

Project on  
Minimum Standards and Non-Binding Guidelines  
for First Responders Regarding  
Planning, Training, Procedure and Equipment  
for Chemical, Biological, Radiological  
and Nuclear (CBRN) Incidents

# GUIDELINES FOR FIRST RESPONDERS TO A CBRN INCIDENT

Updated 1<sup>st</sup> August 2014





## Foreword

The consequences of Chemical, Biological, Radiological and Nuclear (CBRN) emergencies may stretch national capabilities to their maximum extent. First response remains a national responsibility and it is essential therefore that nations build on their resources to respond and mitigate the consequences of emergencies affecting lives, property and the environment. Due to the nature of CBRN incidents, particularly their trans-national effects, co-operation between Euro-Atlantic Partnership Council (EAPC) nations is necessary. The development and adoption of Non-Binding Guidelines and Minimum Standards facilitates and improves national responses and mutual assistance.

The Non-Binding Guidelines and Minimum Standards for CBRN First Responders (NBG/MS), developed by NATO's Civil Protection Group, are a "package" of tools aimed at first responders to support planning and implementation of response to CBRN incidents. National legal responsibilities may be divided in substantially different ways; there can be no universal solution for CBRN related civil emergency planning. Likewise, the mandates of first responders involved in emergency response may be formulated in substantially different ways from one nation to another. The NBG/MS helps to establish a common framework for international response to CBRN incidents and to enhance interoperability and cooperation of international response teams.

The Response Guidelines document is one of the three components of the NBG/MS. The other two components consist of the International CBRN Training Curriculum and the Advisory Support Team concept and modalities.

The Response Guideline document was initially issued in 2006 and has been used as a basis to deliver pre-exercise training at several EADRCC field exercises and International Courses for trainers of first responders to CBRN incidents, in concert with the International CBRN Training Curriculum. Having reviewed the document it is clear that the content and structure have stood the test of time and are very much "fit for purpose". I hope nations will continue to find the Response Guideline document a useful tool to support national and international CBRN emergency preparedness and response.

Ragnar BOE  
Chairman of NATO's Civil Protection Group



## Introduction

The aim of the response guidelines is to establish procedural guidelines for strategic, operational and tactical planners responsible for CBRN preparedness and response.

The response guidelines provide generic advice and guidance on procedures, capabilities and equipment required to implement an effective response. They are designed to improve multi-agency interoperability in first response to a CBRN incident and provide guidance on when regional, national or international assistance may be required. The guidelines serve as a checklist and have been prepared to help planners in EAPC nations determine their own level of capability through self-assessment. Implementation of the guidelines is entirely optional.

Rather than aiming for standardisation, the response guidelines focus on developing a

common understanding of the actions required during the initial response phase and also consider the longer term aspects of a response.

In order for a response to be fully integrated it is vitally important that deliberate and effective pre-planning takes place between members of all responding agencies at local, regional, national and, where appropriate, international level.

The development of regular training designed to test agreed roles, responsibilities, capabilities and protocols is also an essential component of the pre-planning process and will provide opportunities for all agencies to develop an integrated response to a CBRN incident.

The response guidelines are presented as a matrix divided into four sections. They are generic in nature and relate to procedures, capabilities and equipment<sup>1</sup> required to implement an effective response.



<sup>1</sup> Equipment in this project refers to its functional aspects as opposed to recommending specific items.

## **1. Information gathering, assessment and dissemination**

Recognising that a CBRN incident has, or may occur is critical. Information may be received and disseminated via a number of routes, including intelligence agencies, the public, emergency service control rooms, pre-determined risk information contained in operational response plans, labeling of hazardous substances and transportation containers, first responder observations of signs and symptoms (victims, animals, plants or the environment).

## **2. Scene management**

The scene should be isolated to mitigate any consequences. Effective scene management (“Hot-Zone” management) is required to control access to and from the incident scene, control the movement of contaminated victims, provide working methods for responders and contain the release of any substances.

## **3. Saving and protecting life**

Saving of life is the first priority of all responding agencies. Contamination of victims/casualties must be considered as part of the initial assessment and an effective method for rescue, decontamination and medical treatment must be provided. The provision of timely warnings and/or evacuation of the public where appropriate, may also contribute to the saving lives by reducing the risk of exposure.

## **4. Additional/specialist support.**

Following the immediate operational response, specialist advice should be sought to assist with consequence management. This may include hazard identification or confirmation, establishing levels of contamination, medical support, transportation and treatment of casualties and supplementing emergency service resources. Where necessary, regional, national and international resources can also be used to maintain or provide a sufficient level of emergency provision and response. Specialist advice and resources may also be required as part of the recovery management phase, including the provision of long term health monitoring, psychological support, building and environmental decontamination, re-establishing public confidence and the return to normality.

For clarity, the term “First Responders” refers to individuals and teams that are involved in activities which address the immediate and short-term effects of a CBRN incident. This includes on-scene personnel from the police, fire brigades and health services acting to minimise the consequences of a CBRN incident. It also includes personnel in hospitals, crisis management institutions and those involved in detection, verification and warning.

# 1. INFORMATION GATHERING:

## Gather, assess and disseminate all available information

Procedure	Capability	Equipment
<p><b>Call taking and mobilising centres</b></p> <ul style="list-style-type: none"> <li>• Recognise that a CBRN incident has or may occur</li> <li>• Gather, assess and disseminate all available information to First Responders</li> <li>• Establish an overview of the affected area</li> <li>• Provide and obtain regular updates to and from first responders</li> </ul>	<ul style="list-style-type: none"> <li>• CBRN awareness training for call takers</li> <li>• Method of gathering information (public, intelligence etc)</li> <li>• Method of sharing information between responding agencies</li> <li>• Pre-determined level of response to (suspected/ confirmed) CBRN incidents</li> </ul>	<ul style="list-style-type: none"> <li>• Questionnaire</li> <li>• Information technology</li> <li>• Direct telephone lines</li> <li>• Radios</li> <li>• Geographical information (maps)</li> <li>• Response plans for specific risks</li> </ul>
<p><b>First Responders Approach and on arrival at scene</b></p> <ul style="list-style-type: none"> <li>• Approach scene with caution and upwind (the wind at your back and blowing to the incident)</li> <li>• Carry out scene assessment</li> <li>• Establish Incident Command (each responding agency)</li> <li>• Recognise the signs and indicators of CBRN</li> <li>• Determine whether CBRN or Hazmat</li> <li>• Estimate number of casualties/ victims</li> <li>• Estimate resource requirements</li> </ul>	<ul style="list-style-type: none"> <li>• CBRN awareness training for responders</li> <li>• Weather information</li> <li>• Knowledge and understanding of risk assessment</li> <li>• Knowledge and understanding of responding to improvised explosive devices</li> <li>• Knowledge and understanding of roles, responsibilities and capabilities of each responding agency</li> <li>• Effective inter-agency coordination on site</li> <li>• Common command system and structure</li> </ul>	<ul style="list-style-type: none"> <li>• Personal Protective Equipment (PPE)</li> <li>• Chemical, Biological and Radiological Detection Identification and Monitoring Equipment (for personnel, boundary monitoring and analysis)</li> <li>• Pocket and/or emergency response guides</li> <li>• Inter-operable communications equipment (handheld radios)</li> <li>• Main scheme radios</li> <li>• Geographical information (maps)</li> </ul>

## Procedure

- Consider specialist advice/ resources requirements
- Provide situation report to emergency control rooms etc and request assistance if necessary
- Carry out risk assessment
- Undertake Hazard identification
- Do not approach or touch suspect objects/packages– do not operate radios, mobile phones or other electronic devices within vicinity (Think-safe distance 400m?)
- Consider secondary devices/ targets
- Establish and agree multi-agency response plan
- Identify safe rendezvous point for additional first responder vehicles
- Search for secondary devices
- Consider critical infrastructure

## Capability

- Multi-agency communication channels
- Knowledge of geographical area
- Search capability
- Analysis capability
- Knowledge of facilities and critical infrastructure
- Protection of unaffected critical infrastructure and key sites (local, regional, national targets)

## Equipment

- Response plans for specific risks



## 2. SCENE MANAGEMENT: Isolate scene to mitigate the consequences

Procedure	Capability	Equipment
<p><b>Initial:</b></p> <ul style="list-style-type: none"> <li>• Consider wind direction</li> <li>• Established multi-agency command point in safe area (cold zone)</li> <li>• Establish inner and outer cordon (hot/warm/cold zone)</li> </ul>	<ul style="list-style-type: none"> <li>• Weather information</li> <li>• Common command system and structure</li> <li>• Knowledge and understanding of hot/warm/cold zone</li> </ul>	<ul style="list-style-type: none"> <li>• Pocket and/or emergency response guide</li> <li>• Detection Identification and Monitoring Equipment (for personnel, boundary monitoring and analysis)</li> <li>• Personal Protective Equipment (respiratory protection, chemical protection suits)</li> <li>• Cordon tape and signage</li> </ul>
<p><b>Containment:</b></p> <ul style="list-style-type: none"> <li>• Contain contaminant material/ liquid</li> <li>• Establish quarantine(holding) area for contaminated victims/ casualties (where necessary)</li> <li>• Establish decontamination and triage areas</li> <li>• Cordon off contaminated areas</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge and understanding of signs symptoms and effects of substances (Chemical, Biological and Radiological)</li> <li>• Knowledge and understanding of Hazmat management</li> <li>• Knowledge and understanding of decontamination (emergency, mass, clinical)</li> <li>• Knowledge and understanding of medical triage</li> </ul>	<ul style="list-style-type: none"> <li>• Pocket and/or emergency response guide</li> <li>• Cordon tape, signage, barriers</li> <li>• Detection Identification and Monitoring Equipment (for personnel, boundary monitoring and analysis)</li> <li>• Personal Protective Equipment (respiratory protection, chemical protection suits)</li> <li>• Decontamination equipment (emergency, mass, clinical)</li> <li>• Shelter for victims/casualties form adverse weather</li> </ul>





## Procedure

### Additional considerations:

- Identify and establish multi-agency marshalling area for additional resources
- Establish traffic cordon
- Preserve scene and maintain evidence to the extent possible (criminal investigation)
- Carry out co-ordinated evidence collection

## Capability

- Identify sites/locations to accept large numbers of multi-agency vehicles and resources
- Use pre-determine sites/locations where possible.
- Use available/suitable space with solid foundation.
- Knowledge and understanding of scene preservation for criminal investigation (evidence, forensics)
- Effective exhibit handling

## Equipment

- Cordon tape, signage and barriers
- Recording equipment (Video/ still cameras)
- Evidence bags
- Detection Identification and Monitoring Equipment (for personnel, boundary monitoring and analysis)



### 3. SAVING AND PROTECTING LIFE:

#### Save lives, giving warnings or managing evacuation

Procedure	Capability	Equipment
<ul style="list-style-type: none"><li>• Determine immediate actions and priorities</li><li>• Evacuate inner cordon (to quarantine area)</li><li>• Restrict inner cordon access (protected first responders only)</li><li>• Provide safe system of work for rescuers</li><li>• Carry out necessary rescues</li><li>• Implement decontamination as appropriate (emergency, mass, clinical)</li><li>• Consider decontamination of personal property</li><li>• Implement medical triage and treatment</li><li>• Implement responder/rescuer decontamination</li><li>• Consider requirements and provide transport for victims/casualties</li><li>• Provide timely warning and advice to the public (immediate vicinity and beyond as necessary)</li><li>• Consider evacuation (immediate vicinity and beyond as necessary)</li><li>• Consider utility shutdown</li><li>• Consider public order</li><li>• Consider hospidal defence (self presenters)</li></ul>	<ul style="list-style-type: none"><li>• Knowledge and understanding of decontamination (emergency, mass, clinical)</li><li>• Knowledge and understanding of medical triage</li><li>• Sufficient numbers of trained personnel to provide (rescue, decontamination, medical support, operational scene management)</li><li>• Safe system of work for hot zone personnel (recording entry and duration of exposure)</li><li>• Transportation for contaminated victims/casualties</li><li>• Method of communicating timely advice/warnings to the public</li><li>• Emergency evacuation plans</li><li>• Effective link with utility companies</li><li>• Management of any potential public order problems</li><li>• Provision of survivor reception centre</li></ul>	<ul style="list-style-type: none"><li>• Personal Protective Equipment (respiratory protection, chemical protection suits)</li><li>• Recording system for hot zone personnel</li><li>• Decontamination equipment (emergency, mass, clinical)</li><li>• Personal property bags (for decontaminated victims)</li><li>• Post decontamination clothing for victims</li><li>• Detection Identification and Monitoring Equipment (for personnel, boundary monitoring and analysis)</li><li>• Medical treatment (Trauma, prophylactics etc)</li><li>• Transport (ambulance, bus etc.)</li><li>• Cordon tape, signage and barriers</li><li>• Prepared documentation</li><li>• Website</li><li>• SMS-message</li><li>• Use of media (Television, Radio)</li><li>• Use of Social Media (Facebook, Twitter)</li></ul>



#### 4. ADDITIONAL/SPECIALIST SUPPORT:

Alert specialists, notify appropriate authorities, integrate specialist advice and resources

Procedure	Capability	Equipment
<p><b>Notification:</b></p> <ul style="list-style-type: none"> <li>• Notify appropriate authorities at local, regional and national level (governmental and responder agencies)</li> <li>• Notify specialists (chemical, biological, radiological/nuclear, medical)</li> <li>• Consider international support and conventions (IAEA, WHO, OPCW)</li> <li>• Provide situation report to all notifications</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-agreed responsibilities for notification</li> <li>• Scientific support (chemical, biological, radiological/nuclear, medical)</li> <li>• Local, regional, national response plans</li> <li>• Method of requesting regional, national and international support</li> <li>• Bilateral agreements (cross border assistance)</li> <li>• Methods to transport specialists to required location</li> </ul>	<ul style="list-style-type: none"> <li>• List of notifications (specialists etc) for mobilising centres</li> <li>• Information technology</li> <li>• Direct telephone lines</li> <li>• Geographical information (maps)</li> <li>• Response plans for specific risks</li> <li>• Transport for specialists</li> </ul>
<p><b>Assessment:</b></p> <ul style="list-style-type: none"> <li>• Prepare impact assessment (en-route/on site)</li> <li>• Establish effect on population</li> <li>• Establish effect on critical infrastructure</li> <li>• Establish effect on environment</li> <li>• Carry out incident specific and environmental sampling</li> <li>• Hazard prediction</li> <li>• Dispersion modelling</li> <li>• Radiation monitoring</li> <li>• Consider emergency provision requirements for immediate and wider area</li> </ul>	<ul style="list-style-type: none"> <li>• Prediction (dispersion modelling)</li> <li>• Plan for short, medium and long term actions and effects</li> <li>• Analyse samples</li> <li>• Knowledge of critical infrastructure locations</li> <li>• Pre-established agreement to augment resources (private industry, public service, international aid/support)</li> </ul>	<ul style="list-style-type: none"> <li>• Detection Identification and Monitoring Equipment (for personnel, boundary monitoring and analysis)</li> <li>• Geographical information (maps)</li> <li>• Response plans for specific risks</li> <li>• Critical infrastructure site locations</li> <li>• Hazard Prediction tools</li> <li>• Meteorological equipment</li> </ul>

#### 4. ADDITIONAL/SPECIALIST SUPPORT: (continued)

Alert specialists, notify appropriate authorities, integrate specialist advice and resources

Procedure	Capability	Equipment
<ul style="list-style-type: none"> <li>Assess resource requirements (short, medium and long term)</li> </ul>		
<p><b>Integration of support:</b></p> <ul style="list-style-type: none"> <li>Specialist advice and/or additional resources to be incorporated into incident plan</li> </ul>	<ul style="list-style-type: none"> <li>Common command system and structure</li> <li>Welfare and accommodation for responders</li> </ul>	<ul style="list-style-type: none"> <li>Provision of: food and drink, administration facilities, sleeping accommodation for responders and supporting resources</li> </ul>
<p><b>Substance identification:</b></p> <ul style="list-style-type: none"> <li>Substance confirmation</li> </ul>	<ul style="list-style-type: none"> <li>Additional analysis capability</li> </ul>	<ul style="list-style-type: none"> <li>Designated laboratories</li> </ul>
<p><b>Victim/casualty support:</b></p> <ul style="list-style-type: none"> <li>Provide information to hospitals</li> <li>Provide clinical countermeasures</li> <li>Provide information to General Practitioners</li> <li>Provide health surveillance (short-medium term)</li> <li>Provide emergency accommodation</li> <li>Establish casualty bureau</li> </ul>	<ul style="list-style-type: none"> <li>First aid and treatment centres</li> <li>Post incident clinical counter measures</li> <li>Post incident medical care</li> <li>Sufficient numbers of trained personnel to provide (short – medium term) medical support, casualty bureau staff</li> </ul>	<ul style="list-style-type: none"> <li>Pre-identify potential accommodation</li> <li>Prophylactics etc</li> <li>Information technology</li> <li>Dedicated telephone numbers/ lines</li> <li>Provision of: food and drink, sleeping accommodation and administration facilities, for victims</li> </ul>
<p><b>Information to public:</b></p> <ul style="list-style-type: none"> <li>Implement communication plan</li> <li>Provide timely warnings or advice to public</li> <li>Provide regular updates</li> <li>Provide health advice to public</li> </ul>	<ul style="list-style-type: none"> <li>Pre-agreed communication plan</li> <li>Pre-agreed communication channels/method</li> <li>Pre-agreed advice (what to do, where to go, what to expect etc)</li> </ul>	<ul style="list-style-type: none"> <li>Prepared literature</li> <li>Website</li> <li>SMS-message</li> <li>Use of media (Television, Radio)</li> <li>Use of Social Media (Facebook, Twitter)</li> <li>NATO Practical Guide to Public Information During a Crisis (Budapest Guidelines II)</li> </ul>

## Procedure

### Site decontamination/ restoration and remediation:

- Decontaminate responder vehicles/equipment
- Decontaminate hospitals
- Recovery and decontamination of contaminated bodies
- Decontaminate/restore affected buildings
- Decontaminate and remediate impact on environment
- Dispose of medical waste
- Disposal of site waste/rubble

### Post incident and long term considerations:

- Provide multi-agency debrief for all responders
- Provide psychological counselling for victims and responders
- Provide long term health monitoring (victims and responders)

## Capability

- Environmental impact assessment
- Declared environmental/ infrastructure decontamination capability
- Legal powers of enforcement regarding building and environmental decontamination
- Effective staged implementation plan
- Mass fatality plan
- Body identification
- Waste/rubble removal

- Critical incident debriefing
- Psychological counselling (responders, victims, affected population)
- Large scale health monitoring
- Liaison with effected families
- Long term accommodation
- Financial assistance for victims

## Equipment

- Detection Identification and Monitoring Equipment
- Specialist equipment and personnel to decontaminate large sites
- Mortuaries for contaminated bodies
- Personnel and equipment to remove contaminated waste/rubble

- Network of counsellors
- Health monitoring facilities
- Temporary/permanent accommodation
- Fund raising facility



## Notes

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