



## Dounreay and Vulcan NRTE Emergency Plan

Version 8.1 – Public Version



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Dounreay & Vulcan Off-Site Emergency Plan

Issue 8.1 – March 2025

OFFICIAL

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#### **ACRONYMS**



HM Naval Base Clyde

Vulcan NRTE

Dounreay

The Highland Council

Police Scotland

Scottish Ambulance Service (SAS)

NHS Highland

Scottish Fire and Rescue Service (SFRS)

Maritime and Coastguard Agency

Scottish Environment Protection Agency (SEPA)

Scottish Water (SW)

Scottish Government

Food Standards Scotland (FSS)

United Kingdom Health Security Agency - Radiation, Chemical and Environmental Hazards (UKHSA - RCE)

Office for Nuclear Regulation (ONR)

Staff Officer Nuclear Emergency & Response & Training (SONERT)

## Introduction

The plan outlines the roles and responsibilities of the emergency services and other agencies and summarises their expected response to an incident at the Vulcan Naval Reactor Test Establishment (NRTE) or Dounreay Site.

This plan is intended as an initial response document only. Once an incident has developed, each agency would then refer to their own plan to ensure that their own area of responsibility is fulfilled.

This plan has been prepared with regard to and in compliance with the Radiation Emergency Preparedness and Public Information Regulations 2019 (RREMS) by The Highland Council Resilience Team in collaboration with Rolls Royce, Dounreay and the Royal Navy under the auspices of the Highlands and Islands Local Resilience Partnership.

The following Organisations and Agencies were consulted as part of the plan creation, compilation and production process.

Dounreay

Food Standards Scotland

United Kingdom Health Security Agency - Radiation, Chemicals and Environmental Hazards (UKHSA - RCE)

Scottish Fire and Rescue Service

Maritime and Coastguard Agency

NHS Highland

Police Scotland

Vulcan NRTE

Office for Nuclear Regulation

Scottish Ambulance Service

Scottish Environment Protection Agency

Scottish Government

Scottish Water

The Plan is reviewed every three years or more frequently in the event to significant changes in circumstances.

### Quick Reference Guide

Dounreay is a complex nuclear site comprising of a variety of nuclear facilities including reactors and reprocessing plants which are in the process of being decommissioned. There are also a variety of radioactive waste, storage and disposal facilities.

Vulcan NRTE has ceased all Naval Reactor Plant operations and the site operations are now focused on decommissioning. The site comprises of a number of facilities, the majority of which do not hold radioactive material.

	Dounreay	Vulcan NRTE
Site Owner	Magnox	MoD
Site Operator	Dounreay	RR on behalf of MoD
Grid Reference	Digital: 2985670 OS: NC 985 670	Digital: 2977 9667 OS: NC977 667
Main approach Road	A836	A836
Site Construction began	1955	1957
Became operational	1957	1965
Number of historical nuclear reactors	3	2
Reactor Status	Shut down (none operational since 1994)	Shut down (none operational since 2015)
Site status	Decommissioning	Decommissioning
Potential Off-Site Hazards	Ionising Radiation	Ionising Radiation
Iodine Tablets issued	No	No
Approximate daily number of site personnel	1,300	300

Responding to SCC	Yes	Yes (MoD support only)
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## Environment Conditions

### Meteorological

The Dounreay/Vulcan NRTE sites are adjacent to the North Atlantic Ocean on the North coast of Scotland. As Atlantic depressions pass the UK the wind typically starts to blow from the south or south west, but later comes from the west or north-west as the depression moves away. The range of directions between south and northwest accounts for the majority of occasions and the strongest winds nearly always blow from these directions. The prevailing wind is from the south-east. Spring time tends to have a maximum frequency of winds from the north east. As these are also the coldest wind directions in winter, this factor combined with the relative winter warmth of the Atlantic Ocean, results in the relatively low incidence of frost and, particularly, snow. However, the site receives no shelter from the prevailing winds.

The rainfall Return Periods based on historical data (averaged from rain gauges at Strathy, Halladale, Shebster, Greenland and Halkirk) – 24-hour rainfall range from 40.33 mm. 2 year return to 64.62 mm 100 year return.

### Geological

Due to its stable geology, Dounreay/Vulcan (NRTE) is in an area that is less susceptible to seismic activity than other parts of the UK. No seismic events with a magnitude to damage conventional well-built constructions have been recorded in the vicinity of the site in recent history.

### Hydrographic

The Dounreay/Vulcan (NRTE) sites are adjacent to the North Atlantic Ocean and is within the catchments of no rivers except the Mill Lade, which is a stream that runs through the Dounreay site from south to north into the Atlantic Ocean. Groundwater flows to the Mill Lade and north into the sea.

### Aviation activities

All aircraft (commercial and general) are restricted from flying at a height of less than 2100ft within a circle of radius 2 nautical miles centred on the Dounreay site (583435N 0034434W). In addition, a Provost Marshal Prohibition Zone is in place around all UK Nuclear facilities.

The Dounreay/Vulcan (NRTE) sites are in an area of low crash incidence. In addition, whilst there is an airport in Wick, this is 40 kilometres away and there is no flight path associated with this airport which approach the Dounreay/Vulcan (NRTE) sites.

The Plan has been divided into distinct sections to provide both general and specific guidance depending upon which site is involved in an emerging emergency.

## Section 1 Aims, Objectives and General Overview

### 1.1 Aim

The 2 main aims of the plan are as follows:

1.1.1 To set out the initial arrangements and provide guidance for responders for dealing efficiently with a nuclear incident involving either Vulcan NRTE or Dounreay.

1.1.2 To ensure The Highland Council meets their regulatory compliance requirements in providing a singular an off-site plan with chapters for the two nuclear sites located at Dounreay, Thurso.

### 1.2 Objectives

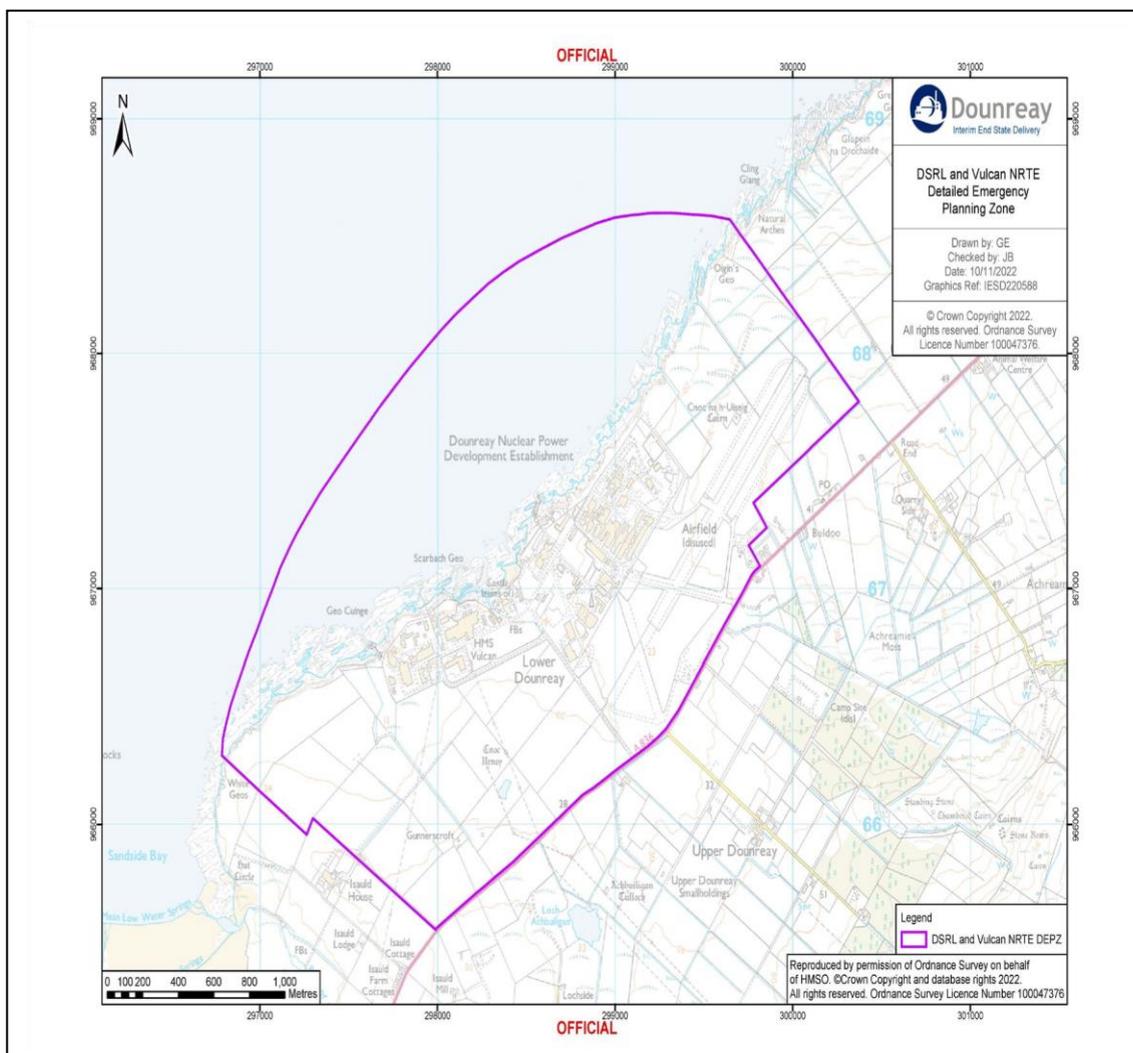
The principle objectives of the plan are as follows:

1.2.1 To state the roles of the participating agencies through defined responsibilities.

1.2.2 To provide an initial response document for all the agencies.

1.2.3 To ensure appropriate procedures are provided with adequate guidance to meet regulatory requirements.

### 1.3 Map of Vulcan NRTE and DSRL DEPZ



## Section 2 Vulcan NRTE

**2.1** In September 2022 Highland Council received the following consequences report from the Submarine Delivery Agency.

### REPPiR 2019 - VULCAN NRTE DECLARATION OF NO CHANGE OF CIRCUMSTANCES

1. In September 2019 Vulcan NRTE sent a Consequences Report<sup>1</sup> to Highland Council as required by Regulation 7 of REPPiR 19<sup>2</sup>. Regulation 6 of REPPiR 19 requires the Operator to review the Hazard Evaluation and Consequence Assessment (HECA) within 3 years of the date of the last submission. The Consequences Report is based upon the HECA.
2. Vulcan NRTE has undertaken a review of the HECA, the outcome of which did not identify any factors which materially affect the Consequences Report. Therefore, in accordance with Regulation 6(2)b of REPPiR 19 it is formally declared that there has been “No Change of Circumstances”.
3. The existing Consequences Report continues to provide the necessary information for the Local Authority’s Offsite Emergency Plan and no update to the Consequences Report is necessary.

### 2.2 Administration

The Head of Establishment and the Officer authorised to sanction plant operations on site by the MoD Regulator is the Naval Superintendent Vulcan (NSV), who is the senior Royal Navy Officer and is of Commander Rank. The NSV has a naval staff who oversees all site operations. Control is exerted by the Ministry who have involvement in all decision making processes involving plant operations.

Rolls-Royce are contracted to operate and maintain the nuclear reactor plant on behalf of the MoD.

#### 2.2.1 Background

For more than forty years of operation, Vulcan has been a cornerstone of the Royal Navy nuclear propulsion programme. The site has adopted many different roles to support the submarine fleet. Vulcan is, or has been, all of the following:

- A test bed for evolving reactor technology.
- A lead plant for new seagoing plant and equipment.
- A training facility for nuclear submarine operators.
- A test rig for investigation of loss of coolant conditions.
- A refurbishment and testing facility for submarine reactor cooling pumps.

### 2.3 ACCIDENTS AND PROTECTIVE ACTION ZONES

#### 2.3.1 Definition of Nuclear Emergency

*“radiation emergency” means a non-routine situation or event arising from work with ionising radiation that necessitates prompt action to mitigate the serious consequences:*

*(a) of a hazard resulting from that situation or event*

*(b) of a perceived risk arising from such a hazard, or*

*(c) to any one or more of*

*(i) human life*

*(ii) health and safety*

*(iii) quality of life*

*(iv) property*

*(v) the environment*

### 2.3.2 Protective action Zones

Vulcan NRTE has identified four protective action zones.

**Exclusion Zone:** This is the area in which people would be at greatest risk from the hazards of an accident i.e. the immediate vicinity of the accident.

**Automatic Protective actions Zone:** This is the zone beyond the Exclusion Zone in which automatic actions would commence immediately on the declaration of a Site Nuclear Incident or an Off-Site Nuclear Emergency. This is a zone defined as that part of the Vulcan Site boundary fence i.e. does not include the car park, approach roads or foreshore area. All Vulcan personnel within this zone have been given instructions on what they should do in the event of an accident. If these instructions are followed, no-one within the Automatic Protective actions Zone will exceed any of the upper level emergency reference levels of radiation dose, and the majority will not exceed any of the lower ones. Within the Automatic Protective action Zone all non-essential individuals are mustered at Shelter Stations as soon as either an SNI / OSNE are declared and prior to subsequent evacuation. A small number of key personnel within the Emergency Response Team (ERT) may remain in or re-enter this zone if necessary and when instructed. Any individual within this area (or re-entering) will be controlled and must have specific authorisation.

**Detailed Emergency Planning Zone** (Figure 3): Extends to 800 meters around the site. Research indicates that there are clear benefits in recommending protective actions beyond the automatic protective action zone into the Detailed Emergency Planning Zone following the declaration of an OSNE thereby allowing the opportunity to implement protective actions before there is a confirmed off-site hazard, i.e. before reaching an OSNE (RHC) or OSNE (RRMC).

**Outline Planning Zone:** ii. An Outline Planning Zone (OPZ) for Vulcan is in direct alignment with the OPZ for the adjacent Dounreay Site Restoration Limited (DSRL) civil nuclear establishment, as specified by the Secretary of State for Defence in accordance with regulation 9(1)(c).

### 2.3.3 Advice, Monitoring and Use of Equipment

Personnel from all the responding organisations will only enter a contaminated area in urgent or lifethreatening situations. Before entering any such area, advice will be sought from the Vulcan Incident Commander at the Vulcan Emergency Control Centre (VECC) and the monitoring team, as to what protective clothing should be worn and which protective actions should be implemented. This equipment will be provided by DSRL/Vulcan.

Ideally, no personnel from any organisation should enter the contaminated area unless accompanied by a member of one of the monitoring teams. Personnel leaving the contaminated area will be advised as to which radiation screening unit they should attend, along with his/her vehicle.

Cordon points will be well out with any contaminated or potentially contaminated area, and therefore Police Officers on duty at these points will **not** require to wear protective clothing as a matter of routine.

### 2.3.4 Fuel Handling Accident

A Fuel Handling Accident resulting in a confirmed release of radioactive material to the environment could only occur as an issue during reactor refuel, defuel or fuel movement operations or during post-irradiation examination/storage of used fuel in a pond.

However, although the possibility of a release exists and is extremely low, the safety cases for the above processes demonstrate that a criticality accident is not credible and that the only identified credible accidents are associated with a loss of shielding and possible fuel fragmentation.

There would, therefore, be no significant release of radioactive materials off-site and the main hazard associated with a fuel handling accident would therefore be enhanced gamma radiation levels in and around the areas of the accident. Protective measures would be instigated as necessary locally to protect the operators and workforce, but it is not envisaged that protective actions to protect the general public would be necessary as a result of a fuel handling accident.

## 2.4 States of alert and activation of Emergency Arrangements

2.4.1 Hazards that result in an Inadvertent Criticality Event are mainly related to spent fuel handling operations, or other operations in close proximity to stored spent fuel. Typically, these events are only possible through severe damage to fuel modules, resulting in fragmentation of the irradiated fuel. Such a criticality is extremely unlikely to occur, and the assessments produced to support the safety case include numerous pessimisms necessary to support deterministic safety case arguments. These pessimisms associated with criticalities caused by significant impacts onto fuel on site are judged to significantly reduce the likelihood of such a criticality occurring.

2.4.1.1 DEFINITION: An offsite nuclear emergency (OSNE) will be declared on the occurrence of any accident causing, or likely to cause, the release and spread of radioactive material in such a way that there would be interference with the normal activities of the public.

## 2.4.2 Emergency Categories

2.4.2.1 There are three emergency categories:

- (a) Safety Alert (SA) – An abnormal event which poses a threat to, or causes serious concern for, reactor plant or special nuclear material safety.
- (b) Site Nuclear Incident (SNI) – An abnormal event giving rise to a radiological hazard or potential radiological hazard which is confined in its effect to within the site boundary and which requires the site/operators response plan, or parts thereof, to be implemented.
- (c) Off Site Nuclear Emergency (OSNE) – A hazardous condition which requires the implementation of urgent protective actions to protect the public. The following additional qualifiers are applicable to an Off-Site Nuclear Emergency:
  - (1) Radiation hazard confirmed: an Off-Site Nuclear Emergency in which a radiation hazard has been detected (OSNE(RHC)).
  - (2) Release of radioactive material confirmed: an Off-Site Nuclear Emergency in which a release of radioactive material to the environment has been detected (OSNE(RRMC)).

## 2.5 Initial Actions

### 2.5.1 Vulcan Command and Control

The tactical level of command and control will be set up at the Vulcan Emergency Control Centre (VECC), located within Vulcan NRTE. Dounreay Fire and Rescue Service (DFRS) will respond to the VECC from DSRL. All other agencies will either be represented virtually within the virtual SCC or at the tactical level of command at Divisional Police Headquarters, Old Perth Road, Inverness.

- A Police Liaison Officer (PLO) would be deployed to the VECC supplied from the ranks of the Ministry of Defence Police (MDP) located at Vulcan. It will be the responsibility of the PLO to provide timely and accurate updates to the SCC
- The primary function of the VECC is to provide On-Site operational level of command and control for the Site Controller and their support team. The Site Controller is responsible for directing all activities on the Vulcan Site.
- In an emergency, on-Site tactical level of command for the Incident Commander and their support team. In the immediate period following declaration of an Off-Site Nuclear Emergency, and until the Military Co-ordinating Authority (MCA) and their support team are established at the SCC, the Incident Commander will assume responsibility for liaising with and providing advice in respect of the incident to Local Authorities, the MoD and other Central Government departments.

### 2.5.2 The Emergency Radiological Incident Centre (ERIC)

ERIC will support Vulcan by assessing the nature and extent of the radiological release and providing protective actions advice. All readings from both on-site monitoring and from the off-site monitoring teams are collated at the ERIC before it is passed directly to the VECC. ERIC is also on the DSRL site and not only assesses the incoming raw data, but also passes on protective actions advice.

### 2.5.3 Initial Actions by Vulcan NRTE at Safety Alert

On declaration of a Safety Alert (SA) by the Site Controller, the Emergency Response Team (ERT) will muster in the VECC, located within Vulcan NRTE.

**Note:** It is emphasised that a Safety Alert does not constitute a fuel accident. The Site Emergency Alarm will not be sounded on declaration of a Safety Alert. If the Safety Alert is declared during the normal working day, all non-essential personnel will initially remain at work. This response is appropriate to the situation and will only progress to a site-wide response should the situation escalate.

- As there is no external hazard, to prevent public panic, excessive external response and undue media attention/enquiry, limited elements of the NERO, including the Incident Commander, will only be informed of the situation. Bringing elements of the NERO to an enhanced state of readiness allows advice to be sought from the relevant technical organisations and any other necessary support to be made available at an early stage.
- Having assembled the ERT, the Site Controller will have the personnel and authority to take actions as appropriate to mitigate the hazards and to support Plant Operations staff in their actions.
- Depending on progression of events and circumstances, the Site Controller may, at any point, despatch two technical advisors to the SCC in Inverness or instruct they join virtually, escalate the emergency response or call the Site to Shelter Stations prior to evacuation.

#### 2.5.4 **Actions on Site Nuclear Incident (SNI) or Off-Site Nuclear Emergency (OSNE)**

- Upon declaration of a Site Nuclear Incident or Off-Site Nuclear Emergency the Site Emergency Alarm will be sounded and all non-essential Site personnel will proceed to Shelter Stations for muster prior to evacuation. For non-essential persons on site, the principal automatic protective action will be evacuation off-site to their place of residence.
- Vulcan Incident Commander will close up in the VECC with all available ERT staff and establish command.
- The NERO and external agencies will be informed of the development.
- On being informed of an Off-Site Nuclear Emergency at Vulcan, HMNB Clyde will despatch the MCA and the associated Nuclear Emergency Back-up Support Team (NEBUST) to the SCC in Inverness, or instruct they join virtually, whilst the Nuclear Emergencies Monitoring Team (NEMT) will be on call and despatched to DSRL in support of Vulcan should this be deemed necessary by the MCA. The DSRL ERIC team will become fully operational.
- A MoD Liaison Officer may be dispatched to the SCC or instructed to join virtually, to advise the Gold Commander and the MCA.
- The SCC will be authorised to release the first media communication informing the public within the DEPZ to take shelter.
- An indication that the Vulcan Site Emergency Alarm has been sounded is provided on the Dounreay Site. The Dounreay Site Emergency Alarm will be initiated immediately once confirmation has been received that the Vulcan alarm signifies a genuine incident.

#### 2.5.5 **Evacuation of Site Personnel**

- Prior to any evacuation, Site personnel will be directed to Shelter Stations for mustering. The Site Emergency Alarm will be sounded at SNI and OSNE, at which point all remaining Emergency Response Team personnel close up at the VECC and all other staff proceed to Shelter Stations (unless directed otherwise). The aim is to muster and account for all personnel and evacuate the site in a controlled manner before OSNE. A SNI is site contained only if it escalates to an OSNE is there a need to impose DEPZ controls.
- Respirators are not required by evacuating personnel. As an immediate response will be undertaken as previously described and the threat from any airborne hazard is extremely low.

- Personnel evacuating site will evacuate to their places of residence and not to an Off-Site Evacuation Point.

### 2.5.6 Initial Actions Dounreay

When Vulcan notifies the Dounreay Site Shift Manager on declaration of SA (no Site Alert activation), DSRL's initial response would be:

- Deployment of Health Physicist to ERIC (EMS Checks).
- Notification to the Dounreay Controller of the Day who decides what emergency response Dounreay should invoke based on any current information.

Security events excluded, if the Vulcan alert is sounded (SA upgraded to SNI/OSNE) and not countermanded by Vulcan within one minute:

- The Dounreay site alert will be sounded and DSRL would staff up the emergency centres.
- DFA&RS will be on stand-by for deployment as deemed appropriate.
- OHD would be mobilised to receive casualties.
- CNC would be made aware via the agreed security protocols.

### 2.5.7 Roles and Responsibilities of Dounreay

The DSRL Dounreay response to an escalation of a Vulcan incident, once the site alert sounds, would have the entire emergency response organisation brought into force.

In responding to a Vulcan incident, the Dounreay responsibilities are summarised as follows:

- Staffing of the Dounreay Site Emergency Control Complex (SECC) to ensure that the safety of all personnel on the Dounreay site.
- Provide assistance and support to the Vulcan team at both the operational and tactical levels.
- Rescue and treatment of casualties through provision of the Dounreay Fire and Rescue Service to the Vulcan Site.
- Manning of the Emergency Radiological Incident Centre (ERIC) to ensure that protective action advice is available.

### 2.5.8 Roles and Responsibilities of the Ministry of Defence (MoD)

MoD Nuclear Emergency Organisation (MoD HQ NEO)

- To co-ordinate the response of all MoD authorities.
- To record and co-ordinate all reports and data from the accident site.
- To prepare and co-ordinate briefings of all government departments.
- To prepare and provide reports for the Defence Nuclear Emergency Organisation (DNEO).
- To prepare and provide material for public and media information and briefings.

### 2.5.9 Military Co-ordinating Authority (MCA)

- Overall command of all local MoD resources and post-incident responses and procedures following an Off Site Nuclear Emergency being declared at Vulcan. The responsibility for controlling the immediate situation On-Site is delegated to the Vulcan Incident Commander.

- (b) Liaison with the local civil authorities and providing them with all relevant information and advice on the actions they should take.
- (c) Responding to the media in consultation with the Police.
- (d) Co-ordination and provision of support requested by the Incident Officer.
- (e) Reporting to MoD HQ NEO.

Vulcan Incident Commander (Naval Superintendent or Deputy)

- (a) Responsible to the MCA for co-ordinating all activities on site from the Vulcan Emergency Control Centre (VECC).
- (b) In the immediate post-accident period, and until the MCA is established at the Strategic Coordinating Centre, the Vulcan Incident Commander will assume initial responsibility for:
  - i. Liaison with and providing advice to local authorities.
  - ii. Liaison with the MoD and other Central Government Departments.
  - iii. The supervision and completion of automatic responses.
  - iv. The minimisation of radioactive releases using the appropriate containment measures.
  - v. The identification of requirements for further, non-automatic protective actions.
  - vi. The provision of information to the local population.

#### 2.5.10 Site Controller (Provided by Rolls Royce)

- (a) Responsible to the Incident Commander for directing all activities on the Vulcan Site.
- (b) Initial informing of all external and supporting agencies and authorities.
- (c) Establish the scope of the accident.
- (d) Minimising the consequences of the accident.
- (e) Ensuring automatic protective actions are implemented.
- (f) Ensuring casualties receive medical attention.
- (g) Ensuring unauthorised persons do not enter the area.
- (h) Managing the muster of personnel at Shelter Stations and evacuation of the Site at OSNE.
- (i) Ensuring that all personnel who are authorised to enter the area are subject to full health physics control.
- (j) Ensuring that reliefs are provided for essential personnel.
- (k) Conducting dynamic or documented Risk/benefit assessments for the conduct of interventions.
- (l) Authorising individual emergency radiation exposure levels.

#### 2.5.11 Ministry of Defence Police (MDP)

The Police are the co-ordinating authority in relation to all matters regarding the safety of the public off-site, and it is important that the Police Liaison Officer at the SCC makes it clear that they will require continuous updates in relation to all matters regarding public safety. In order to achieve ongoing communication an MDP officer will deploy to the VECC to take on the role of Police Liaison Officer. It will be the responsibility of the PLO to provide timely and accurate updates to Tactical Command at Divisional Police Headquarters, Inverness.

## Section 3 Dounreay Site Restoration Ltd

### 3.1 Dounreay Consequences Report

In September 2022 Highland Council received the following Consequences Report from Dounreay.



## REPPIR 2019 – CONSEQUENCES REPORT UNDER REGULATION 7

### Consequences Report

## Part 1 – Factual Information

*Clause 1(a) - Name and address of the operator:*

Dounreay Site Restoration Limited. Dounreay, Thurso,  
Caithness, KW14 7TZ.

*Clause 1(b) - Postal address of the premises where the radioactive substance will be processed, manufactured, used or stored, or where the facilities for processing, manufacture, use of storage exist:*

Dounreay, Thurso, Caithness, KW14 7TZ.

*Clause 1(c) - The date on which it is anticipated that the work with ionising radiation will commence or, if it has already commenced, a statement to that effect:*

Work with ionising radiation commenced on the Dounreay site in 1955.

## Part 2 – Recommendations

*Clause 2(a) - The proposed minimum geographical extent from the premises to be covered by the local authority's off-site emergency plan:*

**Detailed Emergency Planning Zone (DEPZ):** The proposed minimum geographical extent from the premises to be covered by the DEPZ is an area extending to a distance of not less than **630 m** from grid reference NC 9898 6723 as shown in Figure 1.

**Outline Planning Zone (OPZ):** An outline planning zone of **5 km** has been determined for the Dounreay nuclear site in accordance with regulation 9(1)(a) – this zone will be brought into effect when technical assessments determine that the potential consequences of the non-routine situation or event are greater than those currently considered commensurate in planning assumptions.

*Clause 2(b) – The minimum distances to which urgent protective actions may need to be taken, marking against each distance the timescale for implementation of the relevant action; and Clause 3(a) – The recommended urgent protective actions to be taken within that zone, if any, together with timescales for the implementation of those actions:*

630 m from grid reference NC 9898 6723 in all directions – sheltering inside buildings.

The declaration of an Off-Site Nuclear Emergency by the operator to the local authority will provide the trigger for implementing the off-site emergency plan and initiating the above recommended urgent protective actions. Implementation of the protective action should begin immediately on declaration of an off-site emergency.

*Clause 3(b) – Details of the environmental pathways at risk in order to support the determination of food and water restrictions in the event of a radiation emergency:*

**Detailed Emergency Planning Zone (DEPZ):** There are no environmental pathways at risk as the accidents which define the DEPZ involve radiation only with no release of material.

**Outline Planning Zone (OPZ):** A release of material to air or the sea may occur. For an airborne release, radioactive material will be dispersed downwind. A proportion of this material will be deposited on the ground and could enter into the terrestrial food chain. Radioactive material released to the air will also make its way into the freshwater environment either through run-off or direct deposition on open water. For a marine release, radioactive material will be deposited in the sea to the north of the Dounreay site which could affect the marine food chain.

### Part 3 - Rationale

*Clause 4 – The rationale supporting each recommendation made:*

**Detailed Emergency Planning Zone (DEPZ):** 630 m from grid reference NC 9898 6723 in all directions –sheltering inside buildings. This is to protect against external radiation in the event of an uncontrolled nuclear criticality during the recovery from an initial criticality event. A detailed emergency planning zone of 630 m has been recommended as this is the distance at which the lower Emergency Reference Level (ERL) of radiation dose for sheltering could be averted.

**Outline Planning Zone (OPZ):** An outline planning zone of 5 km has been determined for the Dounreay nuclear site in accordance with regulation 9(1)(a). Analysis of potential accidents has shown that even for the most severe but unlikely accident urgent countermeasures based on the lower ERL for sheltering would be justified to a distance of less than the outline planning zone.

*Clause 5(a) – The rationale for its recommendation on the minimum distances for which urgent protective action may need to be taken:*

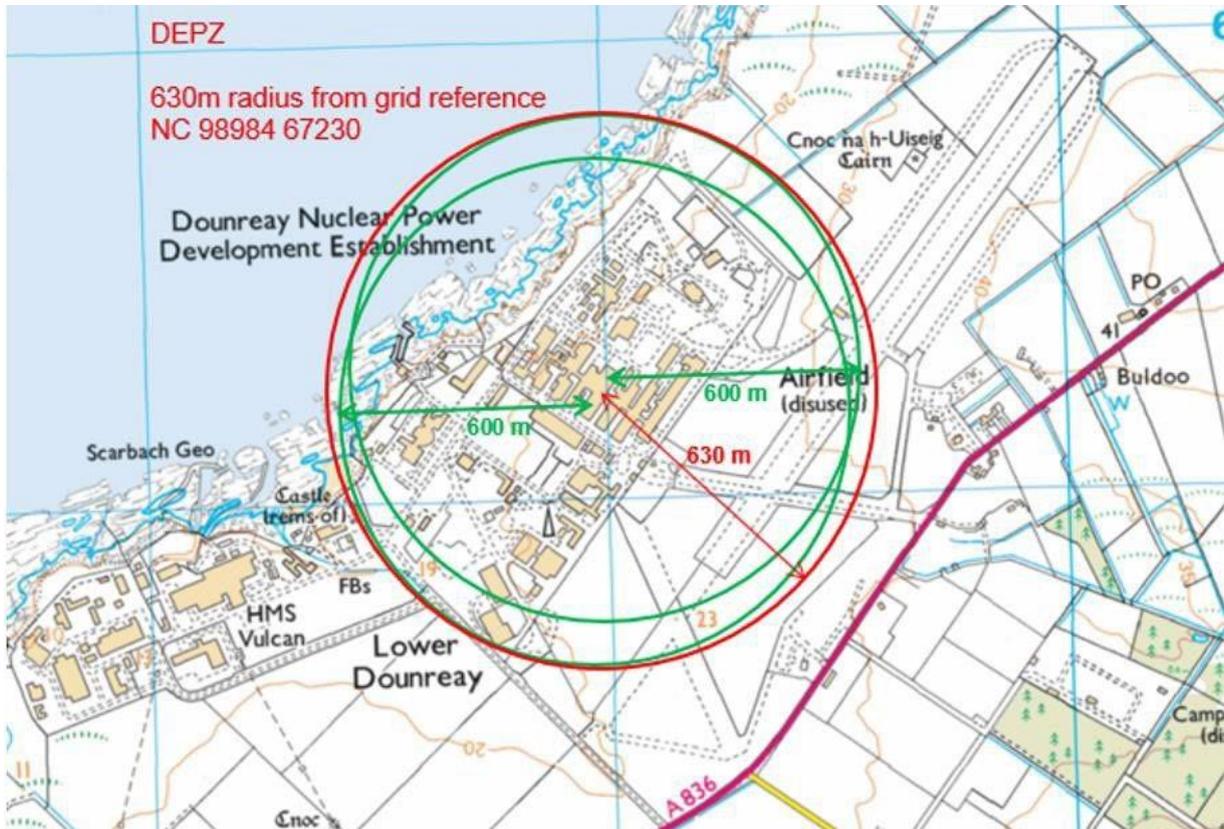
**Detailed Emergency Planning Zone (DEPZ):** The minimum distances recommended are based on the full range of possible consequences of the radiation emergencies identified under regulation 4 and assessed in the consequence assessment made in accordance with regulation 5. These consequences were subsequently compared with the emergency reference levels (ERLs) listed in National Radiological Protection Board (now UK Health Security Agency) publication Vol 1 No 4 1990.

Due to the relatively low number of people in the affected areas, the site-specific intervention levels have been chosen to coincide with the lower ERL for sheltering recommended in the above publication.

*Clause 5(b) – The rationale for agreement that no off-site planning is required.*

This clause does not apply to the Dounreay nuclear site.

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*Figure 1: Minimum geographical extent of the Detailed Emergency Planning Zone Defined By Criticality Accidents*

### 3.3 Site Operations

Primary operations on the site for this three-year REPPiR period include;

- Storage, preparation, packing and removal of fuel from the site
- Storage of intermediate level liquid waste
- Treatment and storage of liquid and solid intermediate level waste
- Treatment and storage of solid low level waste
- Treatment of residual alkali metals in the reactors
- Decommissioning of redundant facilities

Low level liquid waste is discharged into the sea, and gaseous discharges are made through designated stacks. These discharges are authorised and regulated by the Scottish Environment Protection Agency (SEPA) under the Environmental Authorisations (Scotland) Regulations 2018 (EA(S)R), and are well within the authorised limits.

As decommissioning progresses, radioactive material is being removed from facilities and packaged or treated to make it passively safe for long-term storage, thus reducing the radiological hazards on the site. The remainder of the fuel on site is being transported to Sellafield for storage and processing.

### 3.3.1 **Radioactive Materials on Site**

As Dounreay also reprocessed fuel following its irradiation in the reactors, there is a wide range of radioactive materials on site. The site holds both irradiated and unirradiated fuel as well as solid and liquid intermediate and low level waste.

Details of the quantities of radioactive materials present in specific locations on the site are excluded from this report for security reasons. This more detailed information has been made available to the ONR within existing safety case reviews to enable their comprehensive review of DSRL's assessment.

The NDA's policy requires that fuel is transported from Dounreay to Sellafield. The remaining waste on the site will be treated if necessary to make it passively safe. Intermediate level waste will be stored on site and low level waste will be placed in a repository for disposal. The closure contract anticipates completion of this work.

### 3.3.2 **Safety Controls**

Nuclear facilities at Dounreay must have safety documentation to show that the radioactive material and radiation can be safely contained within the building, which minimises the risk of radioactive exposure to the workforce or the public. To show 'defence in depth', facilities are designed with a series of containment barriers to minimise the risk of radioactive release to the environment.

### 3.3.3 **Engineering Controls**

Any equipment whose failure may cause harm to people or the environment are designed and built to stringent specifications, regularly examined, tested and maintained, and operated by trained staff.

### 3.3.4 **Systematic Analysis**

Dounreay produces a Safety Case for each nuclear facility that is being built, in operation or being decommissioned. The Safety Case examines all possible scenarios that could lead to a radiation emergency and analyses the likelihood of each and its consequences. Actions can then be taken to avoid or minimise the likelihood of the risks happening, through building design or protection systems.

### 3.3.5 **Detection and Mitigation**

The Environmental Authorisations (Scotland) Regulations 2018 (EA(S)R) requires Dounreay to sample and monitor all radioactivity discharge points, both gaseous and liquid. Discharge stacks are continuously monitored, to ensure that abnormal levels of radioactivity are quickly identified. Radioactive liquid samples are analysed before being discharged to sea, to ensure that Dounreay's discharges remain within authorised limits.

Most radioactive emergencies will be caused by an event, which will trigger a rapid response from emergency services and incident response teams.

### 3.3.6 **Management System**

Any significant changes to nuclear facilities which may affect safety are subject to detailed reviews. The Dounreay Nuclear Safety and Environment Committee, which advises on all matters that may affect safety both on and off the licensed site, advises on significant changes to equipment, modifications or organisational structure.

### 3.3.7 **Staffing**

Dounreay's Managing Director is responsible for the safe operation of the site and for ensuring that sufficient numbers of suitably qualified and experienced staff are available at all times to operate the facilities safely. Any significant changes to the organisational structure at Dounreay are sent to the Office for Nuclear Regulation (ONR) for consent or agreement.

Dounreay operates a shift system, and individuals trained to take control in an emergency are on site at all times. An on-call system ensures that sufficient back up staff are available in the event of an emergency.

### 3.3.8 Procedures

Dounreay has a framework of procedures in place which covers all work that might affect safety. Work needed to keep each nuclear facility safe and regularly maintained will be specified in the Safety Case.

### 3.3.9 Regulatory Control

Dounreay is regulated by the ONR - which includes the Civil Nuclear Security (CNS) programme, by SEPA and by the European Atomic Energy Community (EURATOM).

- **ONR** is responsible for regulation of nuclear safety and security across the UK. The ONR CNS programme is responsible for approving security arrangements within the civil nuclear industry and enforcing compliance to prevent the theft or sabotage of nuclear or other radioactive materials, the sabotage of nuclear facilities, and to protect sensitive nuclear information. It does this in accordance with the Nuclear Industries Security Regulations (NISR) 2003 (as amended).
- **SEPA** is Scotland's environmental regulator. It is responsible for regulating the keeping and use of radioactive substances and the accumulation and disposal of radioactive wastes.

### 3.3.10 Emergency Organisation

Dounreay has an Emergency Plan which is supported by other emergency arrangements documents. The Emergency Plan is reviewed and revised at least every three years and submitted to ONR for approval. The Dounreay emergency arrangements are regularly exercised; to ensure that suitably qualified and experienced people are available at all times to respond to any events that cause the nuclear facilities on site to deviate from their normal operating conditions. Dounreay compares its emergency planning against the rest of the nuclear industry and outside the industry, to ensure that the emergency plans reflect best practice.

### Command and Control structure

*Any incident at Dounreay is managed using the 'all hazards approach'. This consists of a three tier emergency response:*

- **Operational / Bronze Level** - *Control of the incident and the safety of personnel directly involved.*
- **Tactical / Silver Level** - *Control of the Dounreay site, excluding direct control of the incident.*
- **Strategic / Gold Level** - *Co-ordination of actions dealing with the off-site aspects of the incident.*

*The levels of control required are set up according to the particular incident being dealt with.*

### Site Emergency Control Centre (SECC)

The tactical level of command for an incident at Dounreay will be established at the Site Emergency

Control Centre (SECC) and either Police Scotland Divisional Police Headquarters, Old Perth Road, Inverness or facilitated virtually. All responding organisations should ensure that within their initial actions, representatives from their organisation attend the SCC at Inverness as soon as possible. The representatives should be of an appropriate standing to make tactical decisions.

The SECC has dedicated on-site facilities that would be established in a very short timescale, typically 10 to 15 minutes, to provide a co-ordination centre for the deployment of site based emergency teams, the initial co-ordination of district survey teams and the provision of early advice on the need for urgent protective actions via the Police.

The SECC is located within the Dounreay site. The centre has its own protected environment, together with other facilities to provide detailed information on radiological conditions within the site and the immediate vicinity. It can also provide meteorological information relevant to the area. The SECC is under the command of the Site Emergency Controller.

All readings from on-site monitoring and from the off-site monitoring teams are collated at the Emergency Radiological Incident Centre (ERIC), before it is passed directly to the SECC. ERIC not only assesses the incoming raw data, but also passes on protective actions advice.

The Police are the co-ordinating authority in relation to all matters regarding the safety of the public off-site, and it is important that the Police Liaison Officer at the SECC makes it clear that they will require continuous updates in relation to all matters regarding public safety. In the event a Police Scotland PLO cannot be deployed to the SECC, a CNC Officer will deploy to the SECC to take on the role of Police Liaison Officer. It will be the responsibility of the PLO to provide timely and accurate updates to Tactical Command in the SCC.

### 3.3.11 Potential Hazard Sequences

The prevention controls in place at Dounreay work to ensure that the majority of potential faults cannot result in a radiation emergency. For an emergency to occur, a significant number of engineering failures or human errors would have to take place.

### 3.3.12 Potential Credible Off-Site Events

Dounreay's Safety Case process identifies and assesses all potential accident scenarios that would result in public exposure to a release of radioactivity to the environment.

The principle source of hazard for the general public would be from exposure to radioactive or other toxic material contained in any external release. Fire or explosion would assist in the dispersal of such material. The likelihood of an accident, resulting in significant quantities of radioactive or toxic material being released into the environment, is remote. Nevertheless, with significant quantities of such materials used, processed and stored on site, there is always the possibility of such a release, occurring.

The following events resulting in radiation doses greater than 1mSv to public have been identified;

- Criticality (radiation)
- Aircraft Crashes (contamination)
- Flask impacts (radiation)
- Seismic events (contamination; aquatic/airborne)

### 3.3.13 Criticality

Criticality is an uncontrolled nuclear chain reaction and takes place when enough fissile material, such as enriched uranium or plutonium, is in one place.

Although Dounreay minimises the risk of a criticality occurring by strictly limiting the amount of fissile material in one place, the possibility of a criticality accident cannot be entirely ruled out.

Although they are often of very short duration, in a criticality accident there is the possibility of a release of ionising radiation offsite which would be difficult to mitigate.

### 3.3.14 Consequence Report

In accordance with RREMS 19 regulation 7(1) Dounreay has made an assessment pursuant to regulation 5 (1) considering and evaluating a full range of the possible consequences of the identified radiation emergencies at Dounreay. A report setting out the consequences identified by that assessment is provided in Appendix 2.

### 3.3.15 Summary

There are controls in place at Dounreay that help to minimise the likelihood of a radiation emergency. Facilities are designed, built and operated to strict specifications to ensure that they can be operated safely. The nuclear regulators rigorously scrutinise the safety of the site and have powers to shut down facilities that they consider to be in breach of requirements.

## 3.4 States of Alert

Dounreay Off Site Nuclear Emergency (OSNE)

Declaration Definitions

The following definitions apply to the different emergency states described within the emergency plan:

### 3.4.1 Dounreay Emergency

A Dounreay Emergency is declared as a result of an incident causing, or liable to cause: a)

An enhanced radiation field

b) A release or spread of radioactive or other toxic material

such that special precautionary measures are necessary to minimise the danger to life or health or personnel within the Dounreay licensed site boundary.

**Note:** a Dounreay Emergency could arise from an incident at Vulcan NRTE

## 4.1 RADIATION AND CONTAMINATION DEFINITIONS (BOTH SITES)

### Radiation and Contamination

In order to understand the hazards of a reactor emergency, it is important to appreciate the meaning of and differences between the terms radiation and contamination.

Even in a situation where the fission products remain contained, the penetrating radiation that they give off may still irradiate people in the vicinity. **This is termed a radiation hazard.**

Protection against radiation hazards is afforded by, reducing the time people spend close to the fission products, placing shielding between the individual and the radiation source or increasing the distance between the individual and the source.

If however, personnel became contaminated with fission products, either on the surface of their body or internally by breathing, eating or drinking, then the subjects carrying the source of radiation around with them would continue to be irradiated until that source was removed. **This is termed a contamination hazard.**

Some protection against such a hazard can be afforded by the use of protective clothing. Skin contamination can normally be removed by simple washing.

## The Hazards

Following an OSNE involving the release of fission products outside the primary circuit, there are 2 distinct ways by which people could be irradiated:-

- a) **Gamma radiation** from fission products retained within the submarine containment boundaries would be transmitted in all directions through the vessels hull. Both shielding and distance from the submarine would diminish the intensity of this pure radiation hazard. However, people within, or in close proximity to the vessel could be exposed to high levels of radiation. This hazard is referred to as **Gamma Shine**.
- b) Less likely is the release of some of the fission products from the NPW to the atmosphere or into the water. The release of fission products, the actual radioactive material, constitutes both a radiation and contamination hazard.

### Biological effects of radiation

It is the ionising radiation given off by the fission products that would pose the hazard following any reactor emergency. As the radiation passes through the human body, ionisation events occur which may damage or kill cells. The body is of course being subjected continuously to natural background radiation and has well developed repair processes to deal with radiation damage.

Different human cell types have very different radiation sensitivities, but if the radiation dose is great enough and large numbers of cells are killed; signs and symptoms of acute radiation exposure would appear. These acute radiation effects include skin burns and most severely death, but all have a defined threshold of dose below which the effect will not take place.

At radiation doses below the thresholds, acute effects cannot occur, although cells may have been damaged with the result that exposed individuals have a statistically increased risk of development of cancer in years to come. For radiation protection purposes, the increased risk of these effects is assumed to be directly proportional to the radiation dose, without any threshold

## 4.2 PROTECTION OF THE PUBLIC FROM THE HAZARDS OF AN OSNE

### Management

If an OSNE were to occur, emergency procedures would be followed by engineering support with the aim of preventing or minimising, maintaining the integrity of containment in order to prevent or minimise any release of fission products. This management strategy would form an important element in the overall protection of the public.

### Emergency Protective actions

In the highly unlikely event of an OSNE, increases in the radiation level above natural background would result and probably continue for a period, which could be shortened if some form of intervention was to take place. For a serious nuclear emergency, intervention to reduce doses could be required in the form of emergency protective actions being implemented in the surrounding area. The implementation of widespread protective actions, even in accordance with a pre-planned scheme, is not a risk-free activity. It follows that there must be some criteria on which to base any decision to take such measures following a reactor emergency.

The criteria for the implementation of emergency protective actions following an OSNE are based on the principles that the protective actions should achieve more good than harm, and that introduction and withdrawal of the measures should be aimed to provide optimum protection. It is the risk to the individual, which is considered of greatest importance in determining the need for emergency protective actions. The basic requirements for implementation criteria are as follows: –

- a) Protective actions should be introduced to ensure that no individual suffers acute effects from radiation.
- b) The increase in probability of the individual suffering effects from radiation exposure in the absence of the protective actions, should be balanced against the detriment from the protective action itself to determine the optimum protection of the individual.

- c) Within the UK, United Kingdom Health Security Agency - Radiation, Chemicals and Environmental Hazards (UKHSA-RCE) provides guidance on emergency protective actions to protect the public following an OSNE. Basic methods of reducing radiation exposure such as time, distance and shielding are still relevant in the mass protective actions situation, but they are incorporated into the following protective actions that are applicable to population near Dounreay and Vulcan.
- d) **SHELTER** – The public remaining in-doors with doors and windows closed and any ventilation systems shut-off.
- e) **EVACUATION** – In the context of OSNE contingency planning, the term evacuation refers to the movement of people out of an area as an emergency measure to provide short-term protection for durations of up to a few days. If carried out prior to the existence of any hazard, evacuation would prevent almost all the radiation exposure that would have resulted. The adverse effects and difficulties of population evacuation, however, are significantly greater than shelter.

### 4.3 OUTLINE PLANNING ZONE

Assessments of the consequences of radiation emergencies demonstrate that emergency protective actions would only be required beyond the DEPZ in the improbable event of a large release of fission products to the atmosphere.

The probability of this event is so low that detailed emergency plans are not proportionate and commensurate to the risk. However, in view of the need for some pre-planning to be carried out in order to achieve effective implementation should the need arise, the site operators have determined the Outline Planning Zone (OPZ) at 5km in line with REPPiR.

The zone extends to 5km in all directions around the DEPZ but following an emergency it is anticipated that the requirement for protective actions would be confined to the downwind sector only.

The factors which would cause outline planning to be triggered include technical assessments of the emergency situation or monitoring results suggesting urgent protective actions were required to a distance greater than the extent of the detailed emergency planning zone.

### 4.3.1 Site Locations

Authorised Nuclear Site	Grid Reference
Dounreay	NC 985670
Vulcan NRTE	NC 977667

### 4.3.2 Vulnerable Groups

There are no **vulnerable groups** within the DEPZ boundary.

For the purposes of this document '**Other Facilities of Interest**' have also been included. For further information on all of these groups, please see tables below -

Other 'facilities of interest' in the surrounding area of the Sites		
Facility	Distance	Information
Reay Primary School	3.4km	Primary School - 36 pupils, 3 teachers

### 4.3.3 Centres of Population nearby

Location	Population	Distance from Sites
Reay & Surrounding area	594	Within 5km
Buldoo & Upper Dounreay	24	Immediately outside DEPZ
Thurso	8,992	13km

Source : NRS Mid 2016 population estimates for settlements.

## SECTION 5 – ARRANGEMENTS FOR ASSISTING ON-SITE RESPONSE

### 5.1 IMMEDIATE ACTIONS – AT THE EMERGENCY SITE

Dounreay and Vulcan NRTE have produced an "Operators On-Site Emergency Plan" for each location. This plan details the actions, roles and responsibilities of all personnel in response to a nuclear emergency and links directly with this Plan. The initial actions include but are not limited to the following:

- Alerting personnel on site
- Alerting external authorities
- Muster stations
- Dispersal of non-essential personnel from site
- Establishing an appropriate Emergency Response Team

## 5.2 EMERGENCY WORKERS – DETAILED EMERGENCY PLANNING ZONE (DEPZ)

The only persons that may be admitted to the DEPZ, are designated emergency workers. Which could include

- Site Personnel;
- Members of civil emergency authorities, potentially Scottish Fire and Rescue Service, Scottish Ambulance Service and Police Scotland;
- Military personnel potentially Naval and Civil Radiation Monitoring Teams and Explosive Ordnance Disposal (EOD) personnel
- Emergency or essential workers as necessary and authorised by their organisation's Radiation Protection Adviser

All emergency workers are to receive a safety briefing by their employers prior to entry to this area, or as soon as possible after the declaration of an emergency if they are required to remain within the site. The briefing will be specific to their task.

Police Scotland will not normally enter the area unless required to assist with implementation of public protective actions, the security and preservation of evidence and the subsequent investigation. This being the case appropriate safety procedures will be followed. The radiological safety requirements for all personnel will be determined and implemented by the relevant officers at the SCC.

The SAS will be managed by the NHS cell within the SCC. The response will depend on the radiation and contamination hazards at the time. In the case of an incident requiring decontamination of injured personnel beyond the capabilities of the EZRC, the SAS would assume responsibility for the triage and decontamination of those affected. In responding to a radiation emergency, responsibilities can be summarised as follows:

- a. the saving of life and the provision of immediate care to patients at the scene of the emergency and in transit to hospital;
- b. the alerting of hospital services, immediate care GPs, and other relevant NHS agencies;
- c. the evacuation of the injured personnel from the scene in order of medical priority;
- d. arranging and ensuring the most appropriate means of transport for the injured to the receiving hospital;
- e. the supply of patient care equipment to the scene of a major incident; and
- f. to arrange the transportation of appropriate medical staff and their equipment to the scene of a major incident."

## SECTION 6 - INITIATION OF THE OFF-SITE RESPONSE

### 6.1 ACTIVATION OF THE OFF-SITE PLAN

#### Vulcan

An OSNE will be declared if it is determined that the implementation of off-site countermeasures will be beneficial to members of the public. It is the responsibility of the affected site to make this declaration and will be based on the advice provided by the Incident Commander in partnership with the ISC/SC

#### Dounreay

A Nuclear Off-Site Emergency (NOSE) will be declared as a result of an event which gives rise to or potentially gives rise to the release of activity off-site.

In the event of an OSNE/NOSE being declared the affected site will initiate the specific site emergency plan and the multi-agency Off-site Emergency Plan. Off-site, Police Scotland will initiate the cascade alerting system to the relevant authorities to close up at the SCC.

## CASCADE CALL OUT LIST

The following agencies will **always** be notified on the declaration of an OSNE/NOSE -

- Police Scotland
- Scottish Fire and Rescue Service;
- Scottish Ambulance Service;
- The Highland Council;
- NHS Highland
- Scottish Government
- Met Office
- HM Coastguard (HMCG)
- Scottish Water
- Scottish Environment Protection Agency;
- United Kingdom Health Security Agency – Radiation, Chemical & Environmental Hazards Directorate (UKHSA – RCE)
- Food Standards Agency
- Food Standards Scotland

**Police Scotland Service Overview** will initiate the cascade call out for agencies to attend or dial in to at the Strategic Co-ordination Centre (SCC), Inverness.

The ongoing management and control of all required protective actions will be co-ordinated by multiagency groups at Strategic and Tactical levels from the SCC.

The **emergency phase** of the off-site response will be co-ordinated by the Strategic Incident Commander, Police Scotland and during the **recovery phase** will be co-ordinated by the Chief Executive, The Highland Council, or nominated representative.

Planning for the recovery phase is established immediately by the formation of the multi- agency Recovery Co-ordination Group, chaired by an appropriate Senior Officer, The Highland Council. For information on the **Handover/Recovery see Section 7**.

The provision of timely/effective health protection advice is the responsibility of a multi- agency group, namely the Scientific and Technical Advice Cell (STAC) and is chaired by an appropriate senior representative from NHS Highland.

## 6.2 STRATEGIC CO-ORDINATION CENTRE (SCC)

The co-ordination of the emergency response is the role of Police Scotland. To achieve this, Police Scotland, will appoint a Strategic Commander to co-ordinate the activities of the Local Resilience Partnership (LRP). A Police Tactical Commander will also be appointed to co- ordinate the tactical elements of the emergency response. For an OSNE the Strategic and Tactical elements of management will be located at the SCC, Inverness or hosted virtually.

Agencies which **will or may** be represented at the SCC include:-

- ONR;
- HM Naval Base Clyde - MOD Co-ordinating Authority; (For Vulcan NRTE emergencies only)
- DSRL Dounreay (For Dounreay emergencies only)
- Police Scotland;

- Scottish Fire and Rescue Service;
- Scottish Ambulance Service;
- The Highland Council;
- NHS Highland
- Scottish Government
- HM Coastguard;
- Scottish Water;
- Scottish Environment Protection Agency - SEPA;
- United Kingdom Health Security Agency - Radiation, Chemical & Environmental Hazards (UKHSA – RCE);
- Food Standards Scotland

Once the Strategic Group have assessed the situation the following agencies **may** also attend if required -

- Met Office;
- Animal and Plant Health Agency;
- British Telecom

### **6.3 ROLES / MEMBERSHIP OF DECISION MAKING AND ADVISORY GROUPS**

The purpose of this section is to clarify the role and composition of the various decision making and advisory groups and their interface during the emergency phase of an incident.

#### **6.3.1 STRATEGIC CO-ORDINATING GROUP (SCC)**

This senior group will only be composed of members whose role it is to make strategic decisions on behalf of their organisation. The group must be small and dynamic, coming together for focused meetings, and armed with sufficient information from their own agency to allow group strategic issues to be discussed and decisions made.

Therefore, the Chair must be proactive in politely asking anyone who shouldn't be there to leave.

#### **STRATEGIC CO-ORDINATING GROUP (SCC) - ROLES OF MEMBERS**

##### **Police Strategic Commander Coordinating Group (SCG) – Chief constable or Duty ACC**

Chairs the SCG and co-ordinates the emergency response phase, towards the restoration of normality.

##### **Police Tactical Commander ('N' Division Commander or representative)**

Informs the SCG of all issues arising from the LRP Tactical Group requiring strategic direction, and implements the decisions of the LRP Strategic Coordinating Group.

##### **Police Media and Public Communications Representative**

Advises the SCG on any key issues of public/media concern from all agencies and on the media/information strategy. Also, implements decisions of the LRP SCG requiring dissemination of information to the public.

##### **Chief Executive, The Highland Council (or nominated representative)**

Supports the emergency services during the emergency phase of the emergency and advises the SGC on matters pertaining to recovery. Also prepares to take over the co-ordination role from Police Scotland when the emergency phase is over.

##### **Scottish Fire & Rescue Service – Strategic Commander (Duty Gold)**

SFRS – Strategic Commander (Duty Gold) Advises the SCG on the SFRS capabilities and capacities and the wider UK FRS capabilities. Provides FRS strategic overview to enable suitable strategic decisions to be made.

#### **Chief Executive - NHS Highland (or nominated representative)**

Responsible for overseeing arrangements with designated hospitals for the treatment of casualties, both irradiated and non-irradiated and the provision of radiation screening facilities and advice to the HSCP in relation to Care for People.

#### **Military Co-ordinating Authority (HM Naval Base Clyde) (For Vulcan NRTE emergencies only)**

The MOD Coordinating Authority (MCA) is the appointed Nuclear Suitably Qualified and Experienced Person (NSQEP) Executive Director of the MOD's operational response in the Dounreay area. Providing detailed onsite information to the Strategic Coordinating Group (SCG) Commander on arrival and establish and maintain effective liaison and support throughout.

#### **DSRL Senior Manager of the day (For Dounreay emergencies only)**

The DSRL Dounreay representative, advises the SCG on the incident and in the initial stages, what public protection actions may be appropriate.

#### **Scottish Government Liaison Officer (SGLO)**

Provide advice and support to responder organisations within the off-site centre on devolved matters and liaise with the Scottish Government Resilience Room (SGoRR).

#### **IN ADDITION**

The following officials will not sit at the table but MAY be required to support their Strategic representative:

- Police Staff Officer and/or Police Emergencies Procedure Adviser;
- The Highland Council - Chair of Recovery Co-ordination Group;
- The Highland Council - Chief Executive's support officer

SCG meetings must be timed to support members' attendance at LRP Tactical, STAC and RCG meetings.

Chair of the meeting may invite other agencies to attend the Strategic meeting if Strategic input is required.

In the recovery phase, **after a formal handover to the Chief Executive of the Local Authority**, all the above agencies will still be represented, but in the case of the Police, at a less senior level.

### **6.3.2 TACTICAL CO-ORDINATING GROUP**

The TCG group will be chaired by the Police Tactical Commander and **meet as soon as possible if the Strategic group meeting is delayed for any reason**. Following this meeting the Police Tactical Commander will call meetings of the LRP TCG as and when necessary to pass on strategic decisions and report issues/advice back to Strategic.

The role of the Tactical group is to implement the strategic decisions made by the Strategic group and is the principal forum where all agencies meet to assess information and implement measures. The following are key members of the TCG group. Representatives from other agencies will join if / when appropriate. Specific roles of members are as follows:-

#### **TACTICAL CO-ORDINATING GROUP - ROLES OF MEMBERS**

**Police Tactical Commander**

Chairs Tactical and manages all Police actions through the SCC Police cell.

**Scottish Fire and Rescue Service Senior Officer**

Manages all Scottish Fire and Rescue Service actions through the SCC Fire and Rescue cell.

**Assistant Military Co-ordinating Authority – HM Naval Base, Clyde (For Vulcan emergencies only)**

Provides specialist support to the MOD Co-ordinating Authority on the implementation of emergency protective actions.

**Scottish Ambulance Service Senior Officer**

Manages all ambulance service activities through the SCC medical cell and communicates with the Ambulance Incident Commander.

**The Highland Council Representative (Ward Manager)**

Manages all of the local authority activities through the local authority cell.

**NHS Highland Representative**

Manages all NHS activities for implementation of casualty care, public health protective actions, and primary health care.

**Scottish Government – Government Liaison Officer**

Provide advice and support to responder organisations within the off-site centre on devolved matters, liaising with the Scottish Government Resilience Room – (SGoRR).

**Other members**

- Representative of the **STAC**;
- Representative of the **Recovery Co-ordination Group**; • Representative of **Food Standards Scotland**.

Chair of the meeting may invite other agencies to attend the Tactical meeting if input required.

TGC Group must be timed to support member's attendance at SCG, STAC and RCG meetings.

**6.3.3 SCIENTIFIC AND TECHNICAL ADVICE CELL (STAC)**

In the event of a radiation emergency, it is vital that the Police Strategic Commander and the SCG are given clear authoritative advice on the effects of the emergency on public health and on the appropriate off-site protective actions to be implemented.

The STAC should have a standard core membership to ensure consistency and to support a rapid response. Thereafter the composition of the STAC can be tailored to reflect the nature, scope and scale of the specific incident, as agreed with the SCG or TCG Chair.

A meeting of the **STAC core group should be held as quickly as possible** to carry out initial health and environmental risk assessment and to identify the ongoing requirements for specialist advice to the Strategic and/or Tactical co-ordination groups. In some circumstances the initial STAC discussions and advice to the lead responder can be made by telephone. Adequate contact arrangements should therefore be in place.

**STAC – ROLES OF MEMBERS**

**STAC Chair** - The STAC should be chaired by a senior representative of the local NHS Board, normally the Director of Public Health Medicine or a Consultant in Public Health Medicine. The chair

of the STAC may change as the incident progresses but only when there are no issues in relation to public health to consider.

**It is recognised that operation of the STAC is more effective when the Chair is consistent. Changes in the Chair leads to ineffective operation of the STAC.**

**Deputy Chair** - In order that co-ordinated work in the STAC group continues during periods when the Chair is reporting to the main SCG or to other groups, a member of the STAC should be identified to act as a deputy chair.

**Leadership** - The STAC chairperson should have the relevant skills/experience to chair complex technical meetings, in order to fulfil the remit of the group in providing co-ordinated advice. The lead individual should be someone at an appropriate level of seniority within their agency.

**Training** - Ideally, STAC chairperson(s) should have undergone specific training to familiarise themselves with the requirements of the role.

**Core members of the STAC:**

- NHS – Director of Public Health/Consultant in Public Health Medicine;
- ONR;
- Local Authority – Environmental Health Officer;
- Police Scotland
- Scottish Fire & Rescue Service – HAZMAT Officer and Radiation Protection Adviser (RPA);
- United Kingdom Health Security Agency – Radiation, Chemical & Environmental Hazards Directorate (UKHSA – RCE) – Strategic Advisor;
- Food Standards Scotland (FSS) supported by Food Standards Agency (FSA);
- SEPA Representative.

**Additional members may include:**

- NHS Radiation Protection Adviser;
- Animal and Plant Health Agency (APHA);
- Scottish Government;
- Scottish Water;
- Met Office.

**STAC meetings must be timed to support members' attendance at SCG, LRP TCG and RCG meetings.**

**Public Information from the various agencies represented at the STAC will be provided to the Public Communication Cell by the Chair or via the Strategic Group.**

#### **6.3.4. SCIENTIFIC ADVISORY GROUP FOR EMERGENCIES (SAGE)**

It is anticipated that the SAGE will be activated in support of COBR for all nuclear 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.

**SAGE will not sit at the SCC. It is anticipated that the STAC Chair would dial into SAGE meetings and vice versa.**

During COBR activation, SAGE is responsible for co-ordinating and peer reviewing, as far as possible, scientific and technical advice to inform national-level decision-making. SAGE also

supports Ministers in making evidence based decisions on key national policy questions. During a nuclear scenario, it is anticipated that SAGE will focus on three primary subject areas –

- Peer review of the Science and Technical Advice Cell (STAC),
- Horizon scanning (e.g. understanding how the situation may evolve),
- On-site technical diagnosis / prognosis.

#### **Peer review of scientific advice**

SAGE provides expert oversight of the scientific advice informing emergency response decision-making through its peer review function. **SAGE will and must have a close, collaborative and supportive working relationship with the STAC, which will advise the SCG at the local strategic level on protective measures.**

In this role, SAGE peer reviews and adds value to local scientific advice (and the information/assessments it is based upon), providing subsequent reassurance to COBR (and STAC itself) that this advice is appropriately shaping decisions. Despite the close working and information sharing between SAGE and STACs, STACs remain accountable to the SCGs and does not in any circumstance become a sub-committee of SAGE but remains focused on the advice requirements at the local level.

#### **Horizon scanning function**

SAGE's horizon scanning function contributes to government's responsibility to determine the likely development of the emergency, by using joint agency modelling and assessment (JAM) based on available scientific and technical data.

JAM delivery partners provide SAGE with an evolving but consolidated projection of how the event will develop. This allows government to ensure an effective response across a range of credible scenarios by preparing in advance for potential future events.

#### **Site technical diagnosis/prognosis**

This function requires SAGE to examine the events occurring at the nuclear site (or, if the event is transportation, the incident site) from a technical perspective, to understand the developing scenario and what is being done to bring the incident under control. Again, this will focus on understanding how events could unfold in the future. This will require close interaction and cooperation with the site operator (or carrier), STAC and nuclear regulator.

Communication between SAGE and STAC is essential to ensure a co-ordinated approach. The chairs of both SAGE and STAC should be in regular contact. The STAC chair will dial into SAGE and vice versa. The chair of SAGE will also dial directly into SGoRR meetings.

#### **6.3.5. RECOVERY CO-ORDINATION GROUP (RCG)**

Although the role of the RCG comes into its own when the emergency phase is over, **it is essential that recovery is considered as soon as it is apparent that off-site contamination is likely to occur.** The RCG will therefore establish a core group at the **outset of a radiation emergency.**

The role of the RCG is to identify the extent and nature of the off-site contamination and identify options and strategies for clean-up of contamination and disposal of wastes, taking into account the principles of justification and optimisation.

It should identify priorities, timescales and costs for the options, propose options for consideration by the SCG and prepare plans for their implementation through the LRP TCG. It will advise on/assess recovery monitoring and maintain records of actions.

During the emergency phase the RCG Chair will present advice directly to the LRP SCG or through the Chief Executive of The Highland Council. The membership of the RCG needs to be flexible to respond to the specific circumstances, but the core membership will be as follows:

### **RCG - ROLES OF MEMBERS**

Recovery Co-ordination Group membership may include all/some of the following. The Chair of the Group will invite members on as appropriate.

#### **The Highland Council – Environmental Health Manager or nominated deputy**

Chairs the RCG and ensures a deputy is identified.

#### **NHS Highland – Consultant in Public Health Medicine**

Health Advice.

#### **NHS Radiation Protection Adviser**

Provides specialist advice on health effects

#### **United Kingdom Health Security Agency - Radiation, Chemical and Environmental Hazards Directorate (UKHSA – RCE)**

Provision of public protection advice and information.

#### **Scottish Environment Protection Agency**

Advice on effects on the environment.

#### **Scottish Government**

SGLO – provide advice and support to the Recovery Co-ordination Group.

#### **Animal and Plant Health Agency**

Provide advice and support activity to minimise the impact of radiation on animal health/welfare and plant health.

#### **Food Standards Scotland**

Advice on contamination of the food/feed chain.

#### **Scottish Water**

Advice on the effects on public water and wastewater.

#### **Police Scotland**

Assistance with maintaining public order

#### **Scottish Fire and Rescue Service**

Advice on the capabilities that the SFRS could deploy to support the Recovery Phase.

#### **MOD Health Physicist (For Vulcan NRTE emergencies only)**

Advice on radiation monitoring results.

#### **MOD (For Vulcan NRTE emergencies only)**

Provision of support to the Recovery Co-ordination Group.

#### **Met Office**

Plume characteristics.

**RCG meetings must be timed to support members' input/attendance at SCG, LRP TCG or STAC. RCG meetings may be facilitated at the SCC or at another location nearby.**

### 6.3.6 PUBLIC COMMUNICATIONS GROUP (PCG)

The overall responsibility for the co-ordination of provision of information to the public and response to the media lies with the police during the emergency phase. The police however must take account of the statutory responsibility placed on the local authority under the REPPiR to provide information on emergency protective actions to the public affected in the event of a radiological accident.

It is vital therefore that there is close liaison between all organisations represented at the SCC on information management. The Media and Public Communications Group has two principal roles. **Firstly**, to implement the information dissemination requirements of the Strategic group, then **secondly**, to collate information and media briefing objectives for all main agencies, into an agreed strategy for the Police Media and Public Communications Manager.

In fulfilling these it must ensure not only that the local press briefings and conferences are coherent but also that information in briefings held by organisations out with the SCC, e.g. Scottish Ministers in Edinburgh and MOD Ministers in Whitehall **does not conflict with information being given at the SCC.**

**All Public Communication messages prepared, must without exception be agreed by SCG Group before releasing.**

The membership of the group should encompass main agencies responsible for information to the Public. In particular it is essential that the following attend:-

#### **Police Scotland - Public Communications Manager**

Chair.

#### **The Highland Council – Head of Communications and Resilience Manager**

Council statutory information objectives (Lead in the recovery stage).

#### **MOD Senior Public Relations Officer (For Vulcan NRTE emergencies only)**

MOD information objectives

#### **Dounreay Senior Public Relations Officer (For Dounreay emergencies only)**

Dounreay Site information objectives

#### **Scottish Government Media Representative**

Scottish Government objectives and links with Scottish Government Departments / Ministers.

**Other agencies may be invited to attend the media cell for specific information.**

#### 6.4 SCOTTISH / CENTRAL GOVERNMENT LIAISON

For a radiation emergency at a defence site in Scotland, the MOD is the Lead Government Department. For a radiation emergency at a civil site in Scotland, DESNZ is the Lead Government Department. However, the Scottish Government will play a key role in supporting the response at any Scottish nuclear site, with off-site consequence management planning, response and recovery devolved to Scottish Government. The Lead Government Department and Scottish Government will work closely together.

Resilience Co-ordinators from the North of Scotland Regional Resilience Partnership will link in with LRP groups and to provide an additional means of communication with Scottish Government.

#### 6.5 RADIATION MONITORING TEAMS

Dounreay Site Radiation Monitoring Team carry out immediate monitoring strategies using portable radiation monitoring equipment at external to the sites. The monitoring regime will be initially determined by the DSRL ERIC team

They will be supported by a significant number of additional specialist monitoring teams from the MOD, civil nuclear power authorities, government and scientific departments. These additional specialist monitoring teams will be co-ordinated by UKHSA – RCE.

#### 6.6 MEDICAL RESPONSE

The Scottish Ambulance Service provides support from the NHS to treat casualties in the first instance. Co-ordinating the NHS response lies with the lead NHS Board who may need to set up the following facilities to deal with the health needs of the affected population:

- a) **Screening Clinics:**  
For **occupationally exposed personnel** of the emergency services.
- b) **Screening Clinics**  
For **members of the public and service personnel**, within the emergency site, and possibly the DEPZ.
- c) **Emergency Centres:**  
The provision of medical and psycho-social support personnel at emergency centres is co-ordinated by the NHS and The Highland Council.

#### 6.7 COMMERCIAL SHIPPING AND PLEASURE CRAFT IN THE AREA

HM Coastguard will be advised of any hazard to shipping from information gathering at the SCC during response. They will be responsible for implementing restrictions which may be necessary.

#### 6.8 RECORDS TO BE KEPT

Comprehensive records are to be kept by **all** agencies involved in a nuclear emergency in order that the necessary information may be available for a subsequent inquiry to the cause and effects. The records are also needed to assist in dealing with any claims which may arise in connection with loss, damage or injury attributable to the emergency. In particular, the following information is required:

- a) Times of reports or orders being given or received;
- b) Times when other authorities are informed of occurrences;
- c) Details of persons exposed to any hazard and doses received, if possible, in addition to their movements within affected areas;
- d) Decisions taken and the information on which these decisions were based;
- e) Weather conditions.

## 6.9 REGISTRATION OF PERSONS AFFECTED BY A NUCLEAR EMERGENCY

To provide evidence for possible claims for compensation many years after the occurrence of an emergency, members of the general public will be able to register the fact that they were in the affected area at the time of the OSNE. Details will be promulgated by the relevant site when appropriate.

## 6.10 PROCEDURE FOR CLAIMS FOR INJURY, DAMAGE OR LOSS

The general arrangements which apply to the handling of claims and compensation in the event of injury or damage arising from a nuclear emergency are the responsibility of the MOD (for Vulcan NRTE emergencies) and NDA (for Dounreay emergencies).

## 6.11 ARRANGEMENTS FOR OFF-SITE MITIGATION ACTION

The DEPZ is a pre-identified area around the emergency site. Any persons in the potentially affected area would be alerted immediately by Police Scotland issuing information statements through all media sources. Subsequent information and advice would also be issued through the media. There are no dwellings within the DEPZ. Alerting is for contractors and itinerant persons within the DEPZ.

If an OSNE occurs and a radiation hazard is detected external to the affected site, it will, in the early stages, be extremely hazardous for personnel to approach close to the site.

However, intervention activities may be carried out to mitigate the consequences of the radiation emergency or to help endangered persons by the site personnel and will be carried out under strict control measures. The progress of the emergency and the consequent size, if any, of the release to the atmosphere will be determined by radiation monitoring in the vicinity of the emergency site.

It may be some hours before radiation monitoring teams can gather sufficient information to make possible a realistic appreciation of the course of an emergency. It is imperative that there is some predetermined plan to protect those who may be at risk in the period before definitive monitoring information becomes available.

**United Kingdom Health Security Agency - Radiation, Chemical and Environmental Hazards (UKHSA – RCE)** is responsible for specifying **Emergency Reference Levels (ERLs)** of averted dose for the initiation of principal protective actions following an accidental release of radionuclides and also for providing advice on radiological protection to those with responsibility for responding to an emergency. The UKHSA-RCE will also provide advice on long-term measures.

ERLs have been specified for the three emergency protective actions of **Sheltering and Evacuation**. They are specified as pairs of numbers and indicate the level of dose averted for which it would be reasonable to introduce the protective action in different circumstances. For averted doses below the lower Emergency Reference Level it is unlikely that the protective actions would be warranted. Above the upper level it is almost certain that it should be implemented. Protective actions that could be implemented in the extremely early phase (**OSNE**) of an emergency include:

**a) SHELTERING**

Staying indoors with doors and windows shut. Close any ventilation systems.

**b) EVACUATION**

Protects predominantly against radiation from fission products deposited on the ground.

UKHSA-RCE considers that emergency protective actions should be carried out promptly. Other protective actions, such as decontamination of buildings, are not so urgent; how quickly they are carried out, if at all, will depend on the exact circumstances of the emergency.

## 6.12 RECOMMENDED EMERGENCY REFERENCE LEVELS OF DOSE

REPPIR requires that Site Specific Intervention Levels are calculated and used for each relevant site. The Site Specific Intervention levels, for Vulcan NRTE and Dounreay, are based on the lower PHECRCE Emergency Reference Level, which are detailed below.

The implementation of emergency protective actions will be in accordance with the arrangements detailed in the following table.

Protective Action	Effective dose or organ dose	Averted dose (mSv) <sup>a</sup>	
		Lower	Upper
Sheltering	Effective	3	30
Evacuation	Effective	30	300
<sup>a</sup> In recognition of their higher cancer risk, the doses are those potentially averted in young children			

Source PHE CRCE 049

### 6.13 PROTECTION OF THE PUBLIC – DEPZ

This refers to a pre-identified area around the Dounreay and Vulcan NRTE sites. In the main, the protective actions required here are less immediate than those to be taken within the 400 metre zone.

Further instructions from the Director of Public Health Medicine will be promulgated during the course of the emergency. The arrangements to carry this out are in place.

Any person within the DEPZ will be advised to take shelter by remaining indoors with doors and windows closed, and shut off ventilation systems, until monitoring results have confirmed the extent of any release of radioactive material. A Public Information leaflet has been routinely issued to all in the DEPZ, it details actions the public should take. This information is provided to contractors working in the area.

### 6.14 PROTECTION OF RESPONDING AGENCIES

Responding agencies, other than Scottish Fire and Rescue Service and Scottish Ambulance Service SORT staff, have determined that **no member of staff will receive a dose above 1mSv**. All staff will therefore be subject to specific procedures as required by Strategic, Tactical and Operational orders.

In order to maintain compliance with REPPIR Reg 18 Emergency Exposures and Reg 20 Reference Levels does limits are summarised in this Plan:

**Scottish Fire and Rescue Service's** limits are determined within UK FRS Generic Risk Assessment 5.5 – Incident involving radiation. Firefighters attending a radiation incident 20 mSv. Emergency exposure up to 100 mSv<sup>3</sup>.

#### **Scottish Ambulance Service,**

- Reference level 1 – 1mSv
- Reference level 2 – up to 5mSv / per event
- Reference level 3 – up to 100mSv for an informed volunteer (which SORT staff are considered informed) to aid in an entrapment, or other prolonged intervention.

### 6.15 FOOD SAFETY ADVICE

- Radiological Incidents in the UK will be led by the Food Standards Agency (FSA). Where appropriate in Scotland, Food Standards Scotland (FSS) will lead the Scottish Governments response on food/feed safety issues.

- FSS will attend the relevant Strategic Co-ordination Centre (SCC) in Scotland and link into the Scottish Government Resilience Room (SGoRR). FSA will link into COBRA
- FSA will provide radiological modelling which considers the long term effects of ingesting radioactive contamination and technical advice. FSS will assess the impact on the food/feed chain and provide precautionary advice and any necessary protective measure to businesses and consumers.
- United Kingdom Health Security Agency - Radiation, Chemical and Environmental Hazards (UKHSA - RCE) will co-ordinate monitoring effort including both sampling and analysis for the assessment of the impact on the human food chain together with other monitoring programmes e.g. for the environment. FSA will co-ordinate the production of radiological food monitoring data/reports and provide to FSS, SEPA and UKHSA – RCE. FSA will provide up to date risk assessment advice to FSS who will work closely with SEPA, UKHSA - RCE, Local Authority Environmental Health/Trading Standards teams, Scottish Government (SG) including the SG Legal Department (SGLD), SG Animal Health and Welfare Division (SG-AHWD), SG Rural Payments and Inspections Division (SG- RPID), Marine Scotland and others to ensure that food controls are put in place.
- FSS will liaise with FSA to input into the appropriate monitoring programme for assessment of the impact on human foodstuffs.
- FSS will provide advice on food contamination issues to the Strategic Co-ordinating Group (SCG), Scientific and Technical Advice Cell (STAC) and Recovery Co-ordination Group (RCG) within the SCC and responder organisations. FSA will liaise directly with the Scientific Advisory Group for Emergencies (SAGE).
- FSS may advise Scottish Ministers to issue statutory food restriction orders under the Food and Environment Protection Act 1985 (FEPA), to restrict the supply, movement or sale of produce from the affected area. This is to ensure that contaminated food, which may pose a risk to human health, does not enter the food chain. FSS will liaise with SGLD, SG Agriculture Food and Rural Communities (AFRC) Directorate and Local Authorities to develop the FEPA, which once in place, is enforced by Local Authority enforcement officers or Marine Scotland if the affected area is offshore out with the Local Authority's jurisdiction.
- SEPA will provide advice to ensure contaminated foodstuffs are disposed of appropriately in accordance with the best advice available e.g. UK Recovery Handbooks for Radiation Incidents. SEPA is responsible for developing advice for multi-agency responders regarding disposal routes and availability.

### **Livestock and Animal Health**

- In Implementing food safety advice and controls, animal welfare issues must also be considered. For example, it may be possible to shelter animals and switch off ventilation to reduce exposure to contamination, but this may not be suitable for prolonged periods. Therefore, for animal welfare reasons it may be appropriate to allow some exposure to radioactivity even where this means the animals will no longer be suitable for food production. This may be a decision for STAC and the SCG within the SCC in conjunction with FSS, SG-AHWD and the Animal and Plant Health Agency. (APHA).
- SG-AHWD will provide advice and support activity to minimise the impact of the radiological contamination of livestock
- SG-AHWD's policy responsibilities include the health and welfare of livestock, working, companion and zoo animals.
- FSS, following liaison with FSA and SG-AHWD, will consider the need for advisory and statutory controls on livestock movements on the basis of food safety and AHWD will consider the need for similar measures on the basis of welfare. If restrictions are required, FSS will share food risk assessments with SG-AHWD to inform animal welfare decisions.

- SG Agricultural & Rural Directorate (AR Directorate) will co-ordinate communication with farms on the movement of livestock.
- SG-AR Directorate will provide guidance to STAC / farmers on the milking of cattle.
- SG-RPID will be available to offer on the ground local agricultural knowledge to FSS as required.
- Local Authority Environmental Health / Trading Standards enforcement teams will provide information regarding locations of food businesses and farms in the vicinity, as required.
- APHA will undertake some of the practical work on SG's behalf, such as providing local veterinary advice where appropriate.
- The Strategic team and STAC within the SCC, in conjunction with FSS, SG, Local Authorities and APHA will take decisions on matters such as the need for evacuation of animals, the housing of evacuated animals, particularly companion animals, and movement restrictions.

### Milk

- For milk consumption, FSA in liaison with FSS will undertake a risk assessment to decide if restrictions on the supply of milk are required.
- FSS will work with Local Authorities to enforce any restrictions as required and make arrangements for the monitoring and analysis of milk from affected farms.
- SEPA will provide advice to the STAC on the potential disposal of any affected milk. Local responders at STAC may need to agree the options for the disposal of milk and this may need to be escalated to SAGE if disposal cannot be managed locally.
- SG-AR Directorate will provide guidance to STAC / farmers on the milking of cattle.

### Fish/Shellfish

- FSA will carry out a risk assessment to determine if shellfish harvesting restrictions are required. FSS hold details of the various shellfish harvesting sites around Scotland. SEPA and Marine Scotland can provide advice and information on freshwater fisheries, aquaculture, seaweed/algae harvesting etc.
- FSS will liaise with Marine Scotland should sea fish be affected by the nuclear radiological emergency.
- FSS will liaise with Local Authorities, SEPA and Marine Scotland who hold details of approved fishery establishments.

**Water** The Drinking water Quality Regulator for Scotland is responsible for ensuring that water supplies are safe to drink, and will work with stakeholders such as Scottish Water, local authorities and health boards to co-ordinate work to preserve safe public and private drinking water supplies and provide consistent advice to consumers in accordance with the UK Recovery Handbook for Radiation Incidents – Drinking Water Supplies.

Scottish Water will issue advice to domestic customers, licence providers and where appropriate direct to business customers, on the public drinking water supply having agreed the key messages to be communicated with the relevant stakeholders including the local authorities and health boards in the areas affected.

Scottish water will, in conjunction with SEPA, HPS, UKHSA - RCE and other key stakeholders undertake a programme of sampling to monitor for impacts on the public water supply.

FSS, following liaison with FSA, will provide advice on bottled water products and the use of water in food production.

## 6.16 PUBLIC WATER SUPPLIES

Though the potential for impacts on the public water supply are likely to be low, where required, to ensure public safety, and provide re-assurance to the public, sampling of the public water supply may be required. This will be co-ordinated by Scottish Water with the support of relevant agencies including SEPA.

## 6.17 PRIVATE WATER SUPPLIES

In some properties, which are not connected to the public water supply, water is drawn from private wells, natural springs or other ground water and, therefore, there may be a **risk of this water being contaminated**. For this reason a restriction on the use of water from private water supplies in the area may have to be considered. **The Highland Council Environmental Health** will carry out sampling but the responsibility for **recommending any restrictions** lies with the **Director of Public Health Medicine**.

When water restrictions are in place, Scottish Water and The Highland Council will jointly review temporary alternative water supplies, these will be provided by Scottish Water. Lifting of restrictions will be after agreement of the Director of Public Health Medicine.

## 6.18 EVACUATION / RELOCATION

It is unlikely that the immediate evacuation/relocation of members of the civilian population will become necessary. However, the civil authorities, acting on advice from the multi- agency STAC at the SCC consider it desirable; the police will put evacuation procedures into operation.

It is anticipated that in such extreme circumstances the period of evacuation might be prolonged, therefore, the local authority will make arrangements for **Emergency Support Centre(s)** to be opened. **School children** evacuated during school hours will be cared for by the local authority until released into the care of a parent/guardian.

It may also be necessary in the interests of public safety to **restrict access to contaminated areas**. All necessary actions will be co-ordinated by Police Scotland, and the Local Authority.

It has been recognised that, in the event of a radiation emergency, some members of the public will **self-evacuate** immediately ignoring the official advice to shelter. If possible, those people will be catered for in designated emergency centres.

## 6.19 FURTHER DOWNWIND PRECAUTIONS

**Milk Supplies – see 6.15 above**

The Food Standards Agency will carry out risk assessment to define the precise affected area. **Food Standards Scotland** will advise of necessary restrictions after consultation with the Naval Authorities, the representatives of the Scottish Government and the NHS Board.

The Local Authority will be informed of the area affected in order to enable it to give advice on behalf of **Food Standards Scotland** on matters affecting the consumption of foodstuffs produced in the area.

## 6.20 EXTENDING THE AREA FOR PROTECTIVE ACTIONS

The SCG will continually assess the requirements for all protective actions. This may require consideration of an extension of the area to ensure maximum protection and reassurance.

## 6.21 BASIS FOR LIFTING (REMOVING) PROTECTIVE ACTIONS

Protective actions will not be lifted until the SCG, advised by specialist agencies such as United Kingdom Health Security Agency – Radiation, Chemical & Environmental Hazards Directorate (UKHSA-RCE), are convinced that the risk to the public is less than if the protective actions were to remain in force.

## SECTION 7 - ROLES AND RESPONSIBILITIES OF KEY AGENCIES

### 7.1 POLICE SCOTLAND

Responding to emergencies is a normal feature of the work of the police service. The normal role and responsibilities of the police encompass the protection of life and property. Police Scotland is also responsible in the emergency phase of response to any major incident for the control and co-ordination of the emergency services and other agencies.

In responding to a Major Incident all responding agencies have common response objectives. These are:

- Protect life, property and the environment
- Minimise the harmful effects of the emergency
- Promote a swift return to normal life
- Maintain normal services at an appropriate level
- Provide mutual support and co-operation between responders
- Support the local community to recover and it's part in recovery
- Participate in an effective and co-ordinated joint response

Thereafter the police have specific responsibilities which can be summarised

- Co-ordinate the activities of local responders and others acting in support at the scene of an incident, except when HM Coastguard co-ordinate search and rescue in a maritime incident.
- Treat the affected area as a crime scene, in parallel to the general response, unless it is obvious that the emergency is caused by a natural event.
- Act under the direction of the Procurator Fiscal, where appropriate, facilitate the inquiries carried out by bodies such as the Health and Safety Executive, Rail, Air or Marine Accident Investigation branches of the Department for Transport and the Police Information & Review Commissioner (PIRC).
- Process casualty information, including the identification of deceased and removal of the dead, on behalf of the Procurator Fiscal.

### 7.2 THE HIGHLAND COUNCIL

In responding to an emergency, the principal aims of The Highland Council are to:

- a. Provide assistance to the emergency services;
- b. Ensure the speedy restoration of any normal services which may have been disrupted or destroyed;
- c. Provide professional and technical advice, personnel, transport, equipment, use of premises and any other material or resources which might be required during an emergency;
- d. Co-ordinate the situation when the full-time emergency services have completed their phase of the emergency response;
- e. Enable the Council to continue to deliver appropriate services during any emergency response;
- f. To comply with the requirements of the Civil Contingencies Act (2004) and it's accompanying Regulations.

### 7.3 SCOTTISH FIRE AND RESCUE SERVICE

Responding to emergencies is a normal feature of the work of the Scottish Fire and Rescue Service. The normal roles and responsibilities of the Scottish Fire and Rescue Service are derived from its long experience in firefighting and rescue operations and encompass the saving of life and the protection of property.

When responding to an incident at either nuclear site, the Scottish Fire and Rescue Service will liaise with other agencies and develop a strategy to prevent further escalation of the incident. SFRS responsibilities may be summarised as follows:

- a) Rescue people from fire, flood, transport incidents, machinery and collapsed structures;
- b) fight fires and prevent the spread of fire in open and enclosed spaces on or next to land; c) render humanitarian assistance;
- d) protect and mitigate damage to property and the environment from the effects of fire and by dealing with hazmat incidents;
- e) management of the inner cordon;
- f) manage incidents involving hazardous materials;
- g) provide qualified scientific advice in relation to hazmat incidents and damage control;
- h) assist in mass decontamination of casualties following a CBRN/hazmat incident at the request of the Scottish Ambulance Service; and
- i) Investigate the causes of fire.

#### **7.4 SCOTTISH AMBULANCE SERVICE**

Responding to emergencies is a normal feature of the work of the ambulance service. The purpose of the Service is to provide immediate care to patients at the scene of an incident and care during transportation to, from and between healthcare facilities. To supplement road transport, the Service operates and controls an integrated air ambulance service using fixed-wing aircraft and helicopters.

The ambulance service provides the Ambulance Control Point at which all NHS, and voluntary Aid Society activity in support of the NHS, will be co-ordinated at the scene.

In the case of an incident requiring decontamination of people exposed to hazardous substances in the community, the Service would assume responsibility for the triage and decontamination of those affected, as an extension of normal operational or major incident procedures.

The role of the Ambulance Service can be summarised as follows:

- The saving of life and the provision of immediate care to patients at the scene of the incident and in transit to hospital.
- The alerting of hospital services, immediate care GPs
- The management of decontamination for people affected by hazardous substances, prior to evacuation from the scene.
- The evacuation of the injured from the scene in order of medical priority.
- Arranging and ensuring the most appropriate means of transport for the injured to the receiving hospital.
- The supply of patient care equipment to the scene of a major incident.
- The transport of appropriate medical staff and their equipment to the scene of a major incident.
- Alerting and co-ordinating the work of the Voluntary Aid Societies acting in support of the ambulance service at the incident site.
- The provision and maintenance of communications equipment for medical staff and appropriate Voluntary Aid Society personnel at the scene of a major incident.
- The prior training of medical staff/ VAS personnel in the use of ambulance communications equipment.
- The restoration of normality.

#### **7.5 MARITIME AND COASTGUARD AGENCY (HM COASTGUARD)**

The

Maritime and Coastguard Agency is an Executive Agency of the Department of the Environment, Transport and Regions.

The Maritime and Coastguard Agency is responsible for:

- Minimising loss of life amongst seafarers and coastal users.
- Responding to maritime emergencies 24 hours a day.
- Developing, promoting and enforcing high standards of marine safety.
- Minimising the risk of pollution of the marine environment from ships and, where pollution occurs, minimising the impact on UK interests.

## 7.6 NHS Highland

NHS Highland will normally be alerted to a major incident by the Police and/or Scottish Ambulance Service.

NHS Highland's Major Incident and Emergencies Plan will ensure:

- A planned and prepared response to notifications of a major incident or major emergency
- Availability of Medical Incident Officer (MIO) to attend the incident site
- Provision of immediate health care needs of casualties
- Provision of a site medical team if appropriate • Early notification of the incident to:
  - the Consultant/ Duty Manager in Charge of Accident and Emergency at the receiving hospital;
  - the appointment of a Hospital Controller at the receiving hospital; ○ an NHS Highland media adviser; ○ the Director of Public Health, or representative; ○ the Chief Executive/ Operating Officer of NHS Highland on call ○ The Scottish Government Health Department.

Specifically, in relation to a radiation/contamination incident the Director of Public Health or their representative will;

- Advise the Consultant at Raigmore Hospital, Accident and Emergency Department and Nurse in Charge, Caithness General Hospital, Wick, of anticipated radiation exposed/contaminated casualties.
- Advise NHS Highland's Radiation Protection Advisor of known circumstances and anticipated consequences of the incident.
- Respond appropriately to the Incident alert category.
  - **OSNE** – receive notification from Police Scotland.
  - Proceed to Police Headquarters, Inverness or provide suitable representation to a virtual SCC, to represent NHS Highland on a Strategic Co-ordinating Group.
- **Nuclear Off-site alert – proceed to Police Headquarters, Inverness to represent NHS Highland on a Strategic Co-ordinating Group\*\***
- Establish and Chair a Scientific and Technical Advice Cell (STAC).

### Contaminated Casualties

Radiation contaminated casualties may be transferred by ambulance from the scene either to Caithness General Hospital, Wick or to Raigmore Hospital, Inverness, based upon clinical need. This will be assessed by the Ambulance Incident Officer/Medical Incident Officer at the scene.

**\*\*Both Caithness General and Raigmore Hospitals have the facilities capable of receiving radiation contaminated casualties. The Ambulance Incident Officer/ Medical Incident Officer will decide the destination of such casualties, based on clinical need\*\***

Where the treatment of contaminated casualties with life-threatening injuries is urgent, medical personnel will take all possible measures to avoid being exposed to radiation.

## 7.7 THE SCOTTISH ENVIRONMENT PROTECTION AGENCY

SEPA is the public body responsible for environmental protection in Scotland and has powers to prevent, minimise or reduce pollution of the environment and take action in accordance with environmental legislation.

As a Category 1 responder in the terms of the Civil Contingencies Act 2004, SEPA will co-operate with other responder organisations in supporting the response to, and recovery from, any incident or emergency.

- SEPA is responsible for the regulation of the Radioactive Substances Act 1993. Under the Act SEPA is responsible for the authorisation of radioactive discharges and disposals from the site.
- SEPA will formally investigate an emergency on the site (working jointly with ONR as appropriate).
- SEPA maintains an independent monitoring regime for radioactivity in the environment around the site and following an incident may instigate environmental sampling and monitoring in support of its regulatory function. SEPA will also provide advice on any necessary mitigation and recovery measures.
- SEPA also has a regulatory role on the site in terms of The Waste Management Licensing Regulations 1994 and will provide advice on waste management issues. SEPA will regulate the disposal of any radioactive wastes and other wastes arising as a result of an incident and, if appropriate, will provide advice on the development and delivery of a decontamination strategy.
- SEPA also has regulatory roles on the site in terms of The Water Environment (Controlled Activities) (Scotland) Regulations 2005, The Pollution Prevention and Control (Scotland) Regulations 2000 and associated legislation.
- SEPA maintains and operates the RREMS system in Scotland and will ensure that SEPA's monitoring data is added to the RREMS system.

## 7.8 SCOTTISH GOVERNMENT (SG) and The Department for Business, Energy and Industrial Strategy (DESNZ)

Nuclear energy is a reserved matter. DESNZ is Lead Government Department (LGD) in the event of an emergency at a civil nuclear site in England, Wales or Scotland. DESNZ is the policy lead for civil nuclear, which includes onsite aspects of any response. Emergency plans and exercises are required for all REPPiR civil nuclear sites. Policy implications of an emergency and regulatory response will fall to DESNZ. Scottish Government will play a key role in supporting the response at a Scottish civil nuclear site, with offsite consequence management planning, response and recovery devolved to Scottish Government.

### Scottish Government:

In the event of a Scottish civil nuclear emergency, Scottish Government SG will activate its SG Resilience Room (SGoRR) arrangements to support the local response. Upon receipt of notification the Scottish Government will notify DESNZ, Cabinet Office (via the Civil Contingences Secretariat - CCS) and Scottish Resilience Partnerships on call teams.

Scottish Government Liaison Officer(s) (SGLO) will be deployed to the Strategic Co-ordination Centre (SCC) or attend a virtual SCC and will liaise with SGoRR. A SG liaison officer will be deployed to the DESNZ EOC.

SG's Resilience Division will lead the operation of SGoRR. SGoRR will schedule 'officials' and 'ministerial' meetings during the response phase and in support of the transition to the recovery phase. Typically,

SGoRR will include participants from the main affected Scottish Government Directorates including the Resilient Essential Services and Communities Unit, and representatives of relevant agencies.

Main functions of Scottish Government:

- provide strategic national direction in respect of off-site consequence management planning, response and recovery.
- capture and maintain off-site consequence management situational awareness of the emergency, and brief COBR and Scottish Ministers.
- provide up-to-date information to CCS to produce the national SitRep.
- ensure effective communication between local, Scottish and UK levels, including the co-ordination of reports on the response and recovery effort.
- liaise with UK Government (DESNZ EOC and COBR) to ensure effective information exchange.
- Work closely with DESNZ to ensure the delivery of accurate, timely and consistent flow of information to the public and other key stakeholders to maintain public confidence in the response to the emergency.
- support the response and recovery efforts as appropriate, including appropriate allocation of national resources.
- provide the focal point on public health and NHS resilience issues at Scottish level.
- animal welfare - provide advice and support activity to minimise the impact of radiation on food production and water supply.

#### **Department for Energy Security and Net Zero:**

DESNZ' main function is to provide strategic national direction on policy impacts, oversee national response and manage international liaison.

During a civil nuclear emergency, the Department for Energy Security and Net Zero (DESNZ) will:

- Act as the Lead Government Department (LGD) for a civil nuclear emergency in England, Scotland or Wales. DESNZ will work closely with Scottish Government who retain responsibility for off-site consequence management at Scottish civil nuclear sites.
- Activate its Emergency Operations Centre (EOC) in London.
- Provide accurate, timely briefing and situational awareness for UK Government Ministers and manage UK parliamentary interest.
- Coordinate national public messaging.
- Manage the Radiological Response Emergency Management System (RREMS) and monitor the delivery of the Joint Agency Modelling (JAM) process and products.
- Send DESNZ personnel to the Strategic Co-ordination Centre (England and Wales) as part of the MHCLG led Government Liaison Team (GLT) to provide a communications link between central government and the local response, including requests for national support. The GLT, along with the MOD Joint Regional Liaison Officer if military assistance is required, will act as an escalation route for additional assistance needed to support the local response. DESNZ would send a liaison officer to the Scottish Government Resilience Room (SGoRR) for an emergency at a Scottish civil nuclear site.
- Liaise with international organisations (International Atomic Energy Agency, the European Commission and countries with bilateral arrangements) on notification, information sharing and any offers of aid.

Coordinate the deployment of national-level assets.

Note: When a Scientific Advisory Group for Emergencies (SAGE) is activated it will provide advice to and interact with SGoRR as well as the STAC.

#### **7.9 FOOD STANDARDS SCOTLAND**

The Food Standards Agency (FSA) is responsible for food safety in England, Wales and Northern Ireland. Food Standards Scotland (FSS), which was established on 1 April 2015, is responsible for food safety in Scotland. FSS's role is to help protect the public from risks to health in relation to food and feed.

In the event of a radiological emergency in the UK (including those in or affecting Scotland), the food safety incident response will be led by the FSA unless it is mutually agreed that FSS will take over the lead. FSS

will provide the on-site response in Scotland and the FSA will provide appropriate modelling. FSS and the FSA will collaborate closely, maintain compatible incident management plans and ensure effective communication throughout the emergency.

In the event of an emergency the FSS will lead the Scottish Government's response on food/feed safety issues, assess the impact of the emergency on the food/feed chain and implement any necessary protective measures.

Specific responsibilities are:-

- To liaise with relevant partners to determine the level of any contamination in the food and feed chain
- To take action to ensure that food which exceeds maximum permitted levels does not enter the food and feed chain.
- To liaise with relevant partners, as necessary, to implement restriction orders under the Food and Environment Protection Act 1985 to restrict the supply, movement or sale of produce from the affected area.
- To provide support, advice, information and guidance to local authorities, businesses and the public on the implications for food & feed.
- To provide support and advice to the Scottish Government & partners dealing with the emergency.
- To ensure that subsequent recovery arrangements take account of food & feed safety issues.

#### **United Kingdom Health Security Agency - Radiation, Chemical and Environmental Hazards (UKHSA – RCE)**

#### **7.10**

In the event of a major incident at Vulcan NRTE or Dounreay, UKHSA - RCE's role and responsibilities are summarised as follows:

- Advise the MCA, STAC, RCG, TCG and SCG on radiological protection issues and protective actions to protect the public in both the emergency and recovery phases.
- Assess the radiological impact of the incident to the public.
- Provide support to NHS Highland in activities to monitor members of the public for radioactive contamination and radiation exposure.
- Support SEPA in its environmental monitoring role.
- Through UKHSA-RCE's Monitoring Co-ordination Team at its Chilton Emergency Operations Centre co-ordinate off-site monitoring beyond the site's responsibilities using monitoring resources that are made available to it by other organisations.
- Provide public information on radiation, its effects and the radiological impact of the incident within the context of this plan and in co-operation with the SCC and MBC and within frameworks set out in Dealing with Disasters Together and the National Nuclear Emergency Planning and Response Guidance.

#### **7.11 OFFICE FOR NUCLEAR REGULATION (ONR)**

ONR is responsible for regulating nuclear and conventional safety for the GB nuclear licensed sites. ONR is responsible for regulating RREMS in relation to defence nuclear sites and licenced nuclear sites.

##### **Office for Nuclear Regulation (ONR)**

During an off-site emergency at a nuclear site, ONR will set up the Redgrave Court Incident Suite (RCIS) at the offices in Bootle. The RCIS functions as a centre for the collation of information, the interpretation of

that information, and the discussion and determination of ONR's independent advice and regulatory decisions. The RCIS exchanges information and provides advice via its deployed away teams at the Strategic Coordination Centre (SCC) and central/devolved government.

The main duties of the ONR SCC team are to:

- Support and provide relevant advice to organisations involved in the emergency response at the SCC.
- Attend the Strategic Coordination Group (SCG) meetings at the SCC.
- Attend the Scientific and Technical Advice Cell (STAC) at the SCC.
- Maintain and exchange information with ONR's Redgrave Court Incident Suite (RCIS).

The ONR SCC team may comprise the following roles:

- ONR SCC Lead Inspector - Coordinates the activities of the ONR SCC team. Attends and provides relevant advice at the SCG.
- ONR SCC Specialist Inspector - Provides specialist technical support to the ONR SCC team and deputises for the ONR SCC Lead Inspector.
- ONR SCC Radiological Protection Inspector - Attends and provides relevant advice at the STAC.
- ONR SCC Support - Provides administrative support and communication with the RCIS.

## 7.12

### SCOTTISH WATER

In responding to an incident at either site Scottish Water will:

- In co-ordination and where appropriate, agreement with other stakeholders, take the required measures to minimise risks to Scottish Water staff, contractors, the public and other third parties including the environment of any contamination of the public water supply, wastewater (sewerage) drainage system and related infrastructure.
- Provide advice to customers and Licenced Service Providers (LRPs) on public water supplies in accordance with the Public Health Guidelines agreed.
- Where there is a disruption to the public water supply, Scottish Water will, where practicable and with the support of Police Scotland and other relevant stakeholders arrange for the provision of alternative supplies of drinking water to impacted customers.
- Any emergency response monitoring arrangements including sampling will be agreed with the STAC. Any impact on statutory sampling of public and private water supplies will be agreed with the Drinking Water Quality Regulator (DWQR) for Scotland. Scottish Water may require the support of other agencies including SEPA to carry out these arrangements.
- Scottish Water will ensure that DWQR is kept fully informed of both the assessment of any sampling or other results produced, along with any direction or guidance issued by the STAC.
- Scottish Water will ensure it regularly briefs other key stake holders including the Critical Infrastructure Resilience Unit (CIRU) and Water Industry Division within Scottish Government, of any impacts identified and direction or guidance issued by the STAC or DWQR.
- In consultation and agreement with SEPA, HPS, UKHSA and other stakeholders, take the required measures to decontaminate and / or recover impacted public water and wastewater (sewerage) infrastructure.

## SECTION 8 – TRANSITION TO RECOVERY

### 8.1 TRANSITION CRITERIA

**Prescribing the criteria necessary for initiation of the transition of Strategic Co- ordination to the Local Authority.**

**Purpose**

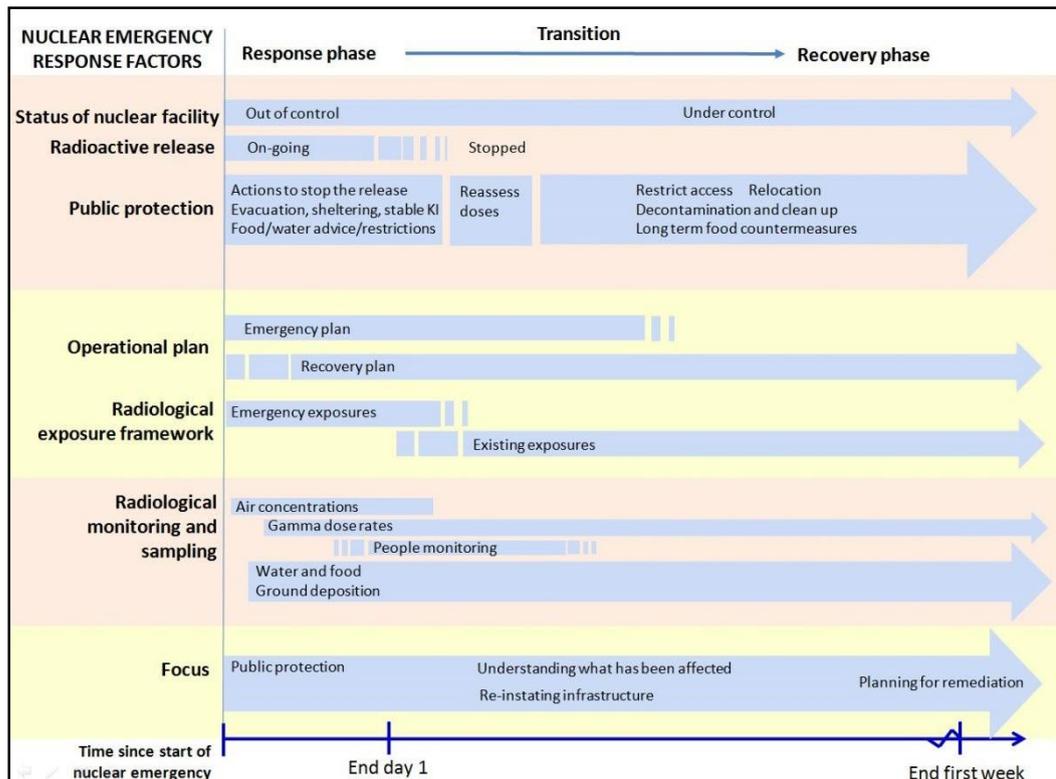
The response to any nuclear emergency will involve two phases of response:

- a) **the emergency phase** during which the actions of the incident responders will be determined by the chain of events and the situations arising from the release of radionuclides, secondary threats (explosion, fire, etc) and the need to protect the public (shelter, food and water sources). This is led by the Chief Constable for Police Scotland.
- b) **The recovery phase** is the process of “returning to normality” after the emergency incident has ceased. This is led by the Chief Executive of The Highland Council.

These are not distinct phases and the transition will happen gradually during the course of an emergency. The transition to the proactive phase of the response, the Recovery Phase, must itself be planned and prepared for. This work will commence during the emergency phase where the Recovery Co-ordination Group will be tasked with the remit of identifying the nature and extent of off-site contamination arising from the emergency as well as strategies and options for the protection of the communities affected by the emergency and the return to “normality”.

Please see Figure 3 below:

Figure 3



**Transition arrangements from ‘Emergency’ to ‘Recovery’**

The basis for any decision to handover to the local authority will relate to:

- i. The change in emphasis from reactive (responding) to proactive actions

- (planning), ii. The effectiveness of the off-site coordination,
- iii. The willingness of the Chief Constable to declare that the emergency phase is concluded; and
- iv. The preparedness of the local authority to accept the responsibility.

The following circumstances should prevail before the transition **can be considered appropriate**:

#### **a. The emergency has ceased**

The reactor emergency is deemed to have ceased when:

- Emissions to all phases of the environment have ceased;
- There is no foreseeable risk of a further release of radionuclide material;
- The vessel is secured against movement and is not exposed to external hazards e.g. fire, explosion.

#### **b. No significant issues remain unresolved from the Emergency Phase**

No significant issues remain unresolved when:

- The SCC is firmly established in a pro-active mode, and is no longer having to react to external events;
- The management of outstanding matters is being progressed and managed effectively, the SCC having the necessary:-
  - i. Resources; ii. Communications and “action logging” systems;
  - iii. Established media co-ordination arrangements.

#### **c. Public safety measures are in place and working effectively**

There is restricted public movement.

#### **d. There is consensus support for the handover between the “Principals”**

There is consensus support for the handover when:-

- The MOD Co-ordinating Authority (Vulcan emergencies) and Local Authority Chief Executive support the decision of the Police Incident Commander to handover to the Local Authority;
- The Scottish Government supports the handover.

#### **e. The Council is prepared and ready to accept the handover, and to adopt the role of SCC Co-ordinator**

The proposal has been intimated at the preceding meeting of the SCG.

### **8.2 The Process**

A formal handover will take place from the Police Strategic Incident Commander to the Local Authority Chief Executive. This signifies the formal transfer to the **Recovery phase**. At that

time, the Chief Executive of The Highland Council will assume Chair of the SCG from the Senior Police Officer and will use the Standard meeting agenda (see Appendix 1).

## **SECTION 9 - MEDIA RESPONSE**

### **9.1 GENERAL**

It is essential that all agencies develop a frank and open relationship with the media in order to lessen the likelihood of dissemination of inaccurate or misleading information that could lead to unnecessary public alarm. Police Scotland Media / Public Communications are responsible for the co-ordination of information to the media during the emergency phase of the incident, so will therefore be led by the Police Scotland Public Communication Manager. Some key aspects of this responsibility will be transferred to the local authority when the response moves into the recovery phase.

The above will be carried out in accordance with the NoSRRP Public Communications Plan.

### **9.2 MEDIA BRIEFING CENTRE**

All local media activities in the event of a radiological emergency are conducted from the Media Briefing Centre located near to the SCC. Information supplied to the media is co-ordinated by the Media Cell in the SCC **and issued only after the agreement of the SCG.**

### **9.3 PRESS STATEMENTS**

All initial announcements (made before the establishment of the SCC) should be confined to brief factual details that are aimed at public safety information (**See 11.5 Emergency Broadcast**).

**It is important to get this out as soon as possible after the Cascade call out, if necessary, before the SCC is operational. Therefore, the Emergency Broadcast is prepared and agreed in advance and appears in this off-site plan for easy access.**

Once the SCC is operational, any press statements should be issued only through the Media Cell to ensure that no conflicting information is being passed to the media.

To ensure co-ordination and continuity of information, the press officers from each agency should co-locate to the Media Cell which will be under the management of the Police Scotland Public Communications Manager.

**A copy of the first agreed Press Release is printed in Section 11.5. This can also be used early on, before Tactical/Strategic groups meet.**

### **9.4 PRESS CONFERENCE**

**Once the objectives and participants for the Press Conference have been agreed, a separate pre-meeting will be held of the participants in the press conference. This will be chaired by the Police Media and Information Manager and will run through the key points of each participant's statement thus ensuring the objectives are met. This meeting will take place in the SCG room.**

### **9.5 MEDIA LIAISON OFFICER(S)**

Police Media Liaison Officers may be appointed to co-ordinate media access to nominated vantage points near the site or at other locations.

## SECTION 10 - WARNING AND INFORMING THE PUBLIC

### 10.1 WARNING THE PUBLIC

The local authority is responsible for providing, on a three yearly basis, advice to anyone within the DEPZ on the actions they should take immediately they are aware of a radiation emergency. With no habitations within the DEPZ, this is provided to contractors and those working the land within the DEPZ.

### 10.2 INFORMING THE PUBLIC

The duty to provide information to the public is that of the local authority under The Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPPIR). This duty can only be carried out with the support and co-operation of all the agencies responding to the emergency.

However, in the emergency phase of the incident, the **co-ordination of information** to the public will fall to Police Scotland Media and Information Services in line with the NoSRRP Public Communication Plan, with support from the Communication Managers from MOD and Local Authority. In the **recovery phase** some key roles in the coordination arrangements will be transferred to the local authority.

Information to the public will be disseminated through all the normal media channels, and in addition, **information points** may be established if considered necessary and agreed by the Strategic group. These are where people might visit to ask questions relating to the incident. Questions might relate to:

- a) Up to date information on the emergency situation;
- b) Safety of family and friends;
- c) Safety of food and water supplies;
- d) Compensation claims;
- e) Housing and property enquiries.

The most appropriate location for information points will be established at the time of the incident, but may be in local libraries, council offices or similar premises. The information made available to these information points will be provided by the Public Communications cell and resources to manage this will have to be identified in advance of set-up.

### 10.3 HELPLINE(S)

If any agency sets up its own telephone help line, they must maintain a close link with the PCG at the SCG to ensure clarity of information for callers. If a Helpline is to be set-up, this must be agreed by the Strategic group in order to ensure that the best use is made of the resource.

### 10.4 WEBSITE INFORMATION

Information will also be made available by way of regular updates on The Highland Council, Police Scotland and other agency Websites.

### 10.5 EMERGENCY BROADCAST – REACTOR

The following statement should only be released after consultation with the Assistant Chief Constable (Operations) or the Duty Assistant Chief Constable and the Senior Police Press Officer.

## POLICE SCOTLAND EMERGENCY BROADCAST

### 1.7.7 Pre-Prepared media statements

#### **Emergency: Dounreay Emergency or Vulcan Site Nuclear Incident**

An event has occurred at *[INSERT time, day and date]* at *[INSERT either Vulcan NRTE or Dounreay Site Restoration Ltd (DSRL) as appropriate]*. The *[INSERT either DSRL Emergency Services or Rolls Royce/ MOD and the emergency services as appropriate]* have been alerted and are currently dealing with the event.

The site alert has been sounded.

There is NO radiation hazard external to the site

There is NO requirement for members of the public to carry out any actions.

Please stay tuned to TV (STV/BBC) and radio (BBC Scotland/Moray Firth Radio) for further updates from the emergency services *[INSERT other media on which information will be broadcast on]*.

#### **Emergency: A Nuclear Off-Site Emergency (Dounreay) or Off Site Nuclear Emergency (Vulcan NRTE)**

The site alert has been sounded.

An incident has occurred at *[INSERT time, day and date]* at *[INSERT either Vulcan Naval Reactor Test Establishment or Dounreay Site Restoration Ltd (DSRL) as appropriate]*. Emergency services have been alerted and are currently responding to the site.

As a precaution we are issuing the following advice to members of the public living in the Buldoo and Upper Dounreay areas near to the site:

Go indoors, close all doors, windows and ventilators and switch off any ventilation or air conditioning systems which draw air from outside the building.

Please stay tuned to TV (STV/BBC) and radio (BBC Scotland/Moray Firth Radio) for further updates from the emergency services *[INSERT other media on which information will be broadcast on]*

Do not try to collect children from school. The school authorities will look after them. Food and produce that has been stored uncovered and outside and water from private supplies should not be consumed until advised otherwise.

Further information can be found in the Dounreay/Vulcan Emergency Information Leaflet, which is available on the Highland Council website.

#### Notes for Editors

(name) Police Scotland Media and Public Communications are on route to the Strategic Co-ordination Centre at Inverness where media facilities are being/have been established.

Further information and advice regarding the incident will be given in due course, along with details of the telephone numbers.

**APPENDIX 1 - STANDARD AGENDA - LRP STRATEGIC**

**STANDARD AGENDA FOR SCG ON TRANSFER TO RECOVERY PHASE OF INCIDENT**

**STRATEGIC CO-ORDINATING GROUP**

**AGENDA**

Time:\_\_\_\_\_ Date: \_\_\_\_\_

**DRAFT PRESS RELEASES WILL BE DISTRIBUTED TO MEMBERS PRIOR TO MEETING**

- 1 Strategic Introduction Chief Executive
- 2 Matters requiring urgent action/decisions Strategic Members
- 3 Actions from previous meetings CE Support Officer
- 4 Operational updates Strategic Members
- 5 Review / formulation of:
  - Emergency Response Chair
  - Recovery Strategy Local Authority (Chair RCG)
  - Public Health Advice NHS Member
  - Media Strategy/Public Advice Communications Manager–Highland Council
- 6 Review of consequence management issues Strategic Members
- 7 Overall strategy (short, medium and long-term) Chair
- 8 Agreed Media communications All
- 9 Summary of actions allocated during meeting CE Support Officer
- 10 Arrangements for next meeting Chair

This Standing Agenda is of a similar format to that used in the emergency phase when SCG is chaired by Strategic Commander – Police Scotland.

**ACRONYMS**

CNC	CIVIL NUCLEAR CONSTABULARY
CPHM	CONSULTANT IN PUBLIC HEALTH MEDICINE
CRCE	CENTRE FOR RADIATION, CHEMICAL & ENVIORNMENTAL HAZARDS
DNEO	DEFENCE NUCLEAR EMERGENCY ORGANISATION
DPH	DIRECTOR OF PUBLIC HEALTH
ESC	EMERGENCY SUPPORT CENTRE
EPO	EMERGENCY PLANNING OFFICER
FCP	FORWARD CONTROL POINT
FSA	FOOD STANDARDS AGENCY
FSS	FOOD STANDARDS SCOTLAND
HPS	HEALTH PROTECTION SCOTLAND
IO	INCIDENT OFFICER
MBC	MEDIA BRIEFING CENTRE
MIO	MEDICAL INCIDENT OFFICER
NDA	NUCLEAR DECOMMISSIONING AUTHORITY
NEMT	NUCLEAR EMERGENCY MONITORING TEAM
ONR	OFFICE FOR NUCLEAR REGULATION
OSNE (RHC)	OFF SITE NUCLEAR EMERGENCY (RADIATION HAZARD CONFIRMED)

OSNE (RRMC) OFF SITE NUCLEAR EMERGENCY (RELEASE of RADIOACTIVE MATERIAL CONFIRMED)

REPPIR RADIATION (EMERGENCY PUBLIC PREPAREDNESS AND INFORMATION) REGULATIONS

RREMS

RVP RENDEZVOUS POINT

SAS SCOTTISH AMBULANCE SERVICE

SCC STRATEGIC CO-ORDINATION CENTRE

SCG STRATEGIC CO-ORDINATING GROUP

SGoRR SCOTTISH GOVERNMENT RESILIENCE ROOM

SGRPID SCOTTISH GOVERNMENT RURAL PAYMENTS & INSPECTIONS  
DIRECTORATE

TCG TACTICAL CO-ORDINATING GROUP

UKHSA UNITED KINGDOM HEALTH SECURITY AGENCY

VECC VULCAN EMERGENCY CONTROL CENTRE

SECC DOUNREAY – SITE EMERGENCY CONTROL CENTRE

## GLOSSARY OF TERMS

Chain Reaction	A process which, once started, provides the conditions for its own continuance. In a reactor, neutrons released in the fission process cause further fission and so on.
COMMPLAN	Communications Plan. Agreed plan for the distribution of key and informative information.
Contamination	Deposited radioactive particles.
Core	The region of a reactor containing fuel within which the fission reaction is occurring.
Decontamination	Removal of radioactive material from a person or surface.
DEPZ	An area surrounding the sites where protective actions may be required to protect the population.
Dose of Radiation	Radiation doses may be the “absorbed dose” which is the amount of energy deposited in a unit made by ionising radiation’s, or the “equivalent dose” in which the absorbed dose is multiplied by a radiation weighting factor which takes and taking account of the varying degree of biological damage caused by different radiation’s types of radiation.
Emergency Reference Level (ERL)	Range of radiation doses below which protective actions carry more risk than the dose and above which protective actions are always required.
Exclusion Zone	The immediate vicinity to which entry is restricted when prototype reactor assembly area during an incident.
Fuel	The enriched uranium fabricated for use in the plant is operating core. Fuel and cladding together comprise FUEL ELEMENTS.
Fission	Rupture of a nucleus into two lighter fragments (known as fission products) plus free neutrons – either spontaneously or as a result of absorbing a neutron plus energy.
Gamma Radiation	High energy electro-magnetic radiation of considerable penetrating power emitted by most radioactive substances.
IC	Incident Commander. Designated officer in command of the incident at specified levels and location.
MCA	Military Co-ordinating Authority. Senior MoD officer co-ordinating the MoD response.
MPL	Maximum Permitted Level.
NEBUST	Nuclear Emergency Back-up Support Team. Additional specialist support following OSNE declaration.

OFFICIAL

NERO	Nuclear Emergency Response Organisation. Collective description of the Agencies responding to a declared nuclear emergency.
Neutron	Uncharged particle, consistent of nucleus – ejected at high energy during fission, capable of being absorbed in another nucleus and bringing about fission.
OSNE	Offsite Nuclear Emergency. A hazardous condition which requires the implementation of urgent protective actions to protect the public.
Radiation	Neutrons, Alpha and Beta particles or Gamma Rays which are emitted from radioactive substances.
Radioactivity	Behaviour of substance in which nuclei are undergoing transformation and emitting radiation. It is measured in the number of disintegration's per second.
RR	Rolls Royce. Technical Authority at Vulcan NRTE.
Shielding	Material such as concrete, lead, special constructed polythene or water which attenuates radiation and reduces its intensity.
Sievert (Sv)	Unit of both effective dose and equivalent dose.
STF	Shoreline Test Facility. Reactor Building within NTRE housing the reactor and its associated systems.
Whole Body Radiation Dose	The total radiation dose to the body received from all sources.

## OFFICIAL

## ABBREVIATIONS

APHA	Animal and Plant Health Agency. An agency of the Department for Food, Environment and Rural Affairs (Defra) that works on behalf of Scottish Ministers.
COBR	Cabinet Office Briefing Rooms. UK Government's dedicated crisis management facilities, which are activated in the event of an emergency requiring support and co-ordination at the national strategic level.
FEPA	Food and Environment Protection Act 1985. FEPA powers are used to make emergency orders in relation to any type of hazard which poses or may pose a risk to human health through food.
FSA	Food Standards Agency. Non-ministerial UK Government Department which acts to protect the public's health and consumer interests in relation to food.
RPID	Rural Payments and Inspections Division - Scottish Government
SCG	Strategic Co-coordinating Group. In a nuclear off-site emergency, the SCG is responsible for coordinating the joint response to an emergency at the local strategic level.
SEPA	Scottish Environment Protection Agency. Scotland's principal environmental regulator, protecting and improving Scotland's environment.
SGLO	Scottish Government Liaison Officer. A member of the Scottish Government Liaison Team deployed to the multi-agency co-ordination centre known as the SCC.
STAC	Science and Technical Advice Cell. Group of technical experts from those agencies involved in an emergency response that may provide scientific and technical advice to the SCG.

3

3

See also [Lexicon](https://www.gov.uk/government/publications/emergency-responder-interoperability-lexicon) glossary of emergency planning terminology.

<https://www.gov.uk/government/publications/emergency-responder-interoperability-lexicon>

