; • Provide interpretation of the public health implications of hazard assessments and predications to inform the SCG; • Be prepared to participate in media briefings at the MBC; • Coordinate PHE capability to support a public health response; • Activate PHE emergency operations centres (Chilton and Victoria); • Direct and co-ordinate off site monitoring activities of monitoring resources made available by other organisations, assimilate data and information, undertake radiological assessments and formulate radiation protection advice; and • Specify ERLs and related advice on their application and intervention criteria for recovery.
RIMNET	• Provide RIMNET User and responder community support to inform UK impact assessments; • Attend response cells as required (e.g. DECC EOC, SAGE); • Coordinate and quality assure monitoring data, delivering international data exchange; • Provide mapping and plume prediction products; • Provide an information distribution mechanism as required (e.g. to UK LA's); and • Meet UK obligations via the IAEA (USIE) and EU (ECURIE) reporting systems.
Scottish Environment Protection Agency (SEPA) **Scotland only**.	• Provide advice to the SCG/STAC on radiological aspects of environmental contamination; • Arrange environmental monitoring and sampling; • Provide advice to the public on environmental impacts of any radiation emergency; • Check for breaches of a site operators authorisation, where relevant; • Provide advice on the management and disposal of wastes contaminated with radioactivity;

Organisation	Key Role
	• Advise on accumulation and disposal of radioactive waste; • Advise on technical and regulatory aspects; and • Provide information to the public, media and other agencies as appropriate.
Scottish Government (SG)	• Activate emergency response arrangements – Scottish Government Resilience Room (SGoRR); • Deploy SGLO to the SCC to support the SCG and to liaise with SGoRR; • Activate emergency response arrangements – Scottish Government Resilience Room (SGoRR); • Capture and maintain situational awareness of the emergency, and brief Ministers; • Ensure effective communication between local, Scottish and UK levels, including the co-ordination of reports on the response and recovery effort; • Support response and recovery efforts as appropriate, including appropriate allocation of national resources; • Provide the focal point on public health and NHS resilience issues at national level; and • Animal welfare – provide advice and support activity to minimise the impact of radiation on food production and water supply.
Site Operator	• Activate site emergency response to contain and deal with the incident as quickly as possible, and to configure the plant or process in a safe condition; • Notify and activate external response arrangements such as CESC (if applicable); • Ensure safety of personnel on the site; • Terminate any release of radioactivity as quickly as possible; • Coordinate provision of resources and supplies to sustain the company response on site; • Provide timely radiological data and plant information, and detailed interpretation, to the STAC (and SAGE) to formulate countermeasure advice for the protection of the public off site; • Coordinate off site environmental monitoring by company assets, in coordination with PHE support wider environmental monitoring strategy; • Align operator media response with the SMAC; and • Deploy a Company Technical Adviser to the SCC, communications officer to the MCC and health physicist to the STAC

Skills and Knowledge Required

6.2.1 This guidance is aimed at people with a role in the multi-agency response to an off-site radiation emergency. It does not aim to list all the skills and knowledge requirements of participants; it is intended to highlight the nuclear specific skills and knowledge requirements that are supplementary to normal multi agency response requirements.

Table 6. Strategic Coordination Group (SCG) and Recovery Coordinating Group (RCG)

	SCG and RCG Participants	SCG and RCG Chairs
Knowledge	• Your own organisation's roles and responsibilities; • Roles and responsibilities of other SCG/RCG participants and an understanding of the key interfaces for your organisation; • Unique elements of the radiation emergency response arrangements in the UK and how they are integrated into generic emergency response arrangements; • Countermeasures available and their role in responding to an off-site radiation emergency; and • Sources of information available to the SCC e.g. The Incident Information Monitoring System (TIIMS), the Nuclear Emergency Response Information Management System and Resilience Direct.	• Role, function and structure of an SCG/RCG as it relates to an offsite radiation emergency and on-going recovery; • Key elements required to effect a stand down of the acute phase and a handover to the Local Authority to lead the recovery phase of the event (SCG); and • Key elements required to ensure preparedness for handover (RCG Chair).
Skills	• Ability to understand the key issues as they arise at the SCG/RCG; • Ability to contribute effectively to discussion at SCG/RCG meetings, as required; and • Ability to initiate and perform your organisation's response in cooperation with other agencies in attendance.	• Ability to understand the unique challenges of strategic leadership in an offsite radiation emergency; • Ability to seek and evaluate scientific and technical advice from key players and from STAC; • Ability to lead and direct the group to provide consistent and best available advice; • Ability to follow agenda and set priorities for the group; and • Ability to manage the meeting to deliver requests / objectives in a timely fashion to protect the public and the environment.

Table 7. Scientific and Technical Advisory Cell (STAC)

	STAC Members	STAC Chairs
Knowledge	• Risk relating to an offsite radiation emergency; • Countermeasures available i.e. Potassium Iodate tablets, sheltering and evacuation; and the hazards and benefits of interventions; • Role of the Company Technical Adviser and the ONR in civil radiation emergencies; • Role of food controls and advice in the emergency response; and • Emergency Reference Levels and intervention levels.	• Understanding of the roles of STAC members in generating advice for the SCG/RCG Chair; • Understand how to chair meetings effectively; • Understanding of the priorities and capabilities of each contributing organisation; and • Awareness of the various sources of information available.
Skills	• Ability to contribute effectively to STAC discussion and decision-making; • Ability to assimilate and analyse information in a timely fashion; • Ability to horizon scan and consider future implications; • Ability to consider and understand issues in a strategic context; and • Ability to prioritise in order to focus relevant activity (data gathering, analysis and advice).	• Ability to assimilate information from a number of agencies and provide advice to the SCG/RCG Chair; • Ability to lead and direct the group to provide consistent and best available advice; • Follow a meeting agenda and set priorities for the group; and • Manage the meeting to deliver requests/objectives in a timely fashion to protect the public and the environment.

Department of Energy & Climate Change
3 Whitehall Place
London SW1A 2AW

www.gov.uk/decc

URN15D/464