

Synopsis: Responding To CBRN Events - Joint Operating Principles for the Emergency Services

Version 2.0
(September 2025)



JESIP
Working Together – Saving Lives

Index

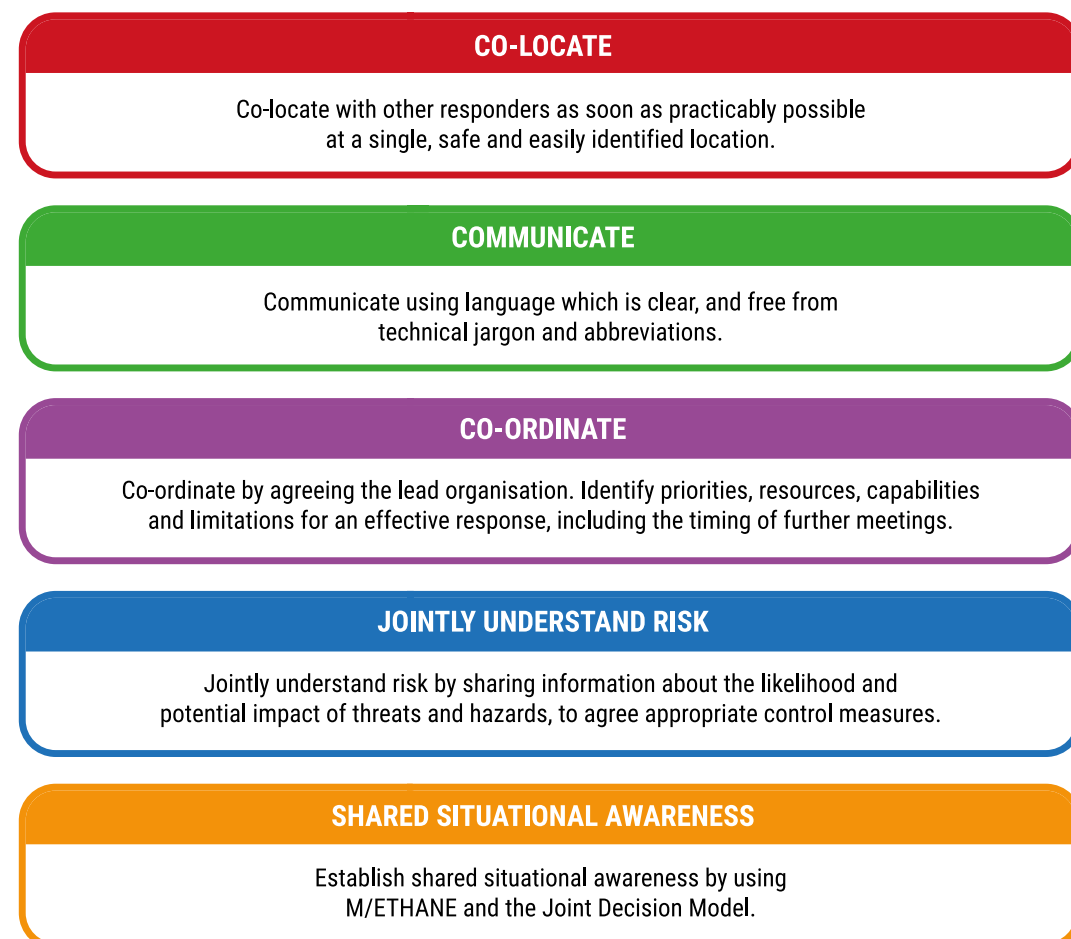
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Glossary of Terms and Abbreviations

Term	Abbreviation
CBRN	Chemical, Biological, Radiological and Nuclear substances or materials
CBRN(e)	Chemical, Biological, Radiological and Nuclear substances or materials combined with explosives
COBR	Cabinet Office Briefing Rooms
DEFRA	Department for the Environment, Food and Rural Affairs
DHSC	Department of Health & Social Care
ECOSA	Emergency Co-ordination of Scientific Advice
HMG	His Majesty's Government
IOR	Initial Operational Response
JDM	Joint Decision Model
JESIP	Joint Emergency Services Interoperability Principles
JOL	Joint Organisational Learning
JOPs	Joint Operating Principles
LA	Local Authority
LGD	Lead Government Department
LoE	Limits of Exploitation
LRF	Local Resilience Forum
M/ETHANE	Situational reporting tool used by all UK Emergency Services (Major incident declared / Exact location / Type of incident / Hazards / Access / Number of casualties / Emergency Services).
MHCLG-RED	Ministry for Housing, Communities and Local Government, Resilience and Recovery Directorate
NCBRNC	National Chemical, Biological, Radiological and Nuclear Centre
NPSA	National Protective Security Authority
PPE	Personal Protective Equipment
RAR	Threat recognition tool- 'Recognise, Assess, React'
RCG	Recovery Coordinating Group
SAGE	Scientific Advisory Group for Emergencies
SCG	Strategic Co-ordinating Group
SO15	Metropolitan Police Counter Terrorism Command
SOR	Specialist Operational Response
STAC	Science and Technical Advice Cell
UKHSA	UK Health Security Agency

Introduction

The Emergency Services response to any incident is based on the Joint Emergency Services Interoperability Principles (JESIP). The multi-agency response to the malicious use of Chemical, Biological, Radiological, or Nuclear (CBRN) materials or weapons with the intention to cause significant harm or disruption¹ (hereafter referred to as 'CBRN Events'), must therefore follow the core JESIP principles.



The Chemical, Biological, Radiological and Nuclear (CBRN) Joint Operating Principles (JOPs) Version 2.0 (classified as Official- Sensitive) are built upon the foundation of JESIP and have been designed to reflect current multi-agency CBRN operational principles, based on the lessons and good practices identified as a result of various operational deployments, tests and exercises, both within the UK and internationally, since CBRN(e) JOPs First Edition² were published in 2016.

For a full understanding of CBRN JOPs Version 2.0, the Official - Sensitive document can be accessed at the restricted CBRN Community Pages on Resilience Direct³.

The National CBRN Centre (NCBRNC), is responsible for developing the CBRN JOPs, and implementing the National CBRN Response as part of their mission to: 'support, strengthen and assure a resilient CBRN capability for the UK...to promote an interoperable, efficient, robust and proportionate approach in managing and responding to the CBRN threat'. The aim of the CBRN JOPs is to achieve enhanced operational interoperability and consistency in the delivery of the phased response to CBRN Events, thereby greatly assisting in the provision of an effective multi-agency response to deliver immediate casualty care, facilitate investigation and promote recovery.

Purpose

CBRN JOPs Version 2.0 are designed to assist the Emergency Services across the UK to deliver a rapid, efficient, proportionate and coordinated, continuous, phased multi-agency response to CBRN Events. This continuous, phased response replaces the three-stage process of Initial Operational Response⁴ (IOR) -> Transition -> Specialist Operational Response (SOR) previously described in the CBRN(e) JOPs First Edition.

Scope

CBRN JOPs Version 2.0 is primarily intended to be used by the Emergency Services and emergency planning organisations when planning for, or responding to, CBRN Events across the UK.

CBRN JOPs Version 2.0 is designed to build on, and complement, IOR guidance. IOR is a key component of the continuous, phased response to CBRN Events described in the JOPs. When responding to CBRN Events, the Emergency Services should seek to consolidate the Initial Operational Response as protected CBRN resources⁵ arrive to deal with the Event.

Whereas CBRN(e) JOPs First Edition focused only on the multi-agency response to confirmed CBRN terrorist attacks, CBRN JOPs Version 2.0 are designed to be applied to the response to a much wider range of malicious incidents, and, as such, are consistent with the approach taken by the National Protective Security Authority (NPSA). As CBRN JOPs Version 2.0 is designed to build on, and complement IOR, it refers throughout to CBRN and not CBRN(e), whilst recognising the inherent risk which explosives (e) may pose to the Emergency Services when responding to CBRN Events.

Whilst the distinction between accidental releases and malicious acts suspected to involve hazardous substances or CBRN materials is recognised within the JOPs, it is recognised that many aspects of the multi-agency response to such events will be the same, irrespective of their originating cause. The JOPs can therefore be applied by the Emergency Services to the multi-agency response to an accidental release of hazardous substances or CBRN materials, although it is recognised that some multi-agency roles and responsibilities for accidental releases of such materials will be significantly different to those for malicious acts. The JOPs should also be applied when planning multi-agency CBRN contingencies for pre-planned events.

¹ <https://www.npsa.gov.uk/chemical-biological-radiological-and-nuclear-cbrn-threats> (11 January 2024).

² Responding to a CBRN Event: Joint Operating Principles for the Emergency Services, First Edition, September 2016.

³ <https://www.resilience.gov.uk>.

⁴ Guidance on the Initial Operational Response (IOR) to Incidents Suspected to involve Hazardous Substances or CBRN Materials, Version 1.1, National CBRN Centre, Coventry, UK, June 2024.

⁵ Protected CBRN resources' refers to the multi-agency responders and specialists who have received specific CBRN training, over and above an awareness of IOR, and are equipped with the necessary knowledge and equipment (including PPE) to provide a protected response to a CBRN Event.

Responding to CBRN Events

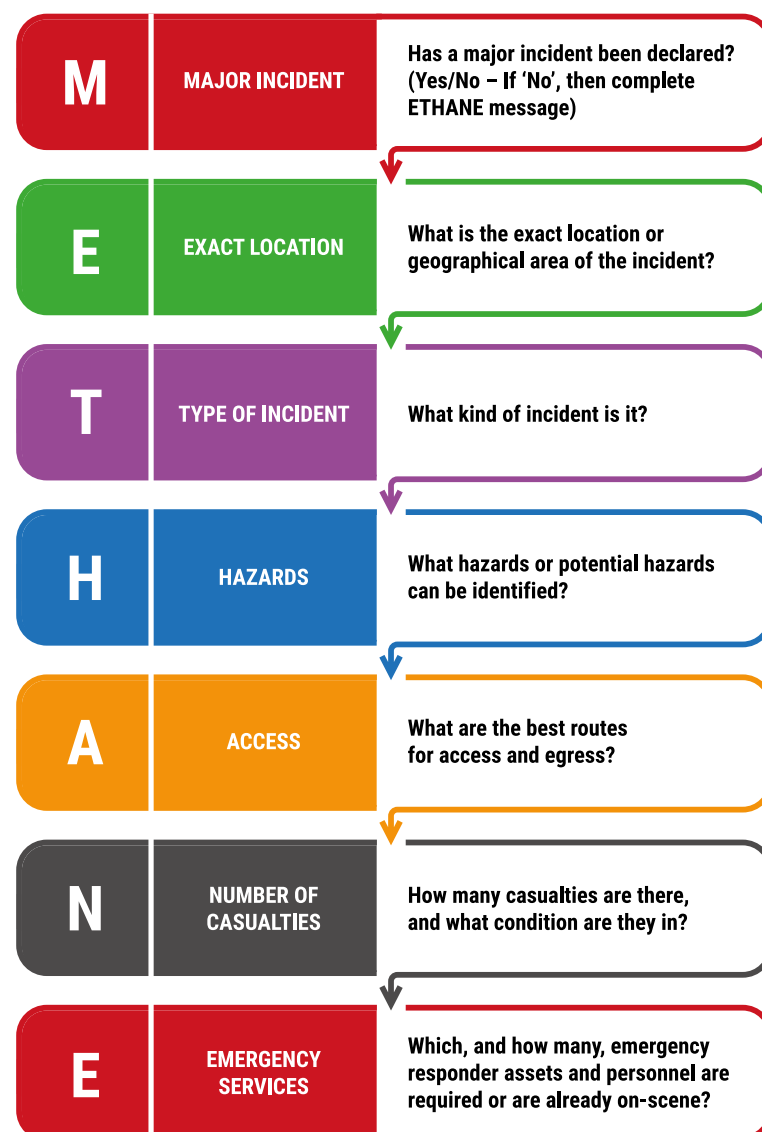
CBRN JOPs Version 2.0 have been developed to form the operational delivery element of His Majesty's Government (HMG) Strategic Framework for CBRN Response, within which the Emergency Services are expected to operate when planning for, and responding to, CBRN Events.

Initial Operational Response

During incidents where there is a suspected exposure to hazardous substances or CBRN materials, the first 15 minutes are the most critical for achieving life-saving activity. The provision of advice to the public and the early deployment of responders to the scene of a CBRN Event, to commence life-saving actions is therefore critical. These actions are clearly described in the public-facing IOR guidance. Following IOR principles from the point at which the first report of an incident is received by responders provides the opportunity to immediately provide life-saving advice, whilst implementing a co-ordinated, controlled and consistent response.

IOR was developed to ensure that early life-saving activity at a CBRN Event is not delayed simply because responders do not all arrive at the same time and is designed to be effective, whether implemented by the first solo responder arriving on scene, or by multiple responders working together.

IOR recognises that the initial actions taken at a potential CBRN Event will have a significant effect on the outcome for all involved. These actions, designed by the NPSA, and fully described in IOR, are the principles of Recognise-Assess-React (RAR)⁶:



R - RECOGNISE the indicators of a hazardous substance incident;

- Early identification of a potential CBRN Event
- Early sharing of information regarding a potential CBRN Event (M/ETHANE)

A - ASSESS the incident to inform an appropriate response strategy;

- Initial Joint Understanding of Risk (JUR)
- Co-location of resources and early designation of Forward Command Points (FCP), Rendezvous Points and Zones (RVP)
- Adversaries and Secondary Devices

R - REACT appropriately to reduce the risk of further harm:

- Early Remove directions to members of the public
- Early command and control of the scene (ECOSA)

In addition to RAR principles, the implementation of Joint Operating Principles will ensure that the response to a CBRN Event builds on the life-saving focus of IOR and delivers an effective, proportionate response:

- Joint Decision Making
- A clear understanding of agency roles and responsibilities
- The provision of Scientific Advice (Through ECOSA and STAC)
- Consideration of the 5 Safety Critical Considerations



Shared Situational Awareness and Joint Understanding of Risk

Establishing a shared situational awareness and updating the initial joint understanding of risk as the response is consolidated is a continual process, which aims to save life, facilitate investigation and promote recovery, enabling Operational Commanders to work towards a common understanding of the threats, hazards and risks that may be present. Although it may not be possible to negate every risk, they should be managed in accordance with As Low As is Reasonably Practicable (ALARP) principles.

The briefing of staff and deployment of resources to respond to CBRN Events should be based on this shared situational awareness and joint understanding of risk.

Zoning of the Scene

Although not all CBRN Events will require zoning, the use of zones, including identification of Limits of Exploitation (LoE), enables commanders to proactively deploy responders to a scene in order to minimise risk to the public whilst providing a basic structure which supports them in maximising the safety of the responders.

Decisions on zoning should be based on the use of the Joint Decision Model (JDM) and supported by scientific advice, where available, considering the known threat and risk to the public and Emergency Service responders, balanced with the ongoing need to prevent loss of life.

The size, location and necessity for zones should be continuously reviewed and every effort should be made to reclassify zones to accurately reflect the constantly evolving threat and risk, based on up to date scientific advice.

Dirty Zone: The area where the initial release occurs or disperses to. It will be the area which may pose an immediate threat to the health and safety of all those located within it and is the area of greatest risk, typically contained inside an inner cordon. This may change in size over time (formerly Hot Zone).

Decon Zone: An area uncontaminated by the initial release of a substance, which becomes contaminated by the movement of people or vehicles due to decontamination and scene management activities. These areas cannot be guaranteed as free from contamination and typically the inner cordon will expand to include this area. The level of PPE will need to be determined on the basis of dynamic risk assessment and scientific advice (formerly Warm Zone).

Clean Zone: The uncontaminated area between the inner cordon and the outer cordon where it has been assessed that there is no immediate threat to life (formerly Cold Zone).

Human Factors

When planning the response to a CBRN event, special consideration should be given to the different physical, communication, health, or cultural needs of individuals. In particular, the response needs to take account of the needs of individuals to whom the nine Protected Characteristics, as defined in the Equality Act 2020, apply. The needs of individuals awaiting and undergoing decontamination, including those who rely on assistive devices or service animals, should also be considered when planning decontamination.

Recovery using the Joint Doctrine

The principles for joint working during the response should also be applied to remediation and recovery. During the response, the Lead Government Department (LGD) for Response will be the Home Office who will agree, with colleagues from the LGD for remediation, the Department for Food, Environment and Rural Affairs (DEFRA), as well as the Ministry for Housing, Communities and Local Government, Resilience and Recovery Directorate (MHCLG-RED), Cabinet Office and other relevant Government Departments, what support is likely to be required by local responders to facilitate and promote remediation and recovery from the outset.

DEFRA will also ensure that remediation and recovery are prioritised, especially if a nationally coordinated recovery effort is needed.

If COBR activates the Scientific Advisory Group for Emergencies (SAGE) to support the response, several Government Departments with responsibility for remediation and recovery are likely to be involved, including DEFRA, Department for Health and Social Care (DHSC) and UK Health Security Agency (UKHSA). DEFRA experts are likely to be invited (e.g. DEFRA Chief Scientific Adviser, Chief Veterinary Officer, Chief Drinking Water Inspector). Further, detailed information on these principles is available, as required.

Mitigation of Psychosocial and Mental Health Impacts

Previous events have made it obvious that the immediate aftermath of a CBRN Event can result in a profound psychosocial impact upon affected individuals, local communities and responding staff from the Emergency Services. As such, the mitigation of mental health and psychosocial impacts must be considered as the incident response, remediation and recovery are ongoing.

Mental health communications and support will be directed by NHS England and UKHSA. However, engagement with local authorities (LAs) and Local Resilience Forums (LRFs) will be required, to ensure that mental health services' communications and services can be appropriately tailored to the capabilities of the affected area following an incident.

Mental health advice, communications, and support should be sought as soon as possible from NHS England and UKHSA following an incident. This will allow for early mitigation of the psychosocial and mental health impacts that may occur.

Response and Recovery Coordination

Effective coordination between the SCG and RCG during the response is critical, as the early coordination will have a direct bearing on the effectiveness of remediation and recovery activities as response activities on-scene reach a conclusion, start to reduce and the recovery activities become the main focus of on-scene activity.

Recovery, Remediation and Reset of Response Capabilities

Recovery is the process of rebuilding, restoring and rehabilitating communities. It seeks to support affected communities in the reconstruction of physical infrastructure and restoration of emotional, social and physical well-being. This may take months or years to complete. It is worth noting that there may be an ongoing Police commitment to the recovery process in providing officers to staff cordons and set up access control points to restricted areas.

The LGD responsible for environmental recovery during a major incident involving CBRN threats in the built, and open environment, will be DEFRA. Long term recovery, in the sense of rebuilding, restoring and rehabilitating communities is the responsibility of MHCLG.

Remediation is an important component of the recovery process. This is the process of stopping or reducing pollution that is threatening the health of people or wildlife. This is done through the act of decontamination and general clean up. Once the remediation phase is complete, DEFRA will hand sites back to the Local Authority, with MHCLG the LGD for the rehabilitation and rebuilding of these sites.

As well as considering the recovery process when planning to respond to CBRN Events, the Emergency Services should ensure that they are able to rapidly 'reset' human and technical resources during and following their response, to ensure the ability to rapidly respond to simultaneous and / or subsequent CBRN Events, should the need arise.

Recording of Decisions, De-Briefing and Lessons Identified

Commanders should ensure their decisions and supporting rationale are recorded and retained in accordance with their organisations' relevant policies, including any decision to deploy or withhold resources.

A plan for debriefing, in accordance with responding organisations' policies and procedures should also be considered at the earliest practicable opportunity following CBRN exercises and / or live deployments. The importance of debriefing is discussed in the JESIP Joint Doctrine, S.11.2.

Any lessons or notable practice captured by a debrief should be shared with relevant local and national learning systems/platforms. By their nature, any debriefing activity following use of the CBRN JOPs is likely to result in lessons identified/notable practice which impact on interoperability. As such, it is anticipated that any lessons identified/notable practice should be shared with Joint Organisational Learning (JOL) via the JOL Online platform.

CBRN JOPs V2.0 Development

CBRN JOPs Version 2.0 was developed in consultation between NCBRNC, National Fire Chiefs' Council National Resilience Assurance Team, NHS resilience Emergency Capabilities Unit and Counter Terrorism Policing (SO15) as a core Working Group, supported by colleagues from UKHSA, DEFRA, and DHSC. CBRN JOPs V2.0 was developed to complement IOR and the JESIP Joint Doctrine, as well as several Policing documents relevant to counter terrorism and emergency response.



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Home Office

Bringing together the Emergency Services to protect
and prepare the UK against the chemical, biological,
radiological & nuclear (CBRN) threat.