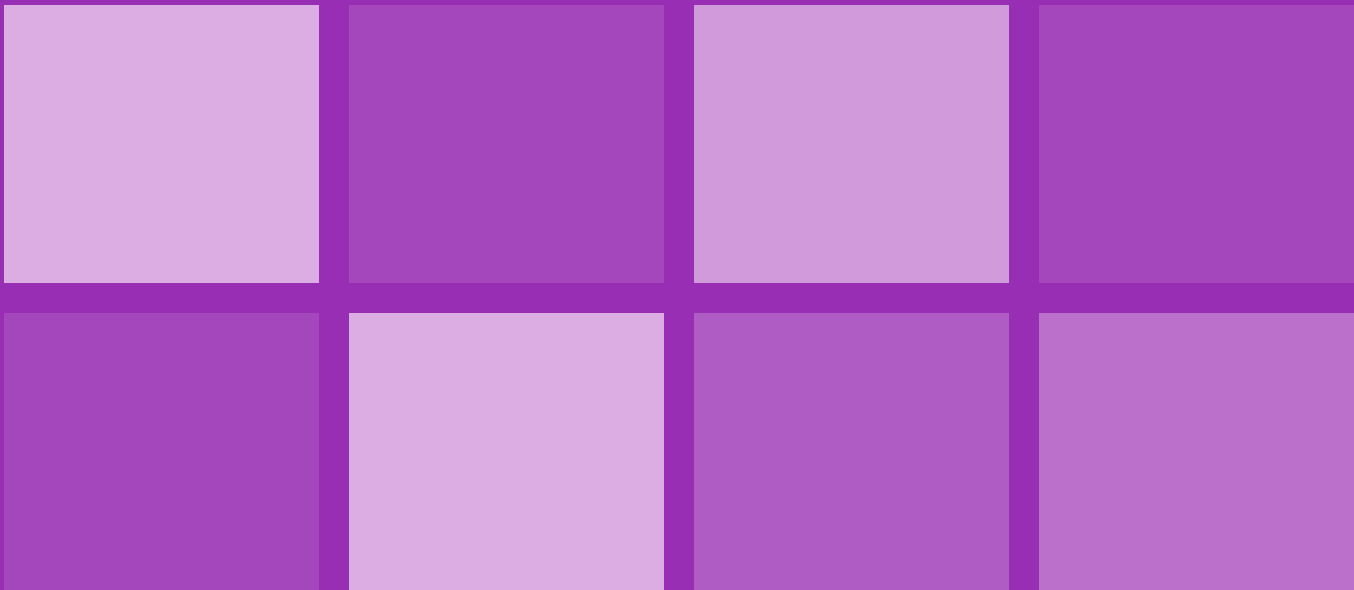




Home Office

INITIAL OPERATIONAL RESPONSE TO A CBRN INCIDENT



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Initial Operational Response (IOR) to a CBRN Incident

The IOR is the first part of the CBRN(e) Response Framework and will be followed by a transition phase into the specialist response. The response is focused on the activities that the emergency services need to undertake at the scene of a contamination incident of deliberate or uncertain cause.

1. FOREWORD

Terrorist incidents involving Chemical Biological Radiological or Nuclear (CBRN) contamination in the United Kingdom are rare. Historically the guidance and training for initial responders has been to stand off and wait for specialist responders to arrive.

The Initial Operational Response (IOR) to a CBRN Incident has been created as part of a revised CBRN(e) Response Framework for the Emergency Services 2014¹ and supersedes the 2006 Model Response in the light of developments in scientific understanding and lessons identified from exercises and real incidents.

The IOR precedes the Specialist Operational Response (SOR) which, where necessary, is implemented once specialist resources are on scene. This is normally considerably later than the optimal time for saving life.

The focus of the IOR is to save as many lives as possible whilst avoiding unnecessary risk to first (non-specialist) responders. The IOR provides the process by which all responders first on the scene of a contamination incident can follow a number of steps to safely save lives during the most critical early stages of the incident.

The IOR starts from the very first call made to the emergency services. The role of the call handler/supervisor in identifying a potential CBRN(e) incident, providing correct advice to the caller and potentially dispatching the right resources, is critical. Similarly first responders on the scene must work together quickly and efficiently to save life.

Where multiple agencies are on scene simultaneously, the IOR emphasises that they must develop, in line with JESIP doctrine, a joint understanding of risk based upon a joint assessment of agency specific dynamic risk assessments (including the assessment of hazards). This will inform decision making, achieve a co-ordinated multi-agency response and deliver a safe resolution to the incident for the public and emergency responders alike.

All enquiries about this guidance should be direct to OSCTenquiries@homeoffice.x.gsi.gov.uk

Produced by the CBRNE Unit, Home Office on behalf of:

The Emergency Services across the UK
The Cabinet Office
Department for Communities and Local Government
The Department of Health
The Northern Ireland Executive
The Scottish Government
The Welsh Government

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¹ Home Office OSCT Document – Potential CBRN(e) Incidents: Response Framework for the Emergency Services 2014

2. ESSENTIAL INFORMATION

SAVING LIFE

In the event of a contamination incident, the speed of the response is critical to saving lives.

By the process of **Evacuation, Disrobe** and (Improvised) **Decontamination**, ideally within 15 minutes, the vast majority of skin contaminants can be removed and further injury or death avoided.

SAFETY OF FIRST RESPONDERS

First responders must ensure their own safety by carrying out ongoing hazard assessments to be shared in line with JESIP principles. This can inform agency specific risk assessments to promote joint decision making and a safer operational approach.

EVACUATION

The removal of casualties away from the area or source of contamination should be carried out as a priority. Casualties should be moved to an area upwind and ideally uphill of the incident.

PUBLIC COMMUNICATION AND ADVICE TO CASUALTIES

It is important to communicate clearly to casualties and bystanders throughout the response: what is known about the incident; what is being done to help them and how they can help themselves.

Continuing and reassuring dialogue will help foster trust and confidence in the activities and increase the authority of responders and reinforce compliance with interventions by the emergency services.

SITUATION REPORTING

Effective situation reporting from the scene is vital to enable all agencies to maintain shared situational awareness. It is important that all situation reporting is concise and consistent, based upon the essential facts required by the METHANE system of reporting (see Page 9).

DISROBE

Casualty disrobing/ undressing is a critical step in the decontamination process and is highly effective at reducing the effects of exposure to contaminants across the chemical, biological and radiological spectrum.

Disrobe procedures should be, where possible, conducted by the casualty themselves and should be systematic and consistent with the steps outlined in the Fire and Rescue Service (FRS) disrobe pack pictogram (see Annex A). Consideration should be given to ensuring the welfare and, as far as is practicably possible, dignity of casualties.

DECONTAMINATION

Improvised decontamination is the use of one or more immediately available methods of decontamination. This action should follow as a priority for all casualties once disrobed.

DRY decontamination – should be considered in the first instance where a non-caustic (i.e. no obvious burning or skin irritation) chemical agent is suspected. Dry decontamination consists of the use of dry absorbent material such as paper tissue or cloth to blot and rub the affected body surface (see page 17 and Annex B).

WET decontamination – should be used if signs and symptoms of caustic chemical substance are apparent or the contaminant is known to be biological, radiological or nuclear. Improvised wet decontamination consists of the use of water from any available source such as taps, showers, hose-reels, sprinklers, etc. to dilute and flush the contaminant away from the body surface (see page 17 and Annex C).

NOTE: Regardless of the nature of the contaminant and the decontamination options available the Evacuation and Disrobe steps remain effective priority responses.

3. INTRODUCTION

This document provides guidance for responders to realize the IOR and its objectives. The IOR focuses on the activities that first responders need to undertake to initiate an appropriate early response and those activities needed on scene to safely save life.

First responders include any member of the emergency services (or IOR trained individual) who is likely to be the first operational resource to be deployed to a CBRN incident. The person is unlikely to be trained in specialist CBRN response or have specific CBRN PPE. This includes staff at Health Care premises who may be required to carry out the role of a first responder. It also includes control room staff, and other first point of contact professionals such as health facility workers, who are in a position to initiate an appropriate response based upon an initial trigger such as an emergency call or self-presenting patient.

Research² has indicated that the speed of a response is critical for life saving following a serious contamination incident. Specific actions, which include the removal of casualties from the area of contamination, the removal of their outer clothing and improvised decontamination during the first fifteen minutes following exposure can save life and minimize the injurious effects of contaminants, without putting first responders at undue risk of exposure.

All activities under the IOR are subject to current service specific operational procedures and safety protocols.

A significant change to previous procedures is the introduction of casualties disrobing and decontaminating themselves.

The approach of the IOR promotes close inter-agency working in line with JESIP principles:

- Co-location
- Communication
- Co-ordination
- Joint understanding of risk
- Shared situational awareness

Priority on scene activities are agency non-specific and can be carried out by any suitably trained individual. While agencies will remain autonomous when determining their individual risk based operational decisions they are encouraged to develop a joint understanding of risk by jointly assessing single agency risk assessments and make coordinated operational decisions wherever possible.

All decisions must be based upon a sound decision making process. The JESIP Joint Decision Model (JDM) can assist in this (see Annex D).

This will help to maximise impact and help maintain responder safety.

The approach of the IOR is outlined in this document, and underpinned by the CBRN First Responder Flow Chart (Figure 1). It asks control room personnel to inform callers of, and first responders to undertake, a range of rapid life-saving tasks (STEP1-2-3 Plus).

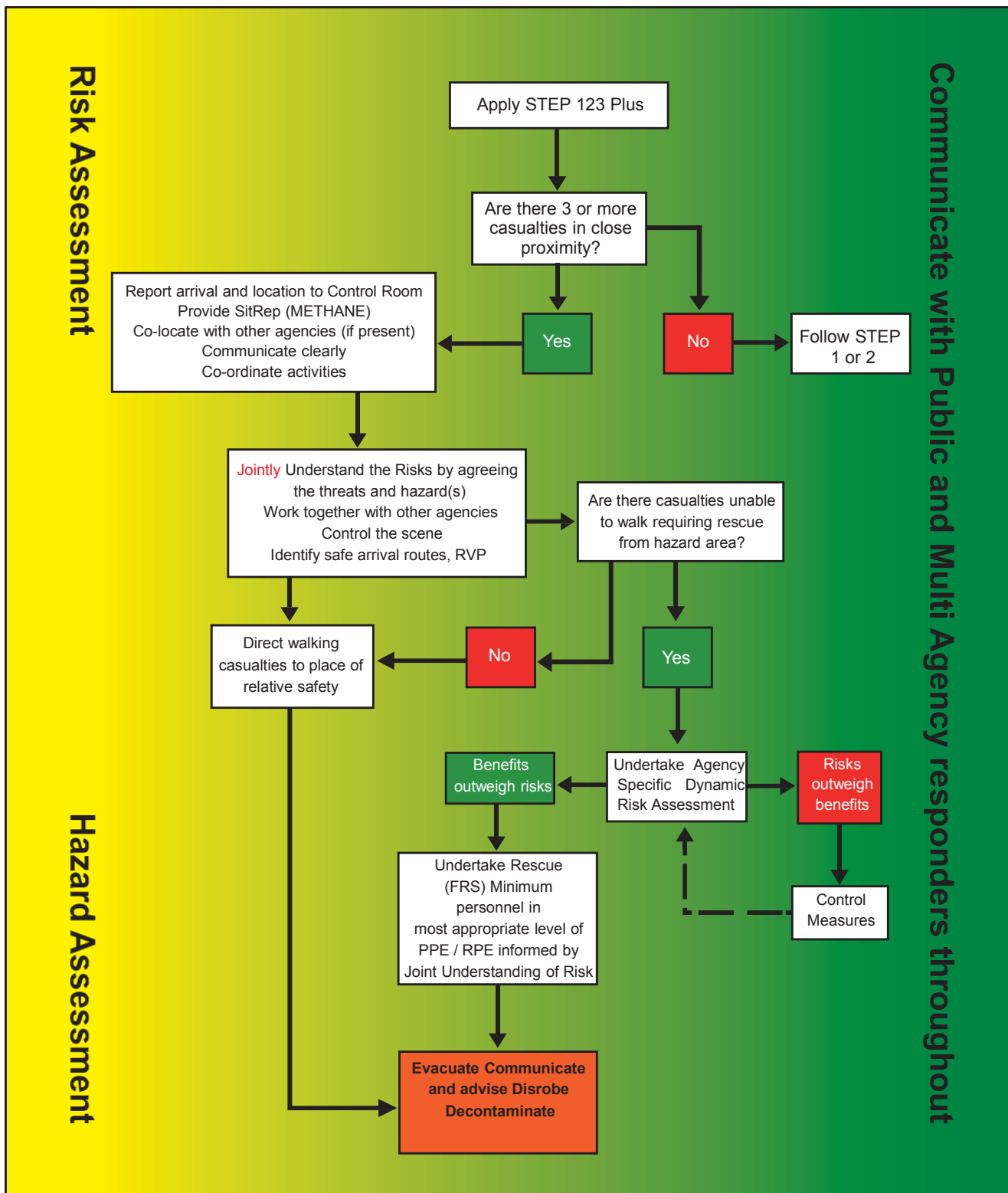
This IOR guidance does not cover:

- The role and responsibilities of specialist responders such as HART/SORT;
- Marauding Terrorist Firearms Attacks (MTFA) with a contaminating component;
- Catastrophic biological or nuclear incidents; or
- Civil nuclear emergencies.

Figure 1 overleaf, demonstrates the main actions that a first responder should consider in the initial period of time from arrival on scene to handing over to specialist or trained assets, and is critical to delivering the overriding priority of saving life.

² ORCHIDS – www.orchidsproject.eu

CBRN First Responder Flowchart (Figure 1)



4. INITIAL CALL HANDLING

Gathering intelligence: Call handlers need to gather information from the caller and provide them with advice. To assist control room personnel to make an informed judgment as to the nature of the incident and the resources required to respond effectively the following information, described by the acronym METHANE, is essential:

- M – Major Incident declared/ standby
- E – Exact location
- T – Type of incident
- H – Hazards
- A – Access and egress
- N – Number of casualties
- E – Emergency services required

Information gathered by call handlers will also form part of the joint understanding of risk and assist a shared situational awareness.

The impact is likely to differ for each service

Key information that will inform the joint understanding of risk for a potential CBRN incident also includes:

CBRN release indicators – identify whether it is a possible CBRN incident – e.g. Why is it suspicious? Is it a high profile location / building? Is there any intelligence to suggest the threat of a deliberate release? The 5 W's: What is it; Where is it; Why is it suspicious; Who found it; When was it found?

Indication of the severity and type of signs and symptoms

Weather conditions – in particular wind direction

Environment – building, open space, underground

Presence of perpetrators

If the call has been received via a non-emergency call handler (101, 111, NHS Direct call handlers) the handler should ensure that the information above is obtained and an emergency call is made.

Advice to provide to callers if a contamination incident is suspected:

- Ask callers to remain alert as the situation could change very quickly
- If it becomes obvious from information received that the caller is in a hazardous area advise the caller to move to a safer area and encourage others to do the same:
In an incident in the open air advise caller to do the following and to encourage others in the vicinity to do the same:
 - move away from the source – upwind and preferably uphill (walk into the wind);
 - assist others who are either injured or less able to carry out tasks, if possible;
 - avoid eating, drinking, smoking or touching the face and eyes;
 - remove outer clothing but do not pull clothing over the head unless absolutely necessary;
 - once clothing is removed, if possible use absorbent tissue or paper towels to **first blot and then rub** exposed skin;

- wash with water if there are signs of exposure to caustic substances (e.g. itching or pain);
- then move away again upwind and preferably uphill;
- avoid seeking hospital care – medical assistance is on its way;
- wait for the emergency services to arrive and act upon their instruction.
- Additional advice for incidents inside buildings:
 - evacuate the affected area – consider use of the fire alarm system (where appropriate), consider route – note that some gases are heavier than air;
 - consider shutting down air-conditioning, fans and air recirculation systems but only where this action would not delay evacuation;
 - once outside follow open air advice above.

Control Room Priority Actions

Inter-agency communication:

Control Rooms must liaise with multi-agency partners about the nature and scale of the incident, inform them of any resources and personnel that are on scene, and of any initial actions that have been taken.

Agencies should then:

- alert resources who may be in the vicinity of the hazard(s);
- using appropriate advice and information from the scene and contingency plans, direct further assets initially to a nominated rendezvous point (RVP), which must be upwind and preferably uphill of the incident site;
- direct the most appropriate available Incident Commander to the scene.

Control Room Supervisor

- i) It is possible that early on in the incident members of one service will spontaneously carry out tasks normally the responsibility of another. As soon as sufficient staff arrive agencies should ensure there is an appropriate command structure in place to ensure each agency meets its roles and responsibilities. Control rooms should be immediately made aware of the command structure in place as it is established and upon any change.
- ii) Seek specialist advice:
 - If the information received at the control room suggests a CBRN event, control room personnel should notify the NILO/ Tactical Advisor;
 - The NILO/ Tactical Advisor should contact CBRN specialist scientific advisors through their standard pathways;
 - Specialist scientific advisors may then choose to activate the Emergency Coordination of Scientific Advice (ECOSA) network;
 - ECOSA advice should be immediately shared to inform the joint understanding of risk and shared situational awareness. (See Annex D)
- iii) Brief the control room staff to expect enquiries from involved or concerned members of the public.

5. FIRST RESPONDERS – ALL EMERGENCY SERVICES

Step 1-2-3 Plus - Safety Triggers for Emergency Personnel

First responders should follow the 'STEP 1-2-3 Plus' process to judge what actions the situation requires and follow the CBRN First Responder Flow Chart (page 8) when three or more people in close proximity are incapacitated with no obvious reason – STEP 3:

Step 1 One person incapacitated with no obvious reason

- Approach using standard protocols

Step 2 Two people incapacitated with no obvious reason

- Approach with caution using standard protocols

Step 3 Three or more people in close proximity, incapacitated with no obvious reason

- Use caution and follow step 'Plus'

Plus – Follow the CBRN First Responder Flow Chart to consider what actions can be undertaken to save life, using the following principles:

Evacuate – get people away from the scene of contamination;

Communicate and advise – immediate medical advice and reassurance that help is on its way;

Disrobe – remove clothing;

Decontaminate – improvised decontamination – dry decontamination when a non-caustic agent is suspected and wet decontamination when a caustic agent is suspected.

Initial information from the scene and report to Control Room

If the above advice has been given by the call taker, first responders may be faced with affected people in the open air, away from the source, starting to disrobe and carrying out improvised decontamination.

Situation Reporting

Effective situation reporting from the scene of contamination is vital to ensure that correct information can be disseminated appropriately to enable all agencies to maintain shared situational awareness.

Any situation report should contain the following information based on the METHANE system of reporting. Control rooms will expect reporting according to the model:

- M - Major Incident declared/ standby
- E - Exact location
- T - Type of incident
- H - Hazards

- A - Access and egress
- N - Number of casualties
- E - Emergency services required

Responders should gather the required information as a priority on arrival at scene and disseminate to their Control Rooms and other agencies on scene as soon as possible. The lack of one piece of information should not delay initial reporting.

Situation updates should be provided at regular intervals, or whenever further or updated information becomes available. Each agency should maintain a log of the situation reports completed.

Scene Management:

Rapid scene management is critical to the saving of life.

Management of the scene is crucial to ensure that:

- Emergency responders are working in a controlled environment;
- The public cannot enter the area, thus minimising risk to the public and preventing further casualties;
- The mitigation of the risk of spreading contamination in the wider community;
- The potential crime scene is protected.

Identify a potential CBRN incident

CBRN Release Indicators – What to Ask/Look for

In the early stages of an incident, it may be difficult to establish whether a CBRN event has occurred.

Visual Indicators

Visual indicators of a CBRN event may include all or some of the following:

- Dead or distressed people, birds and animals;
- Multiple individuals showing unexplained signs of skin, eye or airway irritation, nausea, vomiting, twitching, sweating, pin-point pupils, runny nose, disorientation, breathing difficulties, convulsions and death;
- The presence of hazardous or unusual materials/equipment;
- Unexplained vapour or mist clouds;
- Unexplained oily droplets or films on surfaces or water;
- Withered plant life and vegetation;
- Odd smells or tastes out of character with surroundings.

Note: Symptoms of exposure to a biological or radiological attack may not be present within the first minutes and hours of an attack occurring. Chemical releases are often, but not always, accompanied by a more rapid onset of symptoms.

6. LIFE SAVING ACTIONS

Evacuation and Disrobe and Decontamination

Moving casualties away from the scene of contamination followed by immediate disrobing and decontamination is the most effective measure to save life and improve casualty outcomes in a CBRN event. The maximum benefit of this will be realised if conducted within fifteen minutes of exposure.

These early operational activities should be considered an absolute priority.

Casualties should be directed away from the scene of contamination and point of release.

Identify an area away from the scene of contamination (i.e. the suspected point of release) and include any subsequent contamination spread. The identified area of safety should, where practicable, be upwind and ideally uphill of the incident.

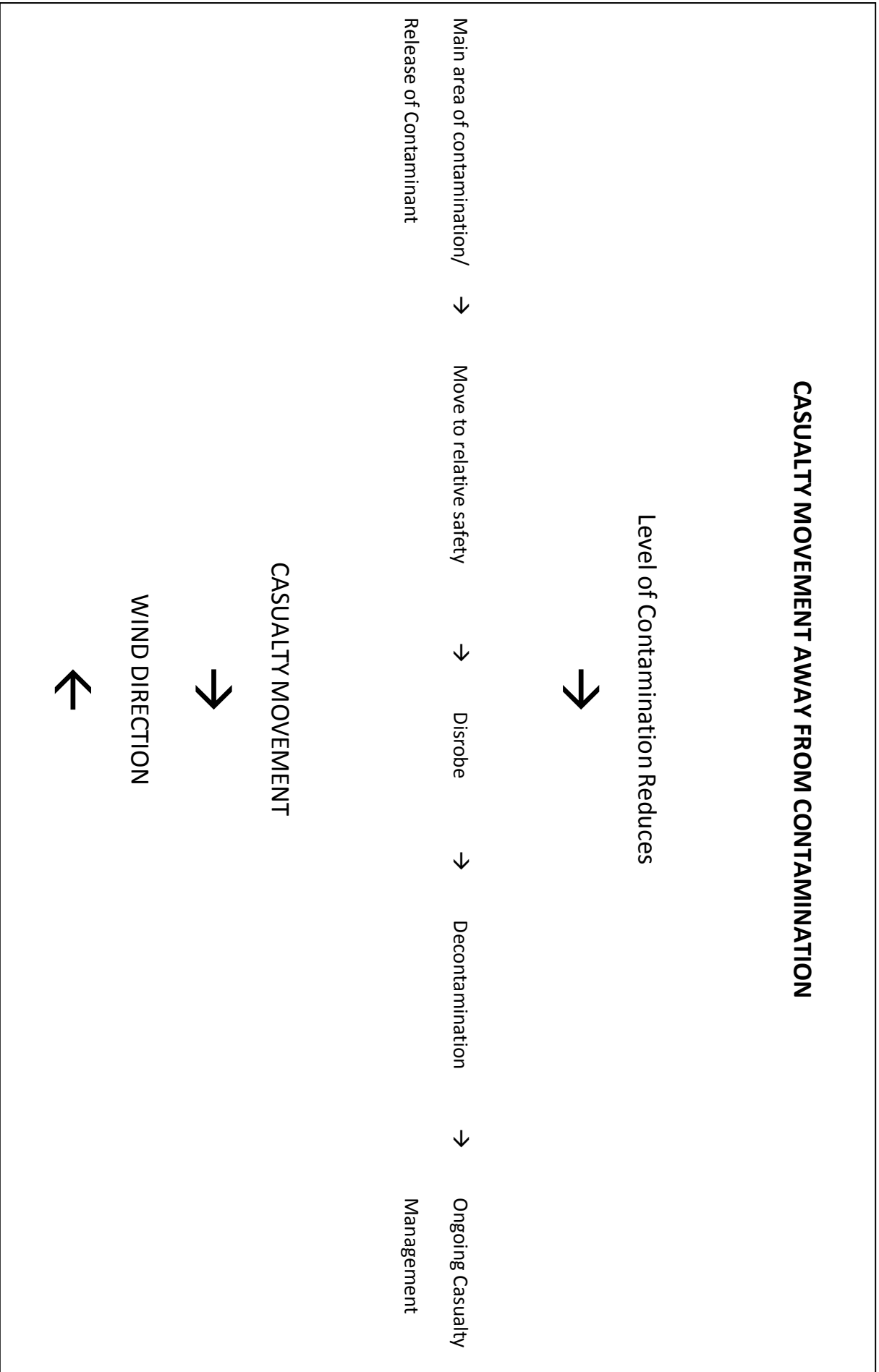
Any casualties who are able to walk should be directed to this area with the minimum of direct physical contact from emergency responders. Consider use of a loud hailer, tannoy system, vehicle PA or other means to mobilise/direct people.

Communication to casualties on scene

It is important that responders clearly communicate what they know about the incident, what is being done to help affected people and how they can help themselves. This will help foster public trust and confidence in responding organisations and help promote compliance with emergency interventions.

First responders should consider communicating:

- What they know of the nature of the incident, even if it is just that more help is on its way;
- What the emergency services are doing and that these actions will help;
- That medical assistance is coming to them – they should not leave the scene;
- That the advice and instructions from the emergency services should be followed;
- That those who are capable should assist others who are injured or less able to carry out tasks – if they can.



7. RESCUE

SAFETY NOTE: It cannot be over-emphasised that this guidance is not an instruction to deploy FRS personnel into a potentially contaminated area in standard firekit and SCBA in every circumstance. The purpose is to provide Incident Commanders with guidance in making a calculated risk based decision and underpin the existing Fire Service 'snatch rescue' protocol; based on all available information on whether to deploy personnel forward in firekit and SCBA as part of a risk assessed plan to rescue saveable lives.

Casualties that are identified as breathing and conscious but unable to walk should be regarded as a high priority to be rescued. They should be removed from the perceived area of greatest contamination and also relocated to an area of relative safety. At the earliest practicable opportunity these casualties should be assisted to disrobe, and if possible undergo improvised or interim decontamination.

As first responders, only the FRS has suitable PPE to carry out rescue within the hot zone and should therefore be the only people to enter this area.

It is recognised that the time taken to don Gas Tight Suits (GTS) may compromise the ability to rescue non ambulatory, saveable casualties in a timely manner. In these circumstances the FRS Incident Commander (IC) must consider the use of other acceptable PPE ensembles.

FRS structural fire kit combined with Self Contained Breathing Apparatus (SCBA) provides a lesser degree of protection than GTS, but research has demonstrated that protection factors provided by this level of PPE reduces the risk to FRS personnel to a level that may be considered acceptable in circumstances where saveable-life-rescues could potentially be undertaken using 'snatch rescue' protocols.

It should be noted that the use of fire kit and SCBA must only be utilised during the initial stages of the incident to undertake immediate life-saving activities. During later phases of activity, such as Mass Decontamination, the levels of CBRN PPE identified within existing guidance must be adopted.

All activities under the IOR are subject to current service specific operational procedures and safety protocols.

Disrobe

The process of disrobing is highly effective at reducing the effect of CBRN materials when performed within fifteen minutes of exposure. Scientific research has shown that the vast majority of skin surface contaminants are removed if disrobing, followed by appropriate decontamination, is done effectively. See annexes A, B & C.

Therefore evacuation followed by disrobing must be considered the primary action.

FRS disrobe packs are available on front line appliances³; they should be immediately distributed to casualties, prioritising vulnerable individuals where necessary. Packs can be thrown to the casualties removing the necessity to enter the potentially contaminated zone.

³ Limited number of Disrobe Packs available on front line FRS vehicles

Responders should consider the potential for hypothermia as well as, where practicable, modesty concerns. If available, alternative clothing or blankets should be used.

However, disrobe packs are not necessary for undressing and the lack of an alternative should not delay undressing which is an absolute priority.

It is essential for crime scene investigation purposes that contaminated waste materials and clothing is contained in bags and left for the police investigation team under the SOR. Where this can be achieved without compromising the speed and efficacy of the evacuation and decontamination of casualties it should be given full attention/consideration.

Undressing should be systematic to avoid transferring any contamination from clothing to the skin.

Communication to casualties:

Communicate:

- Why and how casualties need to be disrobed and decontaminated
- That those who are capable should assist others who are injured or less able to carry out tasks - if they can
- That more help is coming and do not leave the area
- Casualties should not eat, drink or smoke and avoid touching their face due to the risk of ingesting or transferring hazardous materials

Consider all options to communicate this message effectively, including use of loudhailers and providing demonstrations of disrobe and dry decontamination.

Responder Guidance: Responders should not eat or drink anything or smoke and avoid touching of the face due to the risk of ingesting or transferring hazardous materials.

8. IMPROVISED DECONTAMINATION

Improvised decontamination must be performed on all disrobed casualties, unless medical advice is received to the contrary. Dry decontamination should be considered for an incident involving chemicals unless the agent appears to be caustic (see below).

Before specialist resources arrive on scene first responders should consider:

Improvised Dry Decontamination

Unless casualties are demonstrating signs or symptoms of exposure to caustic or irritant substances (for example, redness, itching and burning of the eyes or skin), exposed skin surfaces should, in the first instance, be blotted and rubbed with any available dry absorbent material such as paper tissue, clean cloth, etc. All waste material arising from decontamination should be left, and ideally bagged, for disposal at a later stage. See Annex B.

Depending on the nature and extent of contamination wet decontamination may be needed to decontaminate hair. However, the critical steps of rapid evacuation, disrobe and dry decontamination should NOT be substituted or delayed whilst interim wet decontamination is established.

Whether wet decontamination follows dry decontamination should be the subject of a dynamic risk assessment by on scene emergency service personnel as the nature and extent of contamination will be context-specific.

Improvised Wet Decontamination

Water should only be used for decontamination where casualty signs and symptoms are consistent with exposure to caustic substances such as acids or alkalis or the contamination has been identified as biological or radiological in nature. Wet decontamination may be performed using any available source of water such as taps, showers, fixed installation hoses, etc. When using water, it is important to try and limit the duration of decontamination to between 45 and 90 seconds and, ideally, to use a washing aid such as a cloth or sponge. See Annex C.

Improvised decontamination should not involve overly aggressive methods to remove contamination as this could drive the contamination further into the skin.

Additional Note:

- Following improvised decontamination, remain cautious and watch for signs and symptoms in the decontaminated person and in unprotected staff;
- If water is used to decontaminate casualties this may become contaminated, and therefore hazardous, and a potential source of further contamination spread;
- All materials (paper, tissues, etc.) used in this process may also be contaminated and should where possible not be used on other casualties;
- The risk from hypothermia should be considered when disrobe and any form of wet decontamination is carried out;
- People who are contaminated should not eat, drink or smoke before or during the decontamination process and should avoid touching their faces.

It should be anticipated that early disrobe and improvised decontamination will be largely effective at removing a contaminant from exposed casualties.

Interim Decontamination

This is the use of standard FRS frontline (initial response) equipment to provide a planned and structured decontamination.

9. TRANSITION TO SPECIALIST OPERATIONAL RESPONSE

Different specialist CBRN assets will arrive at the RVP at different times; therefore the transition from initial to specialist response will take place in an undetermined sequence.

It is important that accurate information and intelligence is relayed to specialist teams when they arrive on scene. Information should be gathered and reported regularly to control room operators.

Handover or briefing information should include:

- An update on the joint understanding of risk;
- Approximate number of casualties;
- Signs and symptoms of casualties;
- Any information or intelligence on the substance / material / agent involved in the attack;
- Services present and an indication of their capabilities/limitations;
- Command structure in place;
- Actions completed;
- Actions underway;
- Actions outstanding;
- Who has been informed about the incident.

ANNEX A - DISROBE PICTOGRAM⁴



⁴ Casualties should be told to decontaminate hands before putting Gloves on (Step 1 of Pictogram)

ANNEX B – DRY DECONTAMINATION OF CASUALTIES

Improvised Dry Decontamination

Dry decontamination is to be considered in the first instance following disrobe. Wet decontamination is only the preferred option when casualties are demonstrating signs or symptoms of exposure to caustic or irritant substances such as acids or alkalis (for example, redness, itching and burning of the eyes or skin).

If ambulatory casualties can self-decontaminate then this is the best approach to take. Emergency service personnel should supervise and assist casualties to perform dry decontamination as required.

To perform improvised dry decontamination:

- Any available dry, absorbent material can be used, for example:
 - kitchen towel, toilet roll or paper tissues, such as 'blue roll'
 - towels and clean rags
 - strips of blanket or sheeting
- Other absorbent materials like dry soil or cat litter can also be used.
- Exposed skin surfaces should be blotted and rubbed, starting with the face, head and neck and moving down and away from the body
- Sufficient absorbent material should be used to avoid transferring contamination from one part of the body to another
- Rubbing and blotting should not be too aggressive, or it could drive contamination further into the skin
- All absorbent materials used in this process may also be contaminated and should not be used on a new casualty

All waste material arising from dry decontamination should be left in situ and bagged if possible – it will be managed by specialists at a later time. For example the waste material could be placed in the clinical waste bags carried by ambulances or alternatively plastic bags could be obtained from local supermarkets. Casualties should be moved away from waste materials arising from improvised dry decontamination as soon as possible.

ANNEX C – WET DECONTAMINATION OF CASUALTIES

The 'RINSE-WIPE-RINSE' Method of Improvised Wet Decontamination

Equipment

For the effective application of the RINSE-WIPE-RINSE method of skin decontamination the following is required:

1. Water, preferably warm;
2. A bucket or other container (5-10 litre capacity) or a shower head with clean, preferably warm, running water;
3. A second bucket (5-10 litre capacity) for use with a water (preferably warm) and detergent mix;
4. Detergent;
5. A sponge or soft brush.

Procedures

If walking casualties can self-decontaminate then this is the best approach to take.

Emergency service personnel should supervise and assist as required.

The recommended procedure for applying the **RINSE-WIPE-RINSE** method is as follows:

1. Make up a water/detergent solution of 0.5% detergent in warm water (5ml of detergent per litre of water or about three squirts of liquid detergent into a bucket of water).
2. Having removed the contaminated person's clothes, **RINSE** the affected areas with clean water (no detergent) using shower heads or buckets. **RINSE** from the highest point downward, ensuring that any sponge or brush used does not come into contact with the casualty or their clothing.
3. The **RINSE** should be applied to **contaminated** areas of skin only, to avoid spread to uncontaminated areas.
4. Using the water/detergent mix detailed in 1.
5. **WIPE** the affected areas of skin with a wet sponge or soft brush. **RINSE** the decontaminated casualty with clean warm water (no detergent) to remove the detergent and any residual chemicals.
6. Dry the skin with a clean towel.
7. This process should not take more than three to five minutes for an individual walking casualty. Repeat the **RINSE-WIPE-RINSE** procedure only if skin contamination remains obvious. (Persistent chemical warfare agents are poorly soluble in water and might require extended or repeated application.)

ANNEX D – JOINT DECISION MODEL (JDM)

The creation of an effective integrated multi-agency operational response plan is a key component to achieving and delivering an effective resolution to a CBRN incident. JESIP (Joint Emergency Services Interoperability Principles) are the principles the emergency services apply when working together. The purpose of these clear simple principles is to help commanders take the actions required to deliver successful outcomes. This simplicity will assist in the early stages of a CBRN event when clear, robust decisions must be made and actions taken quickly in the face of a rapidly changing information and intelligence picture.

The Joint Decision Making model (JDM) has been adopted by all emergency services. The JDM offers a simple, robust and scalable method to allow all commanders to bring together available information, reconcile objectives and then make effective decisions together.



Note: The Joint Decision Model is a key component in achieving a safe multi-agency response to deliver an effective resolution to the incident. The process should ideally be multi-agency; however, the non-attendance of a particular emergency service or their on-scene commander should not in itself stop this process from taking place but may impact upon any decision to deploy personnel.

There are six elements to the JDM.

Underpinning every stage of the JDM is the primary aim of any response to a CBRN incident: **Working together – saving lives, reducing harm**. Commanders should consider what a reasonable member of the public would expect of the emergency services.

The remaining stages of the model should be applied in sequence. The model is scalable; the initial application may only take minutes, whilst later in the incident the JDM should be

used to structure meetings and briefings and will take longer to apply. The JDM should form the basis for all meetings between commanders.

Gather and Share Information and Intelligence:

Situational awareness is about having appropriate answers to the following questions: What is happening; what are the impacts; what are the risks; what might happen and what is being done about it?

Jointly assess risks, develop a working strategy:

Understanding risk is central to managing a CBRN incident. A key task for commanders is to build and maintain a common understanding of the full range of risks and the way those risks may be increased, reduced or controlled by decisions made and actions taken. In a CBRN incident the blue light services will have a unique insight into risks; by sharing that knowledge a common understanding can be established.

Consider Powers and Policy:

Powers, policies and procedures relate to the relevant laws, operating procedures and policies that may impact on the response plan and the capabilities that are available to be deployed. In a CBRN incident a common understanding of any relevant powers, policies, capabilities and procedures is essential to ensure the activities of one service complement, and do not compromise, the approach of the other services.

Identify Options and Contingencies:

In a CBRN incident it is highly likely that there will be more than one option to achieve the desired end state and a range of options should be identified and evaluated. Any potential option or course of action should be evaluated with respect to:

- Suitability – does it fit the strategic direction;
- Feasibility – in resource terms can it be done;
- Acceptability – is it legal, morally defensible and justifiable?

Take Action and review what happened:

Building situational awareness, setting direction and evaluating options all lead to taking the actions that are judged to be most effective and efficient in resolving a CBRN event and returning to the new normality. The JDM is a continuous process, it is essential that the results of any actions taken are fed back into the first stage of the model (Gather and Share Information and Intelligence) so that commanders shared situational awareness is maintained. This will, in turn, shape any revision to the direction and risk assessment as the cycle continues.

10. GLOSSARY OF TERMS AND ABBREVIATIONS

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| Casualty | A person directly involved in or affected by the incident (injured, uninjured, deceased or evacuee) |
| CBRN | For the purposes of this document: CBRN refers to the purposeful release of chemical, biological, radiological or nuclear contaminants in order to do harm to people or the environment |
| CBRN(e) | As above but with the addition of a potential conventional explosive component used to disperse the contaminating agent |
| CBRN PPE | Personal Protective Equipment for CBRN environments |
| Control measure | This is any measure that reduces the risk – for example PPE or enhanced level of awareness and supervision |
| Cold zone | An area upwind and preferably uphill of the source of the contamination (or the contaminated area) to which casualties may be moved to support next steps |
| Decontamination | The process of reducing contamination: removal or reduction of hazardous materials (including from skin or vicinity to skin) to reduce the risk of (further) harm to victims and/or cross contamination |
| DIM | Detection, Identification and Monitoring capability: Hazardous materials/substances equipment operated by the emergency services (primarily FRS); and supporting agencies (e.g. DSTL) |
| Disrobe | The process of safe undressing following the contamination of a casualty – instructions can be given by all first responders or by the Control Room prior to emergency arrival. The area of disrobe is likely to become contaminated and should be treated as such |
| Disrobe packs | FRS supplied packs for use by casualties after removal of outer clothing during the disrobe procedure described above |
| Dry decontamination | Reducing skin contamination without the use of water, using available absorbent materials. This process should be considered the default method of decontamination unless contraindicated by the presence of caustic or irritant materials which require interim or improvised wet decontamination |
| ECOSA | Emergency Co-ordination Of Scientific Advice. A mechanism for all emergency services to receive fast and coordinated scientific advice in an incident that is potentially CBRN in nature |
| First Responder | Any member of the emergency services who is likely to be the first operational resource to be deployed or to find themselves in the vicinity of a potential CBRN incident. The person is unlikely to be trained in specialist CBRN response or have specific CBRN PPE. This also includes staff at health care premises who may be required to carry out the role of a first responder |
| FRS | Fire and Rescue Service (London Fire Brigade in London) |
| HART | Specialist – Hazardous Area Response Team – Ambulance Service |
| Hazard | For the purposes of this document: Something with the potential to cause harm. In the UK Civil Protection Lexicon (v2.1.1): Accidental or naturally occurring (i.e., non-malicious) event or situation with the potential to cause death or physical or psychological harm, damage or losses to property, and/or disruption to the environment and/or to economic, social and political structures |
| Improvised Decontamination | This is the use of an immediately available method of decontamination (wet or dry) prior to the use of specialist resources (Any first responder/control room or affected person can give instruction and equipment to assist) |

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| Inner Cordon | For the purposes of this document: Delimits the area where potential hazardous activity may be safely conducted and encompasses both the hot and warm zones. In the UK Civil Protection Lexicon (v2.1.1): Cordon established to secure the immediate scene and provide a measure of protection for personnel working within the area |
| Interim Decontamination | The use of standard equipment to provide a planned and structured decontamination process prior to the availability of purpose designed decontamination equipment – warm zone |
| Joint understanding of risk | Under JESIP principles: sharing information and understanding about the likelihood and potential impact of risks and the availability and implications of potential control measures will ensure, as far as is reasonably practicable, that the agreed aim and objectives are not compromised. This will include ensuring the safety of responders and mitigating the impact of risks on members of the public, infrastructure and the environment |
| Mass Decontamination | The planned and structured procedure delivered by the Fire and Rescue Service using purpose designed decontamination equipment where there are large numbers of casualties |
| Potentially contaminated zone | This is the contaminated area (or areas) where the initial release occurs or disperses to. It will be the area likely to pose an immediate threat to the health and safety of all those located within it and is the area of greatest risk. (To be entered by responders in appropriate level of CBRN PPE only) |
| Risk | For the purposes of this document: The likelihood of harm from a particular hazard occurring and the severity of the consequences In the UK Civil Protection Lexicon (v2.1.1): Measure of the significance of a potential emergency in terms of its assessed likelihood and impact |
| Risk assessment | For the purposes of this document: A measure or judgment of the likelihood of harm from a particular hazard occurring and the severity of the consequences In the UK Civil Protection Lexicon (v2.1.1): A structured and auditable process of identifying potentially significant events, assessing their likelihood and impacts, and then combining these to provide an overall assessment of risk, as a basis for further decisions and action |
| RPE | Respiratory Protective Equipment |
| RVP | Rendezvous point. For a CBRN incident, this should be located upwind and if possible, uphill of the hot zone |
| SCBA | Self-Contained Breathing Apparatus |
| Scene of contamination | An environment containing property and/or people who are potentially contaminated. This could include self-presenters at a health care premises as well as the point of release |
| Shared situational awareness | Under JESIP principles: This is a common understanding of the circumstances and immediate consequences of the emergency, together with an appreciation of the available capabilities and emergency services' priorities |
| Snatch Rescue | A tactical option open to FRS, focused on the immediate extrication of a casualty unable to walk to a safer area to undergo disrobe and decontamination |
| SORT | Specialist Operations Response Team (Ambulance) |
| STEP 1-2-3 Plus | Safety Triggers for Emergency Personnel Plus |
| Triage | A dynamic method by which people are “sieved and sorted” in order of medical priority |
| Wet decontamination | Reducing skin contamination by the use of water |

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